FACTORS INFLUENCING THE PURCHASE INTENTION OF SMARTPHONES: A STUDY OF LOW-INCOME CONSUMERS IN GAUTENG, SOUTH AFRICA

By

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FACTORS INFLUENCING THE PURCHASE INTENTION OF SMARTPHONES: A STUDY OF LOW-INCOME CONSUMERS IN GAUTENG, SOUTH AFRICA.

I declare that the above dissertation is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of a complete list of references.

I further declare that I submitted the dissertation to originality checking software and that it falls within the accepted requirements for originality.

I further declare that I have not previously submitted this work, or part of it, for examination at the University of South Africa for another qualification or at any other higher education institution.

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ISIFINQO

Ucwaningo luhlose ukunquma izici eziba nomthelela ekuthengweni kwama-smartphone phakathi kwabathengi abahola imali encane eGoli, eNingizimu Afrika. Iqembu labathengi abahola kancane eNingizimu Afrika kuthiwa linamandla amakhulu ekuthengeni (Statista, 2021). Kulinganiselwa ukuthi kunamaphesenti ayi - 10,9 abathengi abahola imali encane abachitha imali yabo kuma-smartphone okuyinto ebalulekile emnothweni (Independent Communications Authority of SA, 2020). Ngakho-ke, kunenzuzo okumelwe itholakale ngokuqonda ukuziphatha kokuthenga kwabathengi abahola imali encane ukuze baziqonde kangcono izidingo zabo embonini yama - smartphone. Lolu cwaningo luzonikeza ukuqonda okwengeziwe njengexenye ehola kancane enganikela ngokuphawulekayo kubathengisi, abadayisi, abakhiqizi, nabanikezeli benethiweki.

Lolu cwaningo luhlaziya izici zangaphandle nezangaphakathi ezinomthelela kuyinhloso yokuthenga i-smartphone. Indlela yokucwaninga eningi yavunyelaniswa nokuqhuba lesi sifundo. Le ndlela yenza umcwaningi ukuba akwazi ukusebenzisa nokwaziswa okunezinombolo nokulinganisa ngokusebenzisa ukuhlola kwemibuzo esekelwe kuyi – intthanethi ukuze athole izimpendulo eqenjini lamasampula. Inani labantu abayizisulu zalokhu kuhlola lalingabathengi abahola imali encane abakhiwa kokubili abesilisa nabesifazane abaneminyaka ephakathi kwengu - 18 nengu - 65. Inhlangano yezokwaziswa yaseNingizimu Afrika i - Osmoz Consulting yasiza ekuqoqweni kwemininingwane. Kwatholwa ingqikithi yezimpendulo ezingu - 308 ezivela kubathengi abahola imali encane ababesesisekeloni semininingwane se - Osmoz Consulting. Kwasetshenziswa izibalo ezichazayo kanye nokuhlaziya imodeli yokulinganayo nokuhlaziya okucatshangelwayo kwasetshenziswa i-IBM Statistical Package for the Social Sciences (SPSS) AMOS isibuyekezo sama-27 ukuze kuhlaziywe imininingwane. Ukuhlaziya imodeli yokulinganayo kwamelela inqubo evumelana nezimo nebanzi yokulinganisa nokuhlola isibonelo esicatshangelwayo ngenjongo yokuchaza ukuhlukahluka kwazo ngangokunokwenzeka nokuhlaziya ubuhlobo besakhiwo sezinhlobonhlobo ezishiwo ohlotsheni lwemodeli olucatshwangayo. Ukuthembeka nokufaneleka kwamazinga kuye kwahlaziywa. Kusuka ohlotsheni lokulinganisa, kusetshenziswa ukuhlaziya isici esiqinisekisayo, kwatholakala ukuthi zonke izakhiwo zinokwethenjelwa futhi ziyaqinisekiswa. Umphumela olungisiwe wesikwele - R 0.70, okuqinisekisa ukuthi amaphesenti angama - 70 enhloso yokuthenga angachazwa ngezindlela ezihlukahlukene ezizimele. Ngokusekelwe ekuhlaziyweni kwezibalo, imibono ehlolwayo iveza ukuthi izinto ezimbili ezihlukahlukene, okungukuthi; umndeni nabangane (isici sangaphandle), nokuqonda (isici sangaphakathi) kubaluleke kakhulu. Nokho, imiphumela ibuye ibonise ngokwengeziwe ukuthi izinto eziyi - 8

ezihlukahlukayo, okungukuthi: intengo, ezenhlalo, isiko, igama lebrendi, izici zomkhiqizo, iqembu lezinkomba (izici zangaphandle), ukukhuthaza, nesimo sengqondo (izici zangaphakathi) azinalo ithonya ekuthengeni ama- smartphone phakathi kwabathengi abahola imali encane.

Lolu cwaningo lwaphetha ngokuthi abenzi be-smartphone, abadayisi, abaxhumanisi bomphambo, nabadayisi kufanele benze ukuhlola ngezikhathi ezithile ukuze basize ekutholeni izici ezintsha ukuze banezele emkhiqizweni wayo futhi balwele ukwakha umbono omuhle phakathi kwabathengi abahola imali encane. Abenzi bezinqumo embonini ye - smartphone kudingeka banake ukwakha nokusebenzisa amasu okuthengisa aphathelene nokuthuthukisa imikhankaso yokukhushulwa esikhundleni se - smartphone. Ngokwesibonelo, imiyalezo yezokukhangisa kufanele iklanywe ngendlela ecacile nebanzi ukuze yandise inhloso yokuthenga komthengi. Ngaphezu kwalokho, izinkampani kufanele zakhe umlayezo omuhle ngomkhiqizo phakathi kwabathengi abasebenzisa amapulatifomu ezokuxhumana ukuze basungule umbono omuhle ngemikhiqizo ye-smartphone.

Amagama abalulekile: *Inhloso yokuthenga, i-smartphone, kwabathengi abahola imali encane, ukuziphatha kwabathengi, izici zangaphakathi nezangaphandle, kuziphatha koMthengi , Izinkolelo - mbono zabakhangisi babathengi, kanye kanye nezici ezithonya abathengi.*

ABSTRACT

The research study aims at determining the factors influencing the purchase intention of smartphones among low-income consumers in Gauteng, South Africa. The low-income consumer group within South Africa is said to have high purchasing power (Statista, 2021). It is estimated that there is 10.9 % of low-income consumers who spent their income on a smartphone which is important for the economy (Independent Communications Authority of SA, 2020). Thus, there is value to be obtained from understanding the purchase behaviour of low-income consumers to better serve their needs in the smartphone industry. This study will provide greater insights into the low-income consumer segment which can significantly contribute value to marketers, retailers, manufacturers, and network providers.

The study analyzes the external and internal factors that influence smartphone purchase intention. A quantitative research approach was adapted to conduct this study. The approach enabled the researcher to use numerical and quantitative data through the use of a web-based questionnaire survey to obtain responses from the sample group. The target population for the survey was low-income consumers comprising of both males and females between the ages of 18 and 65. The South African based data consultancy agency Osmoz Consulting assisted with the data collection. A total of 308 responses were received from low-income consumers who were in the database of Osmoz Consulting. Descriptive statistics as well as structural equation modelling (SEM) analysis was employed using the IBM Statistical Package for the Social Sciences (SPSS) AMOS version 27 to analyse the data. SEM represented a flexible and comprehensive methodology for estimating and testing a theoretical model with the objective of explaining as much of their variance as possible and evaluate the structural relationships of the variables specified on the conceptual model. The reliability and validity of the scales were assessed. From the measurement model, using a confirmatory factor analysis (CFA) approach, it was found that all the constructs are reliable and valid. The result of the adjusted R square is 0.70, which validates that 70 % of purchase intention variation can be explained by the independent variables. Based on the statistical analysis, hypotheses testing revealed that two variables, namely; family and friends (external factor), and perception (internal factor) are positively significant. However, results further indicate that 8 variables, namely: price, social, culture, brand name, product features, reference group (external factors), motivation, and attitude (internal factors) do not have an impact on purchase intention of smartphones among low-income consumers.

The research concluded that smartphone manufacturers, marketers, network providers, and retailers should carry out a periodic survey to help in identifying new features to add to its

product and strive to create positive perception among low-income consumers. Decision-makers in the smartphone industry need to pay attention to formulating and implementing marketing strategies dealing with improving smartphone promotional campaigns. For instance, advertising messages should be designed in a manner that is clear and comprehensive in order to increase consumer's purchase intention. Additionally, companies should create positive word of mouth messages about the product among consumers using social media platforms in order to create positive perception towards smartphone products.

Keywords: *Purchase intention, smartphone, low-income consumers, consumer behaviour, internal and external factors, buying behaviour, Consumer intention, Theories of consumer models, and consumer influencing factors.*

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LIST OF ACRONYMS

BOP	:	Base of Pyramid
CEMS	:	College of Economic and Management Sciences
EKB	:	Engel, Kollat and Blackwell model
GFK	:	Gesellschaft Fur Konsumforschung
ICASA	:	Independent Communications Authority of South Africa
ICT	:	Information and Communications Technology
LSM	:	The Living Standard of Measure
MTN	:	Mobile Telephone Network
PDA	:	Personal Digital Assistant
RERC	:	Research Ethics Review Committee
EFA	:	Exploratory Factor Analysis
CFA	:	Confirmatory Factor Analysis
SA	:	South Africa
SAARF	:	South African Audience Research Foundation
SPSS	:	Statistical Package for the Social Sciences
STATS SA	:	Statistics of South Africa
SEM	:	Structural Equation Modelling
UCSR	:	Unilever Connecting with Survivors Report
UNISA	:	University of South Africa
ZAR	:	South African Rand (South African currency)
ATT	:	Attitude
AVE	:	Average Variance Extracted
BN	:	Brand name
C	:	Culture
FF	:	Family and Friends
M	:	Motivation
P	:	Price
PER	:	Perception
PF	:	Product Feature
PI	:	Purchase Intention
S	:	Social

DEFINITION OF TERMS

Consumer: A consumer is defined as a person who buys goods or services for his/her consumption (Kotler & Armstrong, 2018).

Low-income: Low-income is defined as the amount of money a person earns, in the case of this study, consumers earning approximately between ZAR3000 and ZAR6000 per month (Unilever Institute of Strategic marketing, 2018; Visage, 2016).

Purchase intention: Marketers use purchase intention as a common tool to forecast the future sales of existing goods and services (Elammari & Cavus, 2019).

Living Standard Measure: The Living Standard Measure (LSM) is the method used to segment population groups in South Africa using a combination of non-variables that include urbanization and the possession of certain properties (SAARF, 2019).

Smartphone: This is a device that has integrated features, combining different functions such as media players, digital cameras, GPS navigation, internet access with high speed of data through Wi-Fi and other third-party applications (Independent Communications Authority of SA, 2020; Stats SA, 2019).

Feature phone: A feature phone is a mobile device that has limited functionality and exclusive operating systems for instance; Bluetooth, Java applications, and WAP browsers (Arpana, 2020).

Basic phone: The basic phone is low-end with limited features installed. It has limited or no internet connectivity (Arpana, 2020).

Consumer behaviour: Consumer behaviour is the study of where, why, when, and how individuals process their decisions to choose, serve, or consume services and products to fulfil their needs (Stankevich, 2017).

Model: A model is an illustration of something or an attempt to show the relationship between elements in a process such as a buying process. In this study, buyer behaviour forces the variables (Stankevich, 2017).

CHAPTER ONE: INTRODUCTION AND BACKGROUND TO THE STUDY

1. Introduction

The history of mobile phones can be traced as far back as the 1940s when cells for mobile base stations were developed by engineers from AT&T (Global Web Index Data, 2020). Since then mobile phones have evolved from large devices to small hand-held devices that incorporate not only call capabilities but also have computer operating systems, storage, and internet access (Independent Communication Authority of South Africa, 2020). Mobile phones have developed into smartphones that have computer functionality, internet access, allows for software applications, and much more (Gartner, 2020). The various capabilities or functionalities of smartphones have led to them becoming a big part of individuals' lives (GSMA Intelligence Report, 2020). The more technology and smartphones develop, the more it becomes mainstream, affordable, and consumers at different income levels gain more access to it (GFK South Africa, 2021). The penetration of smartphone devices' evolution is increasing and applications are emerging that attract an increasingly technologically savvy South African consumer base (BusinessTech, 2020). The mobile operators' strategy of subsidizing smartphones in the post-paid market, reduced price offers, and the launching of discount data bundles increases the affordability of buying smartphones (Deloitte, 2020).

Low-income consumers make up a huge part of the market in South Africa because of their high consumption of smartphone products due to people’s preference to use smartphone products for internet browsing (Euromonitor International, 2020; SAARF, 2019). Understanding what influences their purchase intentions will assist businesses in the smartphone industry in targeting these low-income consumers. This study aims to determine the factors that influence the purchase intention of smartphones by low-income consumers in Gauteng, South Africa to better serve their needs.

The study will provide significant insights into the lower-income consumer market segment that can be used by smartphone manufacturers, retailers, and network providers. The research is focused on the Gauteng province in South Africa as it is seen as the economic hub of South Africa, it has diverse cultural, economic, and social groups, and as such, this study will be focused within Gauteng (Stats SA, 2019).

The next section will provide a literature review in which the cell phone industry in South Africa will be discussed. The low-income consumer segment’s purchase intention will be explained, and

consumer behaviour models will be summarised and analysed in a table format. The research objectives, research questions, hypotheses, and proposed research framework will also be explained.

1.1 Literature Review

The literature review provides relevant information from previous research studies and the information is used to contextualise the research arguments and justify the intended research study (Salkind, 2017). In this section the smartphone adoption in South Africa will be discussed followed by review of low-income consumers. Purchase intention, which is the focus of the study, is also discussed followed by a review of the various consumer behaviour models which provide a better understanding of the framework that is used for the study.

1.1.1 Smartphone Adoption in South Africa

A smartphone is a device that has integrated features which include a computing platform with internet access and capabilities that incorporates, global positioning systems (GPS) capabilities, media players, digital cameras, and several applications that are built in or that can be downloaded (Arpana, 2020). Users of smartphones can download and install third-party applications such as schedule, finance forecasting manager, and games from application stores such as the Google play store (Arpana, 2020). A traditional phone, known as the basic phone, has fewer features and allows for only basic functions such as making/receiving calls and sending and receiving text messages (Gartner, 2020). According to research conducted by Euromonitor International (2021), smartphone usage is steadily increasing. In South Africa, smartphone users were estimated at 24.5 million in the year 2021 and are projected to go up to 26.3 million users by the year 2023. This number is expected to increase dramatically by 2030 (Statista, 2021; GFK South Africa, 2021). The percentage of consumers owning smartphones over basic phones increased from 78 % in 2019 to 91 % in first-quarter 2021 (Statista, 2021). The sales volume shows that sales increased to 63 % of smartphone devices in 2020 while basic mobile phone (devices with no factory-installed or third-party apps and with limited features) sales shows 9.7 % in 2020 (GFK South Africa, 2021). The various brands of smartphone devices in use increased as well, Samsung, in 2020, was at 45.28 % followed by Huawei at 27 %, while Apple was at 15.31 %, Nokia at 2.12 %, Xiaomi at 1.41 %, BlackBerry at 0.8 %, Sony at 0.52 %, and LG at 0.3 % (ICASA, 2020).

Manufacturers of smartphones operating in the South African market include; Apple, Nokia, Microsoft, Blackberry, Mobicel, Sony Ericson, Huawei, and Samsung. These brands make up 68 % of the smartphone market (GFK South Africa, 2021). In comparison to 2020, Samsung, Huawei, and Apple increased their market share in 2021 (BusinessTech, 2021; Euromonitor, 2021). Dominance in South Africa can be drawn back to the promotion of these devices by operators through handset subsidisation strategies in the Covid-19 post-paid market (Statista, 2021). Samsung has netted 45.28 % of the market share; Huawei is seen as an emerging competitor, gaining 29 % of the market share, while Apple has 16 % of the market (Statista, 2021). The smartphone retail market continues to show strong growth as more South Africans are willing to get connected to the internet, and the continued falling of smartphone prices led to an increase in smartphone purchases (Euromonitor, 2021).

Smartphones are more efficient and have more powerful hardware, chipsets, and sophisticated software increasing consumer adoption (ICASA, 2020). Smartphone device penetration has significantly overtaken all other devices, including smart television sets, Bluetooth music players, and watches. Like smartphones, smart watches are set to become just as inescapable (Deloitte, 2020). When users consider the benefits of mobility, affordability, and improved internet speeds through accelerated networks, smartphones turn out to be the key player device for South Africans (ICASA, 2020). Gartner (2020) revealed that there was a growth in sales of smartphones for the first time in the year 2019, demonstrating increased acceptance and usage. Deloitte (2019) indicates that social media was a key driver of smartphone internet adoption; particularly in South Africa as one of the recent development nations. A research study conducted by Nguyen, Trinh, Tran & Cao (2020) arrived at a similar conclusion, noting that smartphone adoption is based on social influence and the benefits generated as a result of economics and business operations.

The next section provides a discussion on the low-income consumer group within South Africa.

1.1.2 Low-income Consumers in South Africa

Low-income consumers are individuals whose income status is low resulting in the consumers being unable to access basic needs and services that are considered to be necessary for an adequate standard of living (Visagie, 2016). Business-Tech (2020) describes low-income consumers as Bottom of the Pyramid (BOP) consumers who are value-conscious by necessity. Similarly, BOP is defined as a market segment of low-income consumers and is categorised by their level of income (The Mobile economy Sub-Sahara Africa, 2020). The composition of BOP include those consumers who earn less

than US$2,000 per annum, which is US$167 per month and approximately between ZAR3000 and ZAR6000 per month (UCSR, 2018).

At the bottom of the pyramid, in a South African context, markets are fundamentally new foundations of growth for international business, and because these markets are in the initial stages, growth is extremely rapid (Hammond & Prahalad, 2016). The bottom of the Pyramid (BOP) consumers have become gradually essential in developing markets like South Africa (Gueslaga & Marshal, 2016). Euromonitor (2020) revealed that BOP is used to indicate the expansion of the emerging markets, nevertheless, low-income consumers have high purchasing power because of hidden income earnings, for instance, the spaza shops at home (Stats SA, 2020). In this BOP segment, the buying power generates great business potential in the South African marketplace (Stats SA, 2020). The low-income consumers market is worth between R86,001million and R1.48 billion per annum accounting for 75 % of South African households, and 10.9 % spent their income on mobile phones which is important in the economy (BusinessTech, 2021).

In South Africa, the Living Standards Measurement is generally used to segment the South African market (UCSR, 2018). The South African Audience Research Foundation (SAARF) established LSM to quantify social class and living standards based on wealth, access, and geographical area (SAARF, 2018; Visagie, 2016). The South African LSM indicates that the movement of social class has shown strong growth in the middle class (SAARF, 2017). The middle class is blue-collar who lead stylish lives, depend on relatives for economic and emotional support, get advice on purchases, and ask assistance in the events of trouble (Stats SA, 2021). With regards to the LSM measure, the Apex which is regarded as group A is comprised of LSMs 9 and 10 which make up 14.3 % of the South African population (Stats SA, 2021). The LSM 10 is regarded as the uppermost class and this class consumes its normal income earning (Stats SA, 2018). They are professionals and business people, who live independently, send their children to expensive schools, buy expensive things, and own more than one home (SAARF, 2017; Stats SA, 2020). The Buttress is group B of LSMs 7 and 8 making up 16.3 % of the population. The core is group C in LSMs 5 and 6 making up 33.6 % of the population. Lastly, group D in LSMs 1 to 4 is a foundation group and make up 35.8 % of the South African adult population (SAARF, 2017). LSMs 1 - 4 are unskilled, poorly educated, and socially disadvantaged people, who struggle for their living, living life day-to-day. Some depend on public assistance such as monthly social grants, and are the bottommost class (Stats SA, 2020). Low-Income consumers in South Africa fall into the Living Standard of Measure (LSM) 3 - 5 which has

little income-earning potential (SAARF, 2017). LSM 7 has an income of over R20,000 per month (Stats SA, 2019; Unilever Institute of Strategic Marketing , 2018).

The distribution of income within a low-income household in South Africa is as follows: 62.8 % of low-income consumers' income is allocated to housing as an expense such as paying rent, 47.7 % of income is allocated for food, 15.1 % for electricity, while 4 % is used for other social activities such as sports (Stats SA, 2019). A research study conducted by Unilever Connecting with Survivors Report in 2018 (UCSR, 2018) indicated that consumers on a low-income level do not take the risk of purchasing new brands because they have limited money to purchase products. However, the Stats SA report claims that, in South Africa, low-income consumers will buy products that they know will give them benefits such as communication, internet browsing, and file storage, irrespective of the price (Stats SA, 2020).

Many multinational enterprises are focusing on low-income consumers as an important market segment (White, Habib & Hardisty, 2019). The Unilever Connecting with Survivors Report (UCSR, 2018) revealed that consumers in a low-income segment have a high purchasing preference for products that gratify their needs due to the availability of informal markets such as spaza retail shops which are conveniently found. Low-income consumers are considered to have high purchasing power within the smartphone market (Stats SA, 2018; Sarwary & Chaudhry, 2015). Low-income consumers are an important part of the South African economy and, as such, it is significant to gain better knowledge and ultimately understand the factors that influence their purchase intention of smartphones. In this current study, low-income consumers which fall within the LSM 3 - 5 are the target population. The LSM 3 - 5 are the consumers who are considered to be at the bottom of the pyramid and who earn between ZAR3000 and ZAR6000 monthly (UCSR, 2018; Stats SA, 2019).

In the next section, consumer purchase intention will be discussed.

1.1.3 Purchase Intention

Nguyen, Dung, Sander and Dullaert (2018) highlighted that purchase intention entails the traditional behaviour of the consumer who intends to buy the product for a certain need or want. In the study conducted by Li and Biocca (2015) purchase intention was defined as a collective measure used to anticipate response behaviour. Similarly, Das (2016) goes on to comment that purchase intention describes individual willingness to purchase the product. Purchase intention indicates that the

consumers' intentions are connected to actual behaviour that leads to actual purchase (Nguyen, Dung, Sander, & Dullaert, 2018) and is a component of consumer behaviour.

Marketers, retailers, and manufacturers are interested in gaining more knowledge about the consumer's purchase intentions, as it provides greater insights into their purchase behaviour (Elammari & Cavus, 2019; Das, 2016). Previous research studies have indicated that there exists a significant relationship between purchase intention and different variables that include, price, peer influence, brand image, and product features (Lamb, Hair, McDaniel, Boshoff, Terblanche, Klopper & Elliot, 2019). Consumers always gauge that the price of the product should be aligned with the product quality (Lamb et al., 2019). Dodds and Monroe (2016) pointed out that consumers may purchase the product if there is a price-quality relation in their mind. The price of the product varies according to its quality, and when the actual price surpasses the price which is deemed acceptable the consumer's positive purchase intention declines (Dodds & Monroe, 2016). Social factors, such as level of income, have a significant role on the purchase intention of consumers. A survey investigated by Dodds and Monroe (2016) on social factors has shown that social factors has higher impact than other factors (attitude, perception, and brand name) in fascinating the young consumers, resulting in the purchase of smartphones in China (Dodds & Monroe, 2016). Likewise, the purchase intention is increased when the consumers have positive product satisfaction, which means that the more the consumers are satisfied with the product, the more they develop a positive attitude that will in return lead to the purchase of the product (Zheng & Chi, 2015). Bigerna and Micheli (2018) support that attitude towards a product has a positive relationship with purchase intention; the authors revealed that in the circumstances where a consumer develops a positive attitude towards a particular brand, it leads to an increase of purchase intention resulting in an actual purchase. The study conducted by Dew and Kwon (2017) on apparel products revealed that higher brand image results in higher purchase intentions. Nam, Dong and Lee (2017) pointed out that marketers regularly use price, product features, and brand name as main predictors that influence the consumer's purchase intentions. Furthermore, before a consumer buys the product, they will firstly gather information from different sources that include co-workers, family and friends, peers, TV or radio advertisements, and social media ads, and thereafter will decides about brand choice to purchase (Lamb, et at., 2019). Therefore, purchase intention is regarded as a tool commonly used by organisations, including marketers and retailers, to foretell the sales volume of goods and services in the marketplace (Hawkins, Mothersbaugh & Mookerjee, 2015). Purchase intention is an instrument used for gauging purchase behaviour in market research (Elammari & Cavus, 2019). The enthusiasm for obtaining a product or service comes if purchase intention becomes high (Lamb, et al., 2019). Purchase intention

has gained a lot of interest in the market research field (Robertson, 2015). Limited studies however, have explored the factors that influence the purchase intention of smartphones to low-income consumers. More research is needed to comprehend the concept of purchase intention in South Africa, especially in a low-income market segment (Ting, Lim, Patanmancia, Low & Ker, 2016). Therefore, understanding the factors that influence low-income consumers has become critical for retailers and manufacturing institutions to successfully target this segment (Foxall, 2016).

The next section is the discussion of consumer behaviour and models.

1.1.4 Consumer Behaviour

Stankevich (2017) states that consumer behaviour is the study of where, why, when and how individuals process their need to choose, serve, and consume services and products in order to fulfil their needs. Noel (2017) reveals that consumer behaviour is the outcome of the consumers' decision-making process that involves what the consumer buys, where they buy, when they buy and how these products or services will be bought. Elammari and Cavus (2019) argues that the behaviour of a consumer is not comprised of purchasing activities of either goods and services at their disposal only but also involves their mental ability, and their emotional, and behavioral response to goods and services offered at the marketplace. Benda, Kamil and Buleca (2017) explains the description of consumer behaviour as the mental and physical processes interrelated with consumer decision-making before the actual purchase is made. Consumer behaviour study provides a clear understanding of what a consumer wants or needs by looking at what makes consumers want to buy certain products or services (Butt, 2017). Consumer behaviour influences purchase intention; understanding the consumer's behaviour will assist retailers and marketers in understanding how successfully consumers responded to the company's marketing strategies (Makhitha, Van Scheers & Mogashoa, 2019). Carrington, Neville and Whitwell (2016) state that it is vital to know the consumer's purchase intention as well as their actual buying behaviour. It is therefore imperative to understand the field of consumer behaviour in the context of purchase intention, thus, providing an opportunity to examine and clarify a specific phenomenon from different viewpoints of the consumer's purchase intention.

Table1.1 provides the brief description of different consumer behaviour models and these are discussed in detail in chapter two.

Table 1.1: Summary of consumer behaviour models description

SUMMARY OF CONSUMER BEHAVIOUR MODELS DESCRIPTION					
	Engel, Kollat and Blackwell model	**Nicosia model**	**Sheth and Howard model**	**Black box model**	**Hawkins, Best and Coney model**
Description of the model	Engel, Kollat and Blackwell model was centred around the consumer buying decision process developed by Howard (1963) and reviewed by Nicosia (1966). The model indicates that the buying process of the consumer goes through 5 different stages, namely; problem recognition, information searching, alternative evaluation, purchase decision, and lastly, post-purchase behaviour (Stankevich, 2017). The model was developed to describe the knowledge of consumer behaviour through different stages when purchasing the product (Elammari & Cavus, 2019; Schiffman & Kanuk, 2015). The model integrates various factors that influence decision-making such as culture, lifestyle and price, however, the model does not show factors in the decision-making process. The model is further	The model of Nicosia was developed by Francesco Nicosia in 1966 (Schiffman & Kanuk, 2015). In this model, the communication process that takes place between the consumer and the brand, through different stages of events that are recognized as fields, is the main focus (Schiffman & Kanuk, 2015). The field 1 in the Nicosia model include: features, search evaluation, and attitude; known as field 2. The actual purchase is field 3, and field 4 is post-purchase feedback. The focus of this model is the communication between the firm and consumer, either through face to face or TV advertisement, where the consumer acts in a certain predisposed way (Stankevich, 2017). The Nicosia model, however, was condemned because it was not tested and only relies empirically on the relationship	The model of Sheth and Howard (1969) was developed to explain consumer behaviour over some time through brand choice behaviour. The identified elements of consumer decisions, by authors in this model, include sets of motives, the alternative sequence of action, and decision mediators (Stankevich, 2017). The Howard-Sheth model also provides an empirically testable consumer behaviour model which entails cognitive study ofh the outcomes (Runyoni & Steward, 2016). The Howard-Sheth includes input variables (price, availability, services and distinctiveness), perceptual learning, and output, whilst, symbolic stimuli which are presented by media or sales force personnel influence the	This model uses the marketing stimuli which are known as the 4 Ps (price, product, place, and promotion) and other forces namely; economic, political, technological and cultural that are entered into the consumer black box to produce negative or positive responses (Armstrong, Adam, Denize, Volkov & Kotler, 2018). The model demonstrates that there are cultural and social buyer characteristics that influence purchase intention (Armstrong *et al.*,, 2018). However, Black box model does not clearly describe how purchase behaviour is formed through personality, motivation, attitude, and the learning process as influential factors that exist between input	The model of Hawkins, Best and Coney is based on the Engel, Kollat, and Blackwell model which widens internal and external factors that influence consumer's purchase intention of a product (Foxal, 2016). The Hawkins, Best and Coney model (2004) states that consumer needs are influenced by external factors namely; friends and family, social, price, culture, reference groups, brand name, as well as internal factors such as motivation, perception, and attitude towards the product. These factors combined form the consumer's self-concept that leads to their needs. They go through the 5 stages of a decision-making process that include; recognizing the problem, searching for information, alternative evaluation, purchase decision, and post-purchase decision (Stankevich, 2017).

SUMMARY OF CONSUMER BEHAVIOUR MODELS DESCRIPTION					
	Engel, Kollat and Blackwell model	**Nicosia model**	**Sheth and Howard model**	**Black box model**	**Hawkins, Best and Coney model**
	discussed in detail in chapter two.	between the firm and potential consumers (Stankevich, 2017).	consumer behaviour indirectly.	stimulus and output behaviour (Armstrong *et al*., 2018).	The current study is based on this model. More discussions in chapter 2 Figure 2.8

The Hawkins, Best and Coney model is used for the study and its theoretical framework is shown in chapter two (Figure 2.8). The model is more comprehensive as it contains the internal and external factors that influence consumer purchase intention.

The influence and role of both mental and affective processes in the consumer decision-making process are presented, hence obtaining a better understanding of consumption and choice drivers. Hawkins, Best and Coney (2004) viewed consumer needs as a result from considering numerous internal and external factors that are grouped under consumer self-concept and lifestyle. As illustrated in chapter two (Figure 2.8) of the Hawkins, Best and Coney model, both internal forces that include motivation, perception, and attitude, as well as external factors such a culture, family and friends, social, brand name, reference group, and product feature, generate experiences and acquisitions that form consumer self-concept and lifestyle (Stankevich, 2017). This in turn translates to needs and desires that drive the decision making-process. The Hawkins, Best and Coney model broadens the external and internal influences that shape the individual. This model takes the assumption that consumers approach consumption and purchasing decisions in a rational manner weighing options and alternatives before making a decision (Armstrong, Adam, Denize, Volkov & Kotler, 2018). The Hawkins, Best and Coney model looks at the decision-making process as a flow that is rational, well-thought out and deliberated; weighing the cost and functional benefits. Moreover, the model provides the axiological basis for intentional purchase and helps in understanding the reasons and factors that drive consumer behaviour (Gecit, 2019).

The next section is the problem statement for the research study.

1.2 Problem Statement

Owning a smartphone has become part of an individual's lifestyle (Yunus & Rashid, 2016). In the markets of South Africa, the demand from consumers to purchase smartphones is high because everybody would want to own the product (Bong & Jin, 2017). GSMA Mobile Report (2020) indicated that the purchase of smartphones is increasing in South Africa due to the lowering of price during special occasion events i.e., Easter holidays, Christmas cerebrations and Black Friday among others. Smartphones account for 61% of unit sales in 2019 which led to the decline of basic mobile phone sales. With the increase in the purchase of smartphones businesses and marketers should fundamentally have an understanding of the purchase intention of consumers so that they can better satisfy and meet their needs. Purchase intention is said to be a significant indicator of actual buying behaviour (Bash & Lai, 2019). This study focuses on the low-income markets as they are considered to be a large portion of the SA population and contribute to a large portion of the economy (Stats SA, 2020).

Previous studies by Jain, Khan and Mishra (2017) have focused on the purchase intention towards luxury brands of generation Y. A study on global brands was conducted by Al Koliby and Rahman, 2018 to determine factors that impact purchase intention of black mid-level consumers for a global brand in the fashion industry in South Africa (Al koliby & Rahman, 2018). The study found that perceived quality and attitude influence the purchase intention (Van den Berg, 2017). Gill (2016) conducted a study on factors that influence young adult students at Tunku Abdul Rahman University towards the purchase intention of smartphones. The findings of his research indicate that the price of smartphones has a significant impact on their purchase intention. In China a study was conducted by Honours students on consumer's purchase behaviour towards luxury brands and they found that the purchase intention for luxury brands is affected by the attitude of the consumer towards a product (Lee & Banes, 2016). A research study was conducted in 2012 by Karen Lim Lay-Yee in Malaysia entitled ''Factors that affect smartphone purchase decision-making among Malaysians generation Y”. The findings for the study revealed that the smartphone purchase decision of generation Y is influenced by dependency concerns (Ayodele & Ifeanyichukwu, 2016). Another study was conducted in Korea by Kuem in 2014 on investigating factors affecting consumer's purchase intention. The outcome shows that attitude towards smartphones was a positive factor for purchase intention among Korean consumers. A further study conducted by Nguyeni in 2020 on factors that influence consumer purchasing decisions of private label food products. The attitude was found to be the leading factor that influences consumers, indicating that those who are pleased with the brand, quality of product

and price have a positive attitude towards private label food products whilst dissatisfied consumers have negative attitudes; both influencing their purchase intention (Sharma & Garg, 2016; Brown & Naiker, 2018, Haris, Brookshire & Chin, 2016). Previous studies such as Nguyeni 2020; Hwang & Chung, 2019; Konuk 2019, Cant, Brink & Brijball,2016 have been conducted regarding consumer behaviour and purchase intention that have focused on green products, mobile phone brands, apparel products, global brand products, and advertising endorsers on products. There is, however, limited research regarding purchase intention of smartphones within the low-income consumer market segment within South Africa. The current study seeks to focus on the low-income segment of the population looking at their purchase intention on smartphones within the South African market and determining what factors influence their purchase intention. The research study further addresses the knowledge gap to the existing body of knowledge by investigating which external and internal variables identified in the literature of study can be significantly used for future consumer based studies when determining the factors that will specifically influence purchase intention of smartphone.

The research question for this study is thus; What are the factors that influence low-income consumer's purchase intention when deciding to buy a smartphone?

The next section elaborates on the objectives of the study which are associated with variables shown in the conceptual research study model. The hypothesis of the study will also be discussed in a subsection.

1.3 Research Objectives

In this section, research study objectives are addressed and are classified into primary and secondary objectives as shown below.

1.3.1 Primary Research Objective

The primary objective of this research study is to determine the factors that influence the purchase intention of smartphones by low-income consumers in Gauteng, South Africa to better serve the needs of low-income consumers.

1.3.2 Secondary Research Objectives

The secondary research objectives for the research study are as follows:

- To determine if external factors (family and friends, price, social status, culture, brand name, product features and reference group) influence the purchase intention of low-income consumers.
- To determine if internal factors (motivation, perception, and consumer attitude) influence the purchase intention of low-income consumers.

1.3.3 Hypotheses of the Study

The following are the hypotheses of the study:

- H1: Family and friends have significant influence on low-income consumers' purchase intention for smartphones.
- H2: Price has significant influence on low-income consumers' purchase intention for smartphones.
- H3: Social factors have significant influence on low-income consumers' purchase intention for smartphones.
- H4: Culture has significant influence on low-income consumers' purchase intention for smartphones.
- H5: Brand name has significant influence on low-income consumers' purchase intention for smartphones.
- H6: Product features have significant influence on low-income consumers' purchase intention for smartphones.
- H7: Motivation has significant influence on low-income consumers' purchase intention for smartphones.
- H8: Perception has significant influence on low-income consumers' purchase intention for smartphones.
- H9: Attitude towards smartphones has significant influence on low-income consumers' purchase intention to acquire them.
- H10: Reference group has significant influence on low-income consumers' purchase intention for smartphones.

The next section is a discussion of the research methodology that includes research design, data type to be used, sampling techniques, and data analysis for the study.

1.4 Research Methodology

The research methodology provides a theoretical framework and details of the various approaches to be adopted in conducting the study (Creswell, 2018).

In this section, the research design to be used for this study will be discussed. A description of the sampling method and data collection will be provided followed by the limitations of the study.

1.4.1 Research Design

The selection of research design in this study is based on the identified problem as well as the research objectives. Creswell (2018) pointed out that various research designs include exploratory, explanatory and descriptive designs. The descriptive design was used for this study to find the relationship between different variables identified in the literature review (Hair, Hult, Ringle & Sarstedt, 2017). Maree (2016) asserted that descriptive research design is linked to a problem that was identified, and the research question that was answered. Descriptive research was used to define, estimate, measure, and determine the variables that influence the purchase intention of low-income consumers (Jones, 2016).

The current study made use of quantitative research design through the survey data gathering process. The questionnaire was used to gather numerical data from voluntary respondents using a structured questionnaire (Du Plooy-Cillers, Davis & Bezuidenhout, 2016). A quantitative research approach aims at examining the relationship between variables, which are measured in a numerical format and analyzed by using statistical descriptive statistics (Maree, 2016). The data consultancy agency Osmoz consulting assisted with data collection from the month of May to June 2021; using a self-administered web-based questionnaire. The Osmoz consulting database has 450,000 consumers. Between 3000 and 5 500 consumers in their database, who fall within the stipulated inclusion criteria of low-income consumers (who earn ZAR3000 – ZAR6000 per month), were emailed at a time, requesting them to complete the questionnaire. In the email, a hyperlink was provided that redirected the participants directly to Osmoz consulting's online system to complete the questionnaire. The email clearly explained that by clicking on the hyperlink "you agree and give your consent" to participate. The responses were captured automatically on Osmoz consulting's online system when the respondents completed the questionnaire. An online-based survey approach was conducted for the study to increase the correctness of capacity and to examine reliability of pre-

existing capacity. Additionally, the advantages of online research include access to a unique population, saving time and conducting research at minimum cost (Nayak & Narayan, 2019).

1.4.2 Data Type to be Used

In this study, the researcher used primary and secondary data. Secondary data is readily available for other reasons besides the current research project (Maree, 2016). Data was used from external sources which include; journals, articles, newspapers, internet sources, and statistics to support the literature and provide a better understanding of the research information, problems, and identifying the gap (Schindler, 2019).

In this study, primary data was used to determine factors that influence low-income consumers' purchase intention of smartphones and to answer specific questions to elicit information that will be helpful for the study. Primary data were collected from online surveys using the Lime Survey platform. The process involved the conversion of the original paper-based questionnaire for use on a web-based platform; setting up of the database to receive the completed responses; and exporting of the final data in a format usable for a statistician (SPSS). A link to the online survey was sent to the target group via email accounts, thereafter; responses went through the data analysis process to answer the research questions and hypotheses for the study (Schindler, 2019).

1.4.3 Sample Plan

Ngulube (2020) emphasised that it is not easy to gather all the data that is available because of time, inaccessibility, and costs involved during data collection. Therefore, there is a need to have a sampling strategy to reduce the quantity of data collection (Sekaran & Bougie, 2016). A sample is referred to as a sub-group or portion of the whole population (Babin & Zikmund, 2016). The sampling method was used to minimise the costs of data gathering, increase the speed of data gathering, and ultimately getting the accuracy of research outcomes (Creswell, 2018). Non-probability sampling along with a convenience sampling method was used to improve the representativeness of a sample of the population, where certain relevant characteristics describe the proportions of that population, for instance, gender and age (Saunders, Lewis & Thornhill, 2019). The sampling process for this study took a small portion or part of respondents to represent the entire population and the outcome was drawn from the low-income segment in South Africa.

The next section is the discussion of the target population, sampling frame, and unit of analysis for the study.

1.4.4 Target Population, Sampling Frame and Units of Analysis

The target population describes a complete chosen group of elements to be surveyed in a research study (Hair, Hult, Ringle & Sarstedt, 2017). Saunders Lewis & Thornhill, (2019) goes on to comment that the target population contains the same information that the research study wants to achieve its objectives. Hair *et al*. (2017) contends that sampling units in the study can be, for instance, households, businesses, people, and any unit suitable for the research objectives. In this study, the target population was low-income consumers comprising of males and females who are between the ages of 18 and 65 years. Low-income consumers are the target population because they have high purchasing power and it is, therefore, important to gain knowledge on their purchase intention of smartphones (Itnewsafrica, 2017).

The target population is consumers between the ages of 18 and 65 years who earn between the levels considered to be the "low-income group" and fall within LSM 3 - 5 in Gauteng, South Africa. Gauteng Province has a population of 13.4 million people and 64 % (8.4 million) of Gauteng's population is aged between the age of 18 and 65 years; out of this population 32 % (2.7 million) use smartphones (Stats SA, 2020). A total of 308 low-income respondents participated and answered the questionnaire.

The sampling frame is a list of sample elements drawn from the entire population (Du Plooy-Cillers, Davis & Bezuidenhout, 2016). From the 450,000 consumers who are listed on Osmoz consulting's database between 3000 and 5500 consumers fall within the low-income group that was part of the sampling frame. The questionnaire was administered and distributed to the target population using a link in their individual email addresses in order to access the Lime Survey platform. The target population were part of the low-income group of LSM 3 - 5 who earn approximately between ZAR3000 and ZAR6000 per month (Stats SA, 2020; Unilever Institute of Strategic Marketing, 2018).

Du Plooy-Cillers, Davis and Bezuidenhout (2016) describe units of analysis as the whom or what the researcher wants to analyse in the study. Therefore, low-income consumers in Gauteng, South Africa were surveyed and analysed for the study. The units of analysis for this study include males and females who are between the ages of 18 and 65 and are low-income consumers.

In the next section, sampling techniques for this study will be discussed.

1.4.5 Sampling Techniques

Schindler (2019) points out that sampling techniques in a research study are used to draw samples from a chosen population to come up with a conclusion for the population. Cooper and Schindler (2016) state that there are 2 categories of sampling techniques namely probability and non-probability sampling techniques. Probability sampling is described as a sampling technique where the samples have equal opportunity to be selected as a representative from the population (Cooper & Schindler, 2016). The choice of sample units within non-probability sampling is used where samples have an unidentified equal opportunity of being selected from the population (Hair, Risher, Sarsstedt & Ringle, 2019). Non-probability sampling, using a convenience sampling method, was chosen in this study (Nguluwe, 2017). The researcher used non-probability sampling along with the convenience sampling method because population elements were chosen depending on their accessibility, availability and the large number of respondents to be interviewed in a relatively short time period (Adler & Clark, 2016). The sample was chosen depending on the researcher's subjective judgment on the sample without considering random sample selection (Adler *et al*., 2016). Furthermore, the non-probability technique is inexpensive, time-saving and convenient (Zikmund & Babin, 2017). Furthermore, the non-probability method was advantageous as the collection of the sample is very easy and does not need any statistical methods of sample selection (Ngulube, 2020).

1.4.6 Sampling Size

The sample size for the study was determined by analysing similar previous studies conducted by various authors (Schindler, 2019). A study conducted at Abdul Rahman University by Honours students in 2014, on factors affecting purchase intention of young female adult consumers towards smartphone brands, used 200 participants as a sample size for the study (Du Plooy-Cillers, Davis & Bezuidenhout, 2016). A research study conducted on factors affecting smartphone purchase decisions among Malaysian generation Y, researchers used a sample size of 150 respondents (Gilham & Mallery, 2019). In this study, the researcher used a sample size of 308 respondents as it was easier to quantify the data, and enabled the researcher to manage the processing and get accurate research outcomes (Saunders, Lewis & Thornhill, 2019). In this study, a total number of 308 respondents (n=308) were used in Gauteng, South Africa. 308 respondents is a big enough sample

according to Wyse (2016) as most quantitative technique studies require a sample size of 308 or more to enable good statistical analysis.

1.4.7 Data Collection Approach

Hair *et al*. (2019) points out that data collection is a systematic collection of raw data aiming at achieving the objectives of the research study. Various sources of data exist which include; electronic devices, records, statistics, interviews, observations, and questionnaires where the procedure is aligned before statistical analysis of the data (Du Plooy-Cillers, Davis & Bezuidenhout, 2016). To answer research questions, the survey method of data collection was used through a structured questionnaire to gather detailed information on factors influencing purchase intention as well as the demographic factors of the respondents. An external data consultancy company, Osmoz consulting, was used to collect data as they had a database of low-income consumers in Gauteng, South Africa. Data were collected using a self-administered questionnaire via an online platform. A link was emailed to invite 315 participants from Osmoz's database of 3000 to 5500 low-income consumers to participate in the study via the online platform provided by the gatekeeper (Osmoz consulting). As soon as the 308 participants responded to the web-based questionnaire, the link was closed because the research was intended to have only 300 participants. These participants are those who are considered to be the low-income consumers who earns ZAR3000 – ZAR6000 per month and had time to complete the questionnaire voluntarily (Visage, 2017).

1.4.8 Data Collection Instrument and Questionnaire Design

A self-administered questionnaire is a type of questionnaire in the form of a paper or electronic page layout that allows a respondent to answer the questions on her or his own accord without any intervention from the researcher (Wyse, 2016). Schindler (2019) arrived at a similar definition noting that a self-administered questionnaire is a stand-alone survey that can be completed electronically or through web surveys and computer-based methods in person or by email. A self-administered questionnaire, with a list of questions and statements, was used to enable the researcher to reach all who have access to electronic devices that include smartphones, computers and internet access. To determine if the consumer falls within the low-income bracket, the questionnaire contained a filter question. The filter question was to ask respondents to indicate their income level. Only those consumers who fall within the income level between ZAR3000 and ZAR6000 of the low-income group were asked to carry on with the survey.

A web-based questionnaire containing a series of questions which are linked to the objectives of the research was used to collect primary data. Collecting data by using a questionnaire tool to generate responses from participants help to save time in data collection and easy completion of the survey (Saunders, Lewis & Thornhill, 2019). The questionnaire used a nominal scale where the response did contain the level of intensity and interval scales which were in order to measure the degree of response (Zikmund & Babin 2017). There are different kinds of scales that include 7 Likert-scales (1-7) which has 7 responses and a five-point scale (1-5) which has 5 responses (Saunders, Lewis & Thornhill, 2019). The scales differ from 1= strongly agree, 2= agree, 3= neutral, 4 =disagree, and 5= strongly disagree (Zikmund & Babin, 2017). The 5 (1-5) Likert scale was used to present the data in a quantitative form about the events, persons, or any situation (Zikmund & Babin, 2017). The questionnaire consists of items that were structured and adapted from different authors of previous related studies, as shown in chapter four of the research methodology (See Table 4.2).

In the next section, it is important to discuss the pre-testing of the questionnaire to test the reliability and effectiveness and to see if the measurement instruments are valid before conducting the main study.

1.5 Pre-testing of Instruments

The researcher conducted a pre-testing of the questionnaire before the main study to test the reliability of what the researcher wanted to do (Schindler, 2019). The researcher had the opportunity to examine, refine the effectiveness of research instruments, and determine the validity of the research study (Leedy & Ormrod, 2016). Pre-testing helped the researcher as well as respondents to understand all the questions, to see if the respondents felt comfortable when answering the questions, to test the validity and reliability of data gathering for the study, and to find unforeseen circumstances that could affect the study validity (Leedy & Ormrod, 2016). Pre-testing also helped to evaluate sample visibility, cost, the effects of sample size, and length of time to respond to the questionnaire by the respondents (Schindler, 2019). Ten respondents were used to test and complete the questionnaire using a convenience method of sampling in Gauteng.

1.6 Data Analysis

Descriptive analysis was used to explore the gathered data and to summarise it. At the quantitative analysis level of the study, data was entered in a Statistical Package for Social Science software program abbreviated as SPSS. The structural equation modelling (SEM) analysis was conducted using IBM SPSS AMOS version 27. SEM represents a flexible and comprehensive methodology for representing, estimating, and testing a theoretical model with the objective of explaining as much of their variance as possible (Hair, 2020). The statistical test of factor analysis was employed. Malhotra, Nunan and Birks (2017) confirm that factor analysis is used as a set of statistical methods that describe the interrelationships between a set of variables by statistically deriving a smaller number of new variables called factors. Factor analysis makes use of mathematical formulas to simplify a large number of inter-correlated measures to a few representative constructs (Malhotra, Nunan & Birks, 2017). Malhotra *et al*. (2017) recommend that factor analysis is used when there is a need to identify underlying dimensions, to explain the correlations among a set of variables, when there is a need to identify a new set of uncorrelated variables to replace the original correlated variables, and when there is a need to identify a smaller set of salient variables to be used in further multivariate analysis. Thus, the primary objective for this research study is to determine the factors that influence the purchase intention of smartphones by low-income consumers in Gauteng, South Africa, and relates directly to the first reason mentioned above, which is to identify underlying dimensions that explain the correlations amongst a set of variables. Confirmatory factor analysis was used as an appropriate data analysis technique for this study (Ramlall, 2017). Descriptive statistics were used to assess the impact of: family and friends, price, brand name, product features, social, culture, perception, reference group, and attitude towards consumer purchase intention of smartphones in Gauteng, South Africa. The significance level was $p<0.05$, which signifies that when the "P" value is less than the significance level 0.05 or 0.001 ($p<0.05$), then the null hypothesis is rejected. If the "P" is greater or equal to the significance level, the null hypothesis is not rejected. In this research, analysis of the frequency distribution of descriptive statistics such as percentages and frequencies was also used to classify the demographic profile of the respondents (Zikumund, Babin, Carr & Griffin, 2016). The percentage distribution is shown so that respondents answered each variable to the investigation item (Zikmund & Babin, 2017), this included gender, status, educational background, and respondent's age range. The descriptive statistics are represented showing the mean, maximum, standard deviation of different variables. This study employed the aforementioned statistical technique to interpret the results collected for this research. Chapter five presents the information and provide more detail on factor analyses used.

The next section is the discussion of research validity and reliability.

1.7 Validity and Reliability

The research reliability and validity are described as the measurement used to determine the trustworthiness of the research findings (Neuman, 2016). The research measuring instruments of reliability and validity in the research process plays an important role as it is used to express the quality of a given measure (Creswell & Creswell, 2018). Reliability can be regarded as the internal consistency with which the measurement evaluates certain constructs of the study (Hair *et al*., 2019). The validity of the research shows the relationship between the measurement instruments and the constructs of the study (Hair *et al*., 2017). The validity also shows the accuracy of the constructs in a scale administered during the same period (Brown, Suter & Churchill, 2018). Convergent validity is the extent to which a set of items only measure 1 latent variable in the same direction (Neuman, 2016). Creswell and Creswell (2018) contend that attaining convergent validity implies that items need to be correlated. To determine interconnectedness, data was subjected to the development of the measurement mode.

In this research study, to ensure the reliability of data gathering through a questionnaire, a pilot test was conducted to assess the measuring instrument in a small population and identify the problem with the research design (Babin & Zikmund, 2016). A questionnaire went through a process of screening by research supervisors, the research ethical committee, and research experts for validation before data collection. Reliability analysis was determined by using Cronbach's alpha technique to find the consistency of measuring the internal scales of the study (Brown, Suter & Churchill, 2018).

The next section is the discussion of the limitations of the study.

1.8 Limitation of the Study

In this study, the limitation of the study is as follows:

- A single geographical area was chosen where the survey was conducted as it was expensive to cover various areas. Choosing a single geographical area may not be representative and accurate

enough to generalise the population as this study only covers the Gauteng province and not the other eight provinces in South Africa.

- The requirements of the study specifically required data from the income bracket group of those consumers earning between ZAR3000 - ZAR6000 per month. This restrictive approach may not generalise the findings to other income groups due to different consumer buying behaviours.
- Lastly, the research study focused on only a few variables that influence purchase intention of smartphones; other unknown factors that were left out which could also have been discussed.

The next section is the ethical consideration that entails the procedures to be followed before the data collection exercise.

1.9 Ethical Considerations

Ethical research issues are necessary because they highlight the importance of not offending the research sample through any prejudice language or terminology (Babbie, 2016). Before gathering the information from respondents, the research clearance certificate was approved by the Research Ethics Review Committee (RERC), reference number 2019_MRM_14. It was obtained online from the marketing and retail management department of the College of Economic and Management Sciences at the University of South Africa (CEMS) to ensure that the research study is ethical. The committee approved the methodology applied to conduct the research topic, data collection instrument, and techniques that were used. However, because of the Covid 19 pandemic, it was impossible and the methodology of data collection was changed to online data collection in order to adhere to precautionary measures and policies of Covid 19, implemented by University of South Africa.

The researcher ensured that participants' privacy and confidentiality are protected and that there is natural voluntary participation in the research study (Sekaran & Bougie, 2016). The researcher made an assurance that the information collected through the survey's questionnaire was meant solely for research purposes and the names of participants, their age, education, and status will not be disclosed, but will remain anonymous (Sekaran & Bougie, 2016).

The researcher considered the target population of LSM 3 - 5 for this current study because it has fewer ethical issues due to their educational background; they can speak, read, write and understand the concepts of the research study.

The following section is the chapter organisation of the study. The section will summarise information in each chapter that includes introduction and background to the study, literature review, conceptual framework, research methodology, findings, discussion, and recommendation of the study.

1.10 Chapter Organisation

Chapter one provides an introduction and background to the study. Introduction to consumer behaviour models and purchase intention has been provided. A synopsis of methodology, research designs, approaches, and data collection instruments as well as ethical consideration of study.

Chapter two provides a literature review on purchase intentions, consumer behaviour models, and South African low-income consumers. In this chapter factors that affect the buyer's process are also discussed.

Chapter three discusses the conceptual framework of the research study along with the hypothesis development from the review of the literature.

Chapter four provides research methodology details which include the research design, sampling plan, data collection methods, testing of data instruments, and data analysis.

Chapter five provides details of the results and findings of the survey as well as the presentation of these findings' analysis. This includes portraying data analysis through graphs and tables.

Chapter six covers the discussion of the findings, conclusion, and research recommendations followed by suggestions for future studies that have also been drawn from the research study outcome.

1.11 Summary

To conclude, chapter one provided research background, objectives, the problem statement, and hypotheses. The chapter has also introduced factors that have an impact on low-income consumers towards purchase intention of smartphones in the Gauteng province of South Africa. Various discussions on purchase intention followed by various consumer models to support the research background have been presented. The chapter also highlights methodology to execute the research

project that includes; research design, the data collection method, research validity, and reliability techniques, in addition to the data analysis method that will be used to answer the research question and to obtain the research objectives. Furthermore, the chapter also introduced the limitations of the study and ethical consideration issues.

Chapter two is the discussion of the literature review with relevant information on purchase intention which is used as a tool to anticipate the response behaviour. Different sections have been provided in the next chapter on factors that influence purchase intention of smartphones namely; family and friends, price, culture factor, brand name, social factor, reference group, product features, motivation, and attitude towards the product.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The consumer's plan to purchase certain goods or services in the future can be affected by different factors that include: family and friends, price, product features, culture, brand name, reference group, perception, motivation, and attitude towards the product (Elammari & Cavus, 2019). Consumers go through the decision-making process when purchasing the product (Kotler & Armstrong, 2018). The planning may often not lead to acquiring the product or service because of various influences that impact the consumer's intention of buying the product (Elammari & Cavus, 2019). Purchase intention can lead to the actual purchase of a product and when the purchase intention is stronger, the consumer is more likely to buy the product (Kaushal & Kumar, 2016).

In this chapter, purchase intention will be discussed. A detailed discussion on low-income consumers within SA will be given. The chapter will also contain discussions of various internal and external factors that influence the purchase intention of low-income consumers, namely: brand name, price, social, reference groups, motivation, perception, culture, family, and friends.

2.2 Low-income Consumers in South Africa

Low-income consumers are those individuals whose income-earning or financial status is low, resulting in the consumers being unable to access basic needs and services that are considered to be necessary for an adequate standard of living (WorldBank.org, 2019). Stats SA (2020) describes low-income earners as the Bottom of the Pyramid (BOP) consumers who are value-conscious out of necessity. BOP is defined as a market segment of low-income consumers that is characterised by their income levels (UCSR, 2018). BusinessTech (2020) described the composition of BOP as those consumers who are earning less than USD2,000 per annum, which is USD167 per month or about ZAR3000 per month (UCSR, 2018; Visagie, 2016; Prahalad & Hammond, 2016). In this study, low-income consumers are those individuals who earn approximately between ZAR3,000 and ZAR6,000 per month. According to Stats SA (2020) low income consumers in South Africa are experiencing challenges due to the Covid-19 pandemic which has resulted in many losing their jobs and experiencing pay cuts; thus buying food on credit.

Furthermore, the survey report published by statistics South Africa pointed out that the consumers will continue to face extreme hardships until the year 2025 because of the prices going up as a result of higher interest rates on borrowing and an increase of prices on food stuffs (groceries), electricity, water, school fees, and accommodation (Stats SA, 2020).

Because South Africa is facing a big challenge due to the Covid-19 pandemic, BOP consumers have gradually become imperative to the emerging markets of this post-pandemic economy (BusinessTech, 2020). Prahalad & Hammond, (2016) revealed that BOP is used to indicate the expansion of the emerging markets. Low-Income consumers have tremendously high buying power because of hidden sources of income such as backyard shops, spaza shops in conveniently located areas, etc. (Prahalad & Hammond, 2016). In the low-income segment, the buying power generates great business potential in the South African marketplace (Gueslaga & Marshal, 2016). The low-income consumer market is worth between R86,001million and R1.48 billion per annum, and constitutes a total of 75 % of South African households (Stats SA, 2020). Over 10 % of their income spent money on mobile phones which is important for the economy (BusinessTech, 2020).

The low-income consumers belong to the bottom of the pyramid market which is divided into segments or tiers (Prahalad & Hammond, 2016). The pyramid is made up of tiers thus top, middle and lower levels where consumers are characterised by their income levels (Prahalad & Hammond, 2016). The following pyramid illustrates the market tiers from tier 1 to tier 4.

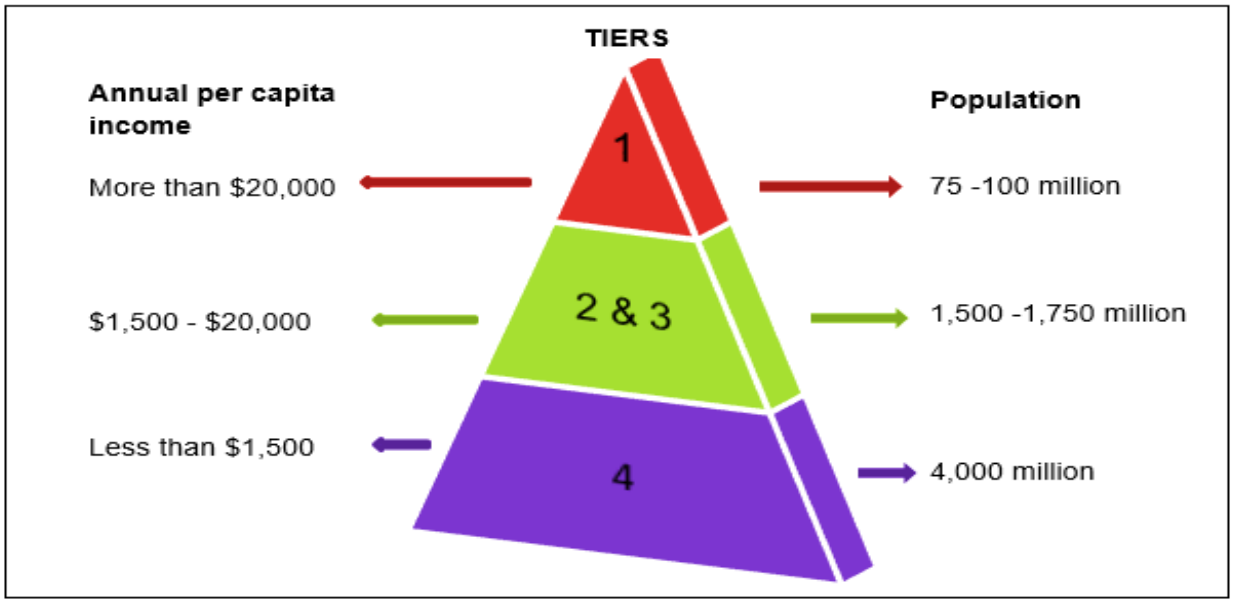

Figure 2.1: The four market tiers
Source: Prahalad C.K & Hammond L.H., (2016) The fortune at the bottom of the pyramid.

The 4 market tiers by Prahalad and Hammond (2016) have been described as follows:

- At the top of the pyramid, there are 75 to 100 million consumers earning USD 20,000 per year. The tiers indicate the influence of the middle to upper-income consumer groups of the population who live mostly in urban areas in developed countries worldwide (Prahalad & Hammond, 2016)
- In the past, companies focused their marketing efforts on the increasing number of the middle class which is part of tiers 2 and 3. These tiers include middle-income consumer groups in developing countries who belong in the emerging market. This market (tier 2 and 3 has between 1.5 and 1.75 billion consumers with an earning income of between USD1,500 and USD20,000 per annum (Prahalad & Hammond, 2016).
- The lowest tier at the bottom end of the pyramid base has around 4 billion consumers earning USD1,500 (approximately ZAR20,000) per annum. They are regularly found in rural areas of developing countries in the world. In South Africa, we can find individuals that fall within the lowest group in the townships, city centres, and rural areas (Prahalad & Hammond, 2016).

The South African market tiers are categorized by different factors such as the service levels received from the government, residential areas in rural and urban areas, informal or formal economies, income levels, and market competitiveness (Prahalad & Hammond, 2016).

Prahalad and Hammond (2016) indicate that the South African market segment based on the household's possessions and BOP is identified through the possessions of goods. The South African BOP market accounts for 35 % of the total population. The market in the BOP is classified into 4 groups namely, Apex, Buttress, Core, and foundation as shown in figure 2.2 below.

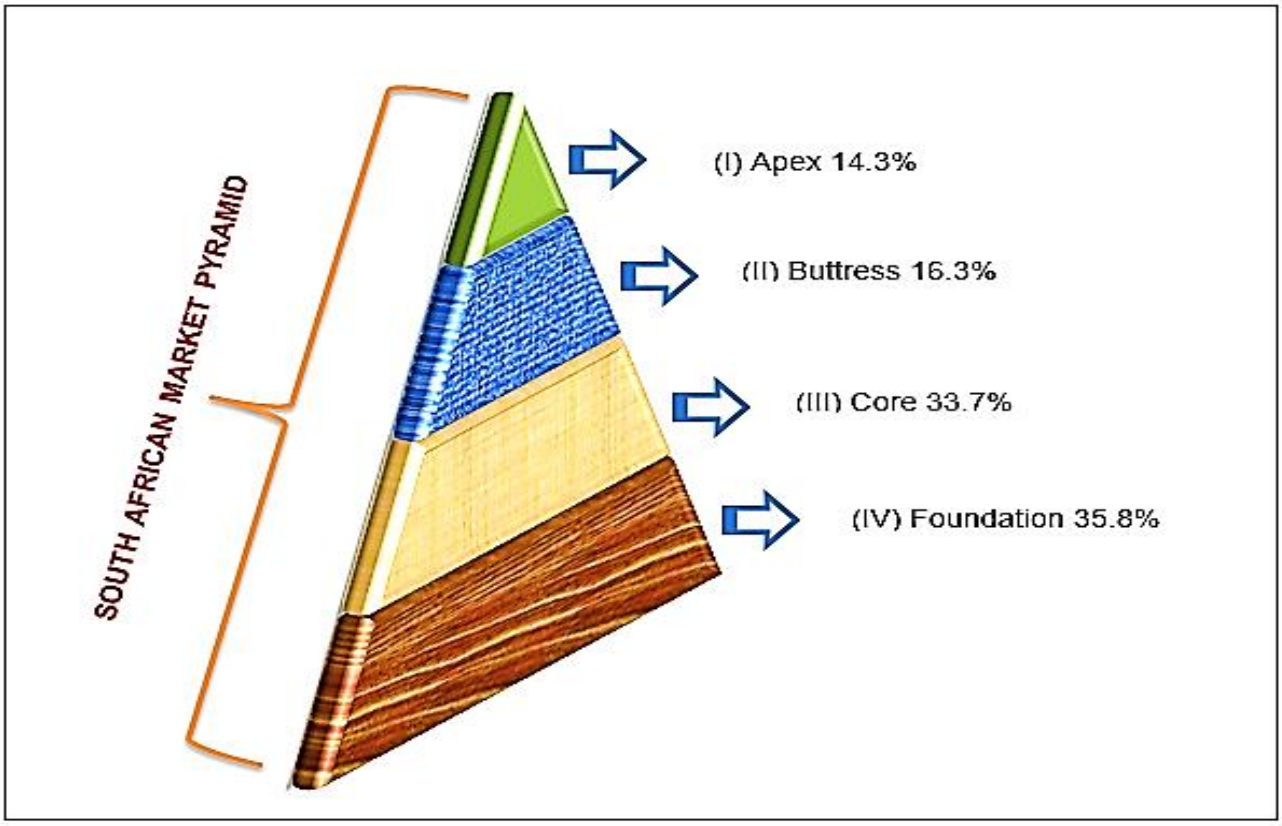

Figure 2.2: South African market pyramid.
Source: Chipp H., (2015).

As shown in figure 2.2, the market groups are defined as follows:

- Firstly, the Apex which contains LSMs group 9 and 10 adds up to 14.3 % of the entire South African population.
- Secondly, the Buttress contains LSMs group 7 and 8 and consists of 16.3 % of the population.
- Thirdly, the Core is LSMs group 5 and 6 and makes up 33.6 % of the population and,
- Lastly, the foundation is LSMs group 1 to 4 and covers 35.8 % of the adult population in South Africa (Stats SA, 2020).
- LSM 1 - 4 are unskilled, poorly educated, and socially disadvantaged people, who struggle for their living; they live from day-to-day and some depend on public assistance such as receiving monthly grants. This is the bottommost class (Visagie, 2016). The manufacturers and retailers will be able to know the needs of this segment so that they can better serve them in regards to the affordable pricing because of their income levels (Dutz & Pilat, 2016).

According to Stats SA (2020), the South African population consists of approximately 35 % of low-income consumers. The low-income market segment has a high population of potential consumers, thus serving this market will benefit the company's profitability. According to Stats SA (2020), the BOP proposition indicate that large multinational companies are penetrating LSM 3 - 5 of the consumer segment, which is an untapped, yet profitable, commercial segment of the market; thus yielding huge profits because of high purchasing power (Pew Research Center, 2018). Furthermore, the spending power of potential low-income consumers provides an incentive for organisations to pay more attention to the low-income segment (Statista, 2021). Low-income consumers buy various smartphone brands that include: Nokia, Samsung, Microsoft, HTC, Mobicel, Sony Ericsson, Huawei, Apple, Xiaomi, and iPhone (Itnewsafrica, 2017). Stores such as the local retailer PEP, which caters to the economic needs of the lower-income consumers offer consumers smartphones at more affordable prices, for instance, smartphones are sold at ZAR700 and above at PEP retail stores (Visagie, 2016). The low-income consumer can buy a smartphone using different methods of payment, for instance, a contract phone where payment is made via a monthly debit order for 24 months, cash, debit card, or Electronic Funds Transfer (EFT) (Visagie, 2016).

The low-income consumers are the target population and the study aims at determining the factors that influence them towards their purchase intention of a smartphone. The purpose of targeting low-income is because the middle and high-income segments are saturated and companies are exploring opportunities in this low-income market segment so that manufacturers and retailers can introduce less expensive smartphones to reach this market.

The next section is the overview of global, African continent, and South Africa cellphone industry market performance

2.3 The Overview of Global, African continent, and South Africa Cellphone Industry Market Performance and Challenges

The cellphone device has become a familiar usage across the globe (GSMA the mobile economy, 2020). There are 7.1 billion cellphones in use around the world and 198 billion applications were downloaded in the year 2020; these are projected to generate revenue of USD188.8 billion in 2020 (Statista, 2020). In the year 2019, it was recorded that 7.9 billion mobile broadband consumers were subscribed worldwide and 14 million jobs were created directly related to the cellphone industry worldwide (GSMA the mobile economy, 2019).

A study conducted by Deloitte in 2020 predicted a global usage of over 17.2 billion cellphones by the year 2022; quite an increase from the number of individuals subscribed in 2019. Cellphones have gone through numerous innovations and their functionalities have increased through development of new applications that are used to share information, for online shopping, and internet banking. According to the International Telecommunication Union (ITU) revealed the statistics on telecom sector in African continent held in Cairo, Egypt (The World Bank, 2019). The statistics indicate Africa continent has become the fastest mobile phones growing market. During the past five years, 65% was recorded as an increase of annual rate of mobile phones which is double to the global average which is good for investors (Statista, 2020). This remarkable growth of mobile phones in African market forecasted to have 500 million users by the end of year 2025. GSMA the mobile economy, (2020) reported that, there were 395.7 million registered mobile money accounts in 2019 with money service providers in the region and currently is served by more than 130 live mobile money services. Most of the mobile money services are led by mobile operators with 1.4 million active network agents. The growing countries include Zimbabwe, Ghana, Nigeria, Kenya, Tanzania, Morocco, and Zambia with higher population size of mobile money accounts (Statista, 2020; GSMA the mobile economy, 2020).

The penetration increase of internet with advancement of technology and network infrastructure gradation is contributing the growth of the cell phone market (Statista, 2020).

Besides the increase growth cellphone industry, the market is highly competitive since major players are facing strong competition region players thus making difficult for sellers to retain their market shares. The Covid-19 pandemic has relentlessly disturbed the supply and demand the balance between supply and demand in the smartphones market. For instance, China is the global manufacturing giant of cell phone devices and most of the manufacturing companies had national wide lockdown as a result the market was adversely hit by delay in shipments and declining the development of the next generation devices. (GSMA the mobile economy, 2020).

The next section will provide a discussion on the cellphone industry in South Africa.

2.3.1 Cellphone Industry Markets in South Africa

Consumers in South Africa consider the cellphone as a significant tool in their day to day lives (Statista, 2020). In a research study conducted by the Worldbank organisation in 2017, it was indicated that the youth is faster than older people in the acceptance of using cellphone technology (Datahelpdesk Worldbank.org, 2019).

According to Nielsen (2020), the South African retail industry of cellphone operating systems include: Windows mobile, Meego, Android, iOs, Nokia Symbian, Microsoft, and Blackberry. The operating system allows for a third party to run applications on these devices. The operating system on cellphone devices is used to provide navigation gaming, social networking via the internet, user interaction through wider touch screen capabilities, photography, office computing like Excel; PowerPoint; and Word, the editing of photos, and cloud access and storage (Nielsen, 2020). Cellphone devices have demonstrated a far more efficient technology in providing access to communications to individuals including the lower-income population of South Africa (Stats SA, 2019). The touch capabilities and inventions of technology allow smartphones to offer similar services to personal computers; it is this development that led to sales growth of smartphones (Gartner, 2020).

2.3.2 The Performance of the Cellphone Industry Markets and the Size of Population using Cellphone in South Africa

A report prepared by ICASA (2020) revealed that cellular phone subscriptions in South Africa were reaching over 90 million. The cellphone network operators within South Africa include; Vodacom, MTN, Cell C, and Telkom. These cellphone network operators have independent stores and provide different devices to the industry. The South African mobile network operators each occupy the market share as follows: Vodacom had 42.4 %, MTN had 29.4 %, Cell C had 16.9 %, Telkom had 9.5 %, MVNO had 1.8 % and other providers such as Virgin mobile, 8ta, Me & You mobile, Smart mobile, Hello mobile, and Mr. P mobile occupy 1.1 % of the total market share in 2019 (Statista, 2020). The cellphone network operators play a significant role in the economic development of South Africa (Independent Communication Authority of SA, 2019).

The higher revenue profitability of the cellphone network operators results from the growth in cellphone penetration into the country (Nielsen, 2020). With the technology usage, cellphone suppliers are concentrating on customer satisfaction and as well as quality at a larger scale. Market players are also put their initiatives and focus on acquisitions, developing mobile application software's updated, new product launches and offering advanced products in the market. According to Goepoll (2021), in the twenty-six years since the first mobile phones were available in South Africa in 1994, mobile connectivity has grown rapidly in the country, resulting in high mobile penetration rates in South Africa. Goepoll (2021) states that, although cellphones started out as a piece of luxury technology reserved for the elite, they are now in the pockets of 95% of South Africans. Additionally,

91% of all phones in the country these days are smartphones, a higher percentage than seen in most other countries in sub-Saharan Africa region (Goepoll, 2021).

2.3.3 Growth Factors of the Cellphone Industry Markets in South Africa

South Africa is Africa's biggest mobile phone markets with Mobile cellular subscriptions in 2019 was 96 million and in 2020 was 94 million ICASA 2021. The Smartphone1 subscriptions was 53 million in 2019 and in 2020 was recorded 60 million (ICASA 2021). The growth of cellphone industry has been increasing due to improvement in consumer viewpoint, continued learning, and employees working from home from the time of Covid-19 pandemic in 2020 boosted the sales of smartphones in year 2021 (ICASA 2021). To ensure the business continuity operation, organisations that are affected by Covid-19, in South Africa are accepting their employees to work from home (ICASA 2021). The result of increase in people working from home has also led to the increase growth and demand for online viewing, downloading, and communication is done through skype, video conferencing that lead to data usage. In South Africa, smartphone users were estimated at 24.5 million in the year 2021 and are projected to go up to 26.3 million users by the year 2023. This number is expected to increase dramatically by 2030 (Statista, 2021; GFK South Africa, 2021). The percentage of consumers owning smartphones over basic phones increased from 78 % in 2019 to 91 % in first-quarter 2021 (Statista, 2021). The sales volume shows that sales increased to 63 % of smartphone devices in 2020 while basic mobile phone (devices with no factory-installed or third-party apps and with limited features) sales shows 9.7 % in 2020 (GFK South Africa, 2021). The various brands of smartphone devices in use increased that include; Samsung, in 2020, was at 45.28 % followed by Huawei at 27 %, while Apple was at 15.31 %, Nokia at 2.12 %, Xiaomi at 1.41 %, BlackBerry at 0.8 %, Sony at 0.52 %, and LG at 0.3 % (ICASA, 2021).

2.3.4 Challenges Faced by Cellphone Industry Markets in South Africa

Besides the higher usage of technology through the mobile phones in South Africa, there are various challenges that the industry is facing that include:

- Despite a massive shift usage of cellephone, phone owners struggle with high data costs, fear of theft, and lack of reliable connectivity (Goepoll survey, 2021).
- Many incidents of the road hazards happen because of using cell phones by road users in both urban and local roads.

- Many accidents involve a driver being unfocused by talking on a mobile phone when driving, as well as when the drive while get drunk.
- According to the Stats South Africa (2019) revealed that household's proportion who have access to the internet everywhere is at 63 percent national wide with majority living in metropolitan cities and towns than rural areas.
- In South Africa, another challenge faced by mobile industry is lack of electricity supply due to load-shedding that affects both vendors that they can not sell airtime or do online transaction due to power disruption, customer cannot charge their cell phone batteries and make phone calls or access internet.
- The cellphones have also been regarded as the threat to security (ICASA 2020). South Africa has been recording cases of identity theft where the thirty party can been listening to conversations.
- Furthermore, the mobile technology is creating a dent in South Africa/s youth unemployment rate because few individuals are managing the mobile phone kiosks that may offer various services (Stats SA, 2019). For instance, selling airtime, repairs, unlocking phones, and the trading of airtime for cash has become unprofitable business because consumers buy airtime directly from their bank accounts.
- Lastly, customers can not complete a call when they have insufficient credit balance (Zero balance) which is a great concern to a low-income consumer to be connected to their service providers in South Africa (ICASA 2021).

Having discussed the challenges of cellphone industry in the South African context, the next section below is the discussion of consumer behaviour models.

2.4 Consumer Behaviour Overview

The term consumer is used in the marketing field and refers to an individual who can buy goods and services from the market place; offered by retailers and marketing organisations to satisfy individual wants or needs (Ting, Thaichon, Chuah & Tan, 2019). Consumer behaviour, therefore, is the study of where, why, when, and how individuals process their decisions to choose, serve, and consume services and products to fulfil their needs (Kotler & Armstrong, 2018). Consumer behaviour is the outcome of the consumer's decision-making process that involves what the consumer buys, where they buy it, when they buy and how these products and services are consumed (Ting, Thaichon, Chuah & Tan, 2019). Consumer behaviour is the process the consumer experiences when making purchases and the process involves factors that influence the purchase decision of the product

(Panwar, Ali, Singal, & Anand, 2019). The purchase of products and services goes through all steps of the decision-making process (Panwar, Ali, Singal, & Anand, 2019). The link between human and consumer behaviour is that human behaviour incorporates thoughts and feelings of action by an individual, through motives and feelings of every day, while consumer behaviour applies to particular actions of individuals during the process of purchasing the product and service (Belch, 2016).

From the definition, it can be seen that the emphasis is on the individual and that focuses on human behaviour (Kotler & Armstrong, 2018). Therefore, manufacturers and retailers should have knowledge of consumers' specific requirements to satisfy their needs or turn their minds to purchasing the product (Kiran, Thomas, Johny & Jose, 2019; Solomon, 2016).

The consumer behaviour model of Hawkins, Best and Coney, along with various elements that make up the model, will be discussed in detail, as this is the model that was focused on for the current study.

The various consumer behaviour models are discussed below in the next section.

2.5. Consumer Behaviour Models

White, Habib and Hardisty (2019) revealed that every consumer has implicit or explicit behaviour in their mind where a decision is shaped by different factors that have an impact on their purchase intention. There are different types of consumer models that have been developed over the years to show how consumers behave in a buying situation. Consumer behaviour models include several seminal models such as Engel, Kollat and Blackwell, Black Box, Nicosia, and Hawkins, Best and Coney's models and have been widely applied within the consumer behaviour field.

A comparison and evaluation of different consumer behaviour models are presented in table 2.1 as follows:

Table 2.1: Comparison and evaluation of consumer behaviour models

COMPARISON AND EVALUATION OF CONSUMER BEHAVIOUR MODELS					
Variable of the model	**Engel, Kollat and Blackwell**	**Nicosia**	**Sheth and Howard**	**Black box**	**Hawkins, Best and Coney**
Author of a model	Engel J.F., Kollat D.T., & Blackwell R.D., (1968)	Nicosia F.M., (1966)	Sheth J. & Howard J.A., (1969)	Kotler, (2014)	Hawkins, Best & Coney, (2004).
Description of the model	The model represents consumer behaviour as a decision process of 5 stages (need recognition, information search, evaluation of alternatives, purchase decision, and post-purchase behaviour) which occur.	A model that has a circular flow of influences where each component provides input to the next.	The emphasis description of the model is rational brand choice behaviour through buyer's incomplete information acquisition.	The model uses the marketing stimuli which are also known as the 4 Ps as well as other forces such as economic, political, technological and cultural that are entered into the consumer black box to produce certain information searches and responses.	The model states that consumer purchase intention decision is influenced by external and internal factors

COMPARISON AND EVALUATION OF CONSUMER BEHAVIOUR MODELS					
Variable of the model	**Engel, Kollat and Blackwell**	**Nicosia**	**Sheth and Howard**	**Black box**	**Hawkins, Best and Coney**
The variable influencing consumer decision process	The variables include: • Information processing • Stimulus inputs • Variables that influence the decision process • Decision process	There are 4 major sets of variables in this model namely: • Perceptual and learning constructs • Inputs • Output • Exogenous variables	The variables are as follows: • Attention, • Brand comprehension, • attitude, • intention, and • purchase	Internal factors • Belief/attitudes • Value • Knowledge\Motives • Perception • Lifestyle External factors: • product, price, place, promotion Environmental factors: • Economic, technological, political, demographics, situational	External Factors : • Family& friends • Social • Price • Culture • Brand name • Product features • Reference groups Internal factors • Perception • Motivation • Attitude
Evaluation of Model	The model of Engel, Kollat and Blackwell has the same problem as explained in Sheth and Howard. The model does not provide a clear explanation when a particular variable influences consumer behaviour with other variables. For instance, when the evaluative criteria are influenced by personality, and how does the influence happen. The model does not	The model of Nicosia identifies various steps between actual behaviour and attitude information. This conceptualisation, however, helps the researcher to understand better the problems that it is not always able to foretell the behaviour of the consumer.	The model of Howard-Sheth is exceptional in presenting the consumer's behavioural approach to industrial buyer behaviour and emphasises the relationship between various forms of group	The Black box model does not explain how consumer purchase behaviour is developed, and why motivation, attitude, personality and the learning process are factors that influence	The Hawkins, Best and Coney model provides a better understanding of factors that influence consumer purchase

COMPARISON AND EVALUATION OF CONSUMER BEHAVIOUR MODELS					
Variable of the model	**Engel, Kollat and Blackwell**	**Nicosia**	**Sheth and Howard**	**Black box**	**Hawkins, Best and Coney**
	indicate or provide the strength of the influence; therefore, the weakness is that the model cannot provide clear answers to these questions. The model only deals with individual behaviour while other groups such as family and friends are not included in the information searching, evaluation, and decision-making process. Additionally, the model does not give clarity of consumer behaviour in terms of the interpersonal influence of individuals. In this model, there is no clear understanding as to why the central control unit is located separately from the parts of the decision-making processes. Furthermore, the model does not give a clear picture of the distinction between the central unit, information processing, and the output decision process hence they are connected.	The Nicosia model, however, does not show problems when used to make expectations or predictions. The relationship illustrated in the model shows the flows instead of showing the causation. The Nicosia model is robust in presenting how the consumer attributes change because of the experiences of consideration, selections, purchasing, and disposing of the product. The model does not explain clearly how and when the consumer's attributes or firm works, and the model needs a clear explanation and more elaboration.	decision making namely: family purchases, family-owned businesses, and international firms. This model thus places more emphasis on social by dealing with interactions between people and future attitudes towards the product. The model works better when used for research guidance in established marketing products and planning and analysing new product brands in the market place.	the behaviour and stands in between the input stimulus and the output behaviour.	intention. The model also includes the decision-making process; to make the different stages that the consumer goes through before a final decision is made to purchase the product more clear.

Table 2.1 above, is a comparison and evaluation of different consumer behaviour models discussed in this study that include: EKB model, Sheth and Howard model, Black Box model, Nicosia model, and Hawkins, Best and Coney model to show how the models differ and are similar to one another.

The main purpose of these models discussed in table 2.1 is to enable decision-makers to make sure that such a decision is made to satisfy the consumer. The presentation of the Engel, Kollat and Blackwell model shares similarities with Howard-Sheth but differ in how information is handled and processed, and the post choice experience. The model gives marketing clues to their media choices and reaches a different group of consumers (Panwar *et al*., 2019). The Howard-Sheth starts with input elements to output elements where consumers respond to stimuli that influences their purchase decisions while the Nicosia model focuses on the relationship that exists between the consumer and firm.

In this study, the Hawkins, Best and Coney model has been used with the following variables: family and friends, social factor, price, product features, brand name, culture, reference group, motivation, perception, and attitude toward the product. The Hawkins, Best and Coney model was selected because the variables in the model have been identified in previous studies (Belch, 2016; Solomon, 2016; Kotler & Armstrong, 2018; White, Habib & Hardisty, 2019; Kiran, Thomas, Johny, & Jose, 2019) as factors that influence purchase intention. The Hawkins, Best and Coney model is comprehensive and takes into consideration various factors that influence the consumer's behaviour as well as their purchase intention.

Various models of consumer behaviour will be discussed in this study in order to bring an in-depth understanding on how a specific model works during the buying decision making process.

The next section is the discussion of various consumer behaviour models to gain more in-depth information on how consumers are influenced by different factors during their purchase decision making process.

2.5.1 The Engel, Kollat and Blackwell (EKB) Consumer Decision Process Model

Lamb, Hair, McDaniel, Terblanche, Klopper and Elliot, (2019) identified the model of consumer behaviour that is comprised of 5 stages before and after the purchase namely: need recognition,

information search, evaluating of alternatives, purchase decision, and finally post-purchase behaviour. These five stages in the model of EKB are based on the consumer psychology theory developed by Engel, Kollat and Blackwell in 1968.

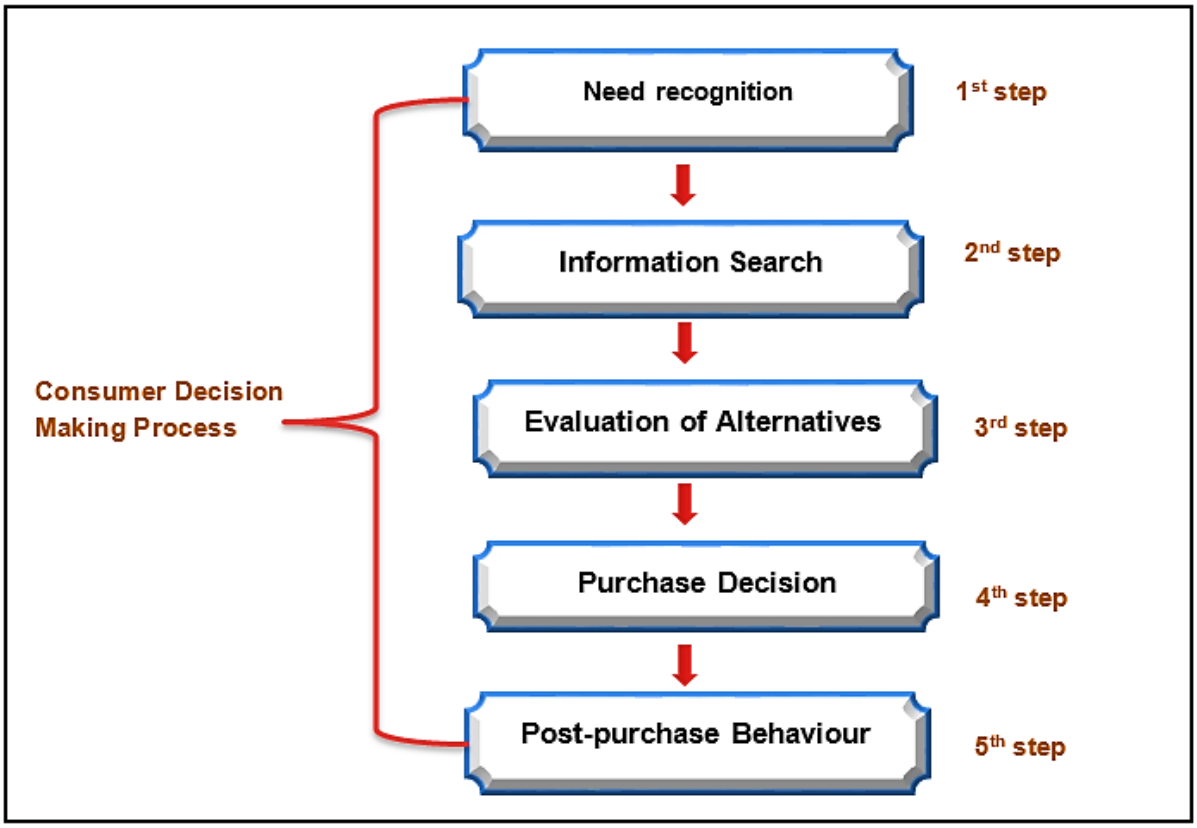

Figure 2.3: Consumer decision-making process

Source: Kotler, P & Kevin L. K (2016).

The Engel, Kollat and Blackwell (EKB) model shows the buying decision-making process of the consumer. Engel, Kollat and Blackwell identified the consumer behaviour model that is comprised of 5 steps or stages before and after the purchase, these steps are discussed as follows:

- **Need recognition**: As illustrated in figure 2.3, the consumer buying process starts with this first stage where the consumer recognises the essential need for a product or service. The consumer recognises a need for specific services or products and the degree of the problem (Lamb, Hair, McDaniel, Terblanche, Klopper & Elliot, 2019). The recognition of a need plays an important role in the process because, if there is no need that arises or a desire, there is no need to purchase (Belch & Belch, 2015). The need can be cultivated by the internal stimuli of an individual; for instance, if

someone is feeling hunger or thirst, the result is them buying a product or service that will solve that particular problem (Panwar, Ali, Singal, & Anand, 2019). At this stage, the consumer intends to find the solution to the need of possessing a product.

- **Information search:** As shown in figure 2.3, consumers will seek out the information after identifying the need for the product that gives a solution to the problem. Depending on the choices to be made, the consumer will seek out more or less information about the product or service (Panwar, Ali, Singal, & Anand, 2019). For instance, the information can be obtained from a colleague who owns a smartphone that has more features such as music apps or a wide touch screen. Or discussing the type of mobile phone, among family members, needed for someone to download educational learning materials. At this stage, the purchase intention of a consumer increases to buy a product and he will need more information about the product so that he can make a final decision.

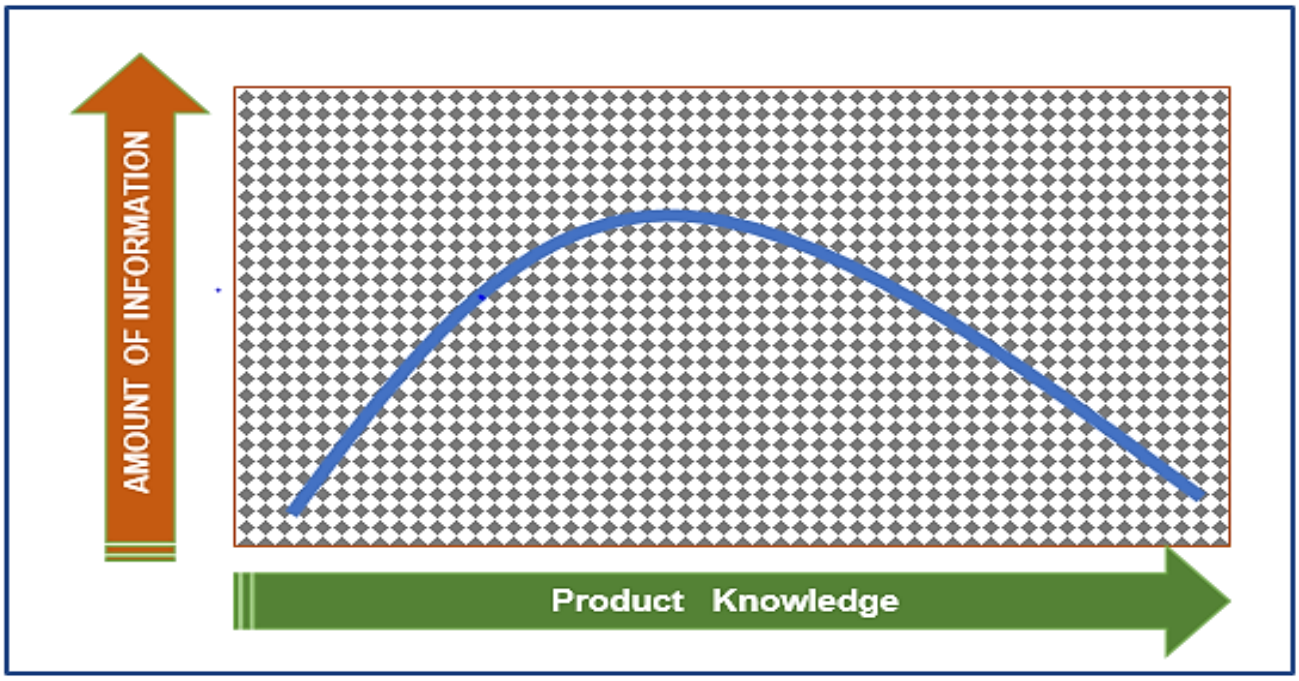

Figure 2.4: Relationship between amount of information search and product knowledge
Source: Solomon M.L, (2016).

Consumers have more knowledge about the product when making a purchase decision (Solomon, 2016). The more knowledge a consumer has about the product, the more well-informed he will be and this will lead to making a purchase decision. Searching for information about the product is more important to consumers who have little knowledge about the product. As illustrated in figure 2.4 above, the author displays a “U” shaped relationship between knowledge and external search of

information effort (Solomon, 2016). Therefore, consumers with little knowledge might need to search for more information, thus increasing the purchase intention when he uses that knowledge to purchase the product (Solomon, 2016).

- **Evaluation of alternatives**: Evaluation of alternatives, as shown in figure 2.3, is a stage where the consumer recognises the product or service that is desired and that is aligned with the characteristics he was looking for. After the consumer has recognised the need and has collected the information about the products, he evaluates all available alternative products to determine if any of the products can solve the problem (Kotler & Kevin, 2016). For instance, testing and browsing different types of smartphones found on the display such as Nokia, Nokia plus, Samsung Galaxy, S9, S9+, HTC, Mobicell, Huawei, and Microsoft smartphones, and choosing the best one.

- **Purchase decision**: At this stage, as indicated in figure 2.3, a consumer decides to purchase or not to purchase, depending on the gathered information (Mpinganjira, Roberts-Lombard & Svensson, 2017). The consumer will now decide on the product, the store, and the payment options he is going to choose. Subsequently, the consumer selects the product and does the actual purchase of a suitable product that provides the solution to the need after evaluating all different products and options (Mpinganjira, Roberts-Lombard & Svensson, 2017). The buyer chooses the payment method when buying the smartphone. At this stage, the purchase intention of consumer behaviour is high due to a positive attitude towards the product. Consumers in South Africa can buy a smartphone from a MTN shop, Vodacom shop, PnP stores, Jet, Pep, Cell C stores, Ackerman's, CNA shops, Incredible connections, Game stores, Dion, etc. and payment may be done with cash, debit cards, online banking such as Electronic Funds Transfer (EFT), or a contract purchase for 24 months where a monthly debit order is arranged (Stats SA, 2019).

- **Post-purchase behaviour**: As shown in figure 2.3**,** the consumer will become satisfied or dissatisfied after purchasing the product. The consumer’s satisfaction or dissatisfaction will depend on the association between the product value and expectation of the consumer. His post-purchase behaviour will be of curiosity to the marketer (Armstrong, Adam, Denize, Volkov & Kotler, 2018). If the consumer becomes dissatisfied with the product, this means that the product does not meet the expectation to solve the problem. Kotler & Kevin (2016) highlighted that, if the gap between the consumer's expectations and the performance of the product is big, the consumer becomes more dissatisfied. At this stage, the consumer might have high or low future purchase intentions depending on the satisfaction he gets after using the product.

The next section is a discussion of the Nicosia model to show the interdependence between the decision-making process, consumer characteristics and communication.

2.5.2 Nicosia Model of Consumer Behaviour

The Nicosia model presents a complex effort to reveal the interdependence between the consumer's decision-making process, the consumer characteristics, the organisational marketing communication, and the outcome of the consumer's response to the organisation (Kotler & Kevin, 2016). The model states that the organization puts effort to influence consumer's decision-making process through marketing activities (Panwar, Ali, Singal & Anand, 2019). The model contains four critical stages that include a message from the organisation, searching, evaluation, act of purchase, and feedback (Kotler & Kevin, 2016).

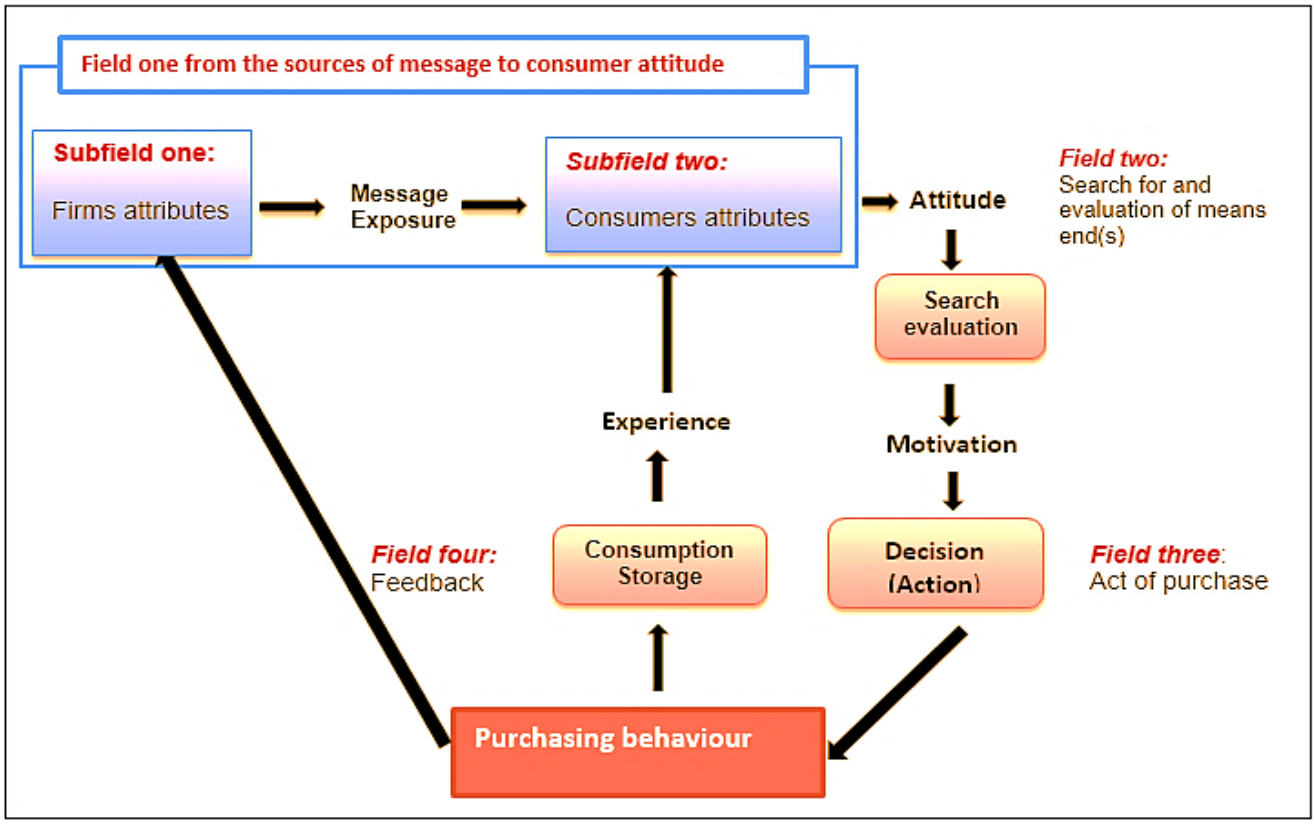

Figure 2.5: Nicosia model of the decision-making process

Source: Nicosia in Schiffman & Kanuk (2015)

As illustrated in figure 2.5, there are 4 fields, containing subfields, which indicate the result of a commercial message from the organisation to the consumer through forms of promotion such as an advertisement. The Nicosia model assumes that consumers do not have information and product knowledge before they intend to buy. Through the delivery of messages from the organisation to the consumer, the message acts as an input to the subfield.

When the results of reaction or attitude in field one are favorable, the consumer will look for the product information and later evaluate it so that he can get the alternative. According to Schiffman and Kanuk (2015), the outcome of the second field in the figure is the motivation the consumer gets to buy the product from the organisation. The rejection of the product could be led by the evaluation's outcome. The purchase of the product will be the result of a positive evaluation as illustrated in the third field of the model. According to Schiffman and Kanuk (2015), field four of the Nicosia model consists of two kinds of purchase experience feedbacks which include feedback from the organisation that contains the sales data and consumer experience which iconsists of a satisfaction of dissatisfaction outcome. The consumer experience obtained from the product does affect future buying intentions and attitudes towards future communication messages conveyed by the organisation.

The Nicosia model expresses and incorporates the organisational marketing actions of consumer behaviour. However, the Nicosia model has the following limitations: firstly, the model has questionable assumptions that there is a lack of consumer's knowledge and experience before he buys the product; secondly, in subfield two (consumer attributes) of the Nicosia model, it does not give a clear understanding; thirdly, the model states that there are interrelationships among consumer characteristics (Armstrong, Adam, Denize, Volkov & Kotler, 2018). Lastly, the model does not provide a clear explanation of the internal factors that may affect the personality of the consumer and how his attitude is developed towards the product (Armstrong, Adam, Denize, Volkov & Kotler, 2018). The message can be very interesting to consumers but they might not make the purchase just because of their belief towards the product brand. It is therefore important to include such factors that may affect the purchase intention of the product.

Armstrong, Kotler and Opresnik (2016) indicate that a weakness of the Nicosia model is that there is no empirical support of the information and necessary information nor revisions for further changes. The emphasis of the model is only on communication, driven by external forces, made by organisations such as an advertisement (Panwar, Ali, Singal & Anand, 2019).

In the next section, the Black box consumer model will be discussed, which contains the market and other stimuli to influence the purchase intention of consumer behaviour.

2.5.3 Black Box Consumer Model

Another model is the Black box developed by Kotler and Kevin (2016). The model consists of 4 factors that influence consumer behaviour: marketing and other stimuli, black box, and buyer response as shown in figure 2.6 below. The model also consists of the decision-making process and the number of stages.

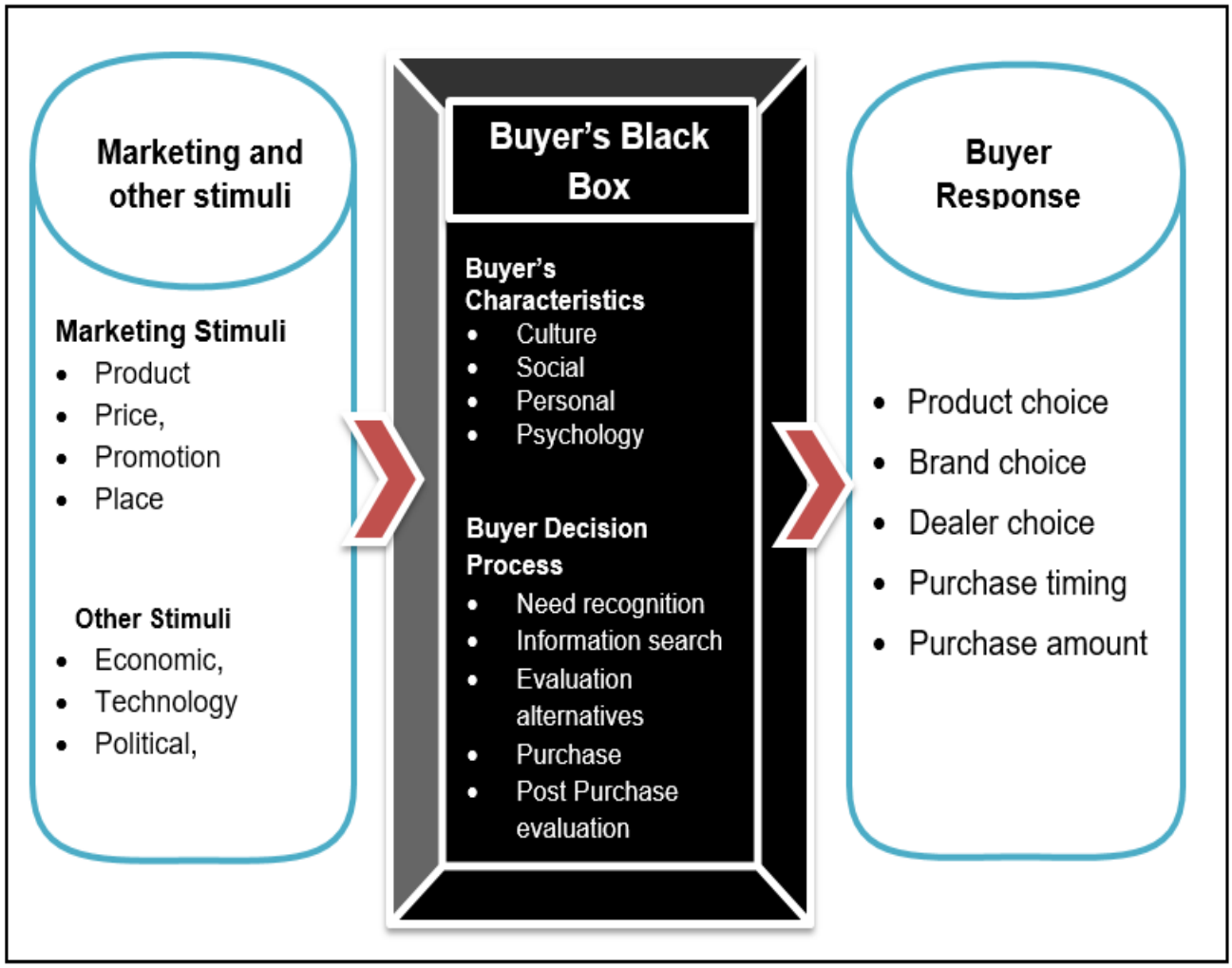

Figure 2.6: Black box model of buyer behaviour
Source: Kotler, P & Kevin L. K (2016).

The marketing stimuli are comprised of the 4 Ps (price, product, place, and promotion) and other forces such as economic, political, technological, and cultural factors that enter into the consumer black box to produce certain responses. In the model, the buyer's response produces choice, timing, brand choice, and the monetary value of the product (Armstrong, Kotler & Opresnik, 2016).

The stimuli as illustrated in figure 2.6 are discussed as follows:

- Marketing stimuli: The marketing stimuli are encompassed of product, price, place, and promotion known as the marketing mix. Marketing stimuli are those that the company can develop to satisfy the consumer's needs (Jadhav, Harish. Chavan & Pravin, 2019). Products and services become out-dated due to technological advancement changes; hence they need to be substituted by new features to add value (Harrington, Fauser & Ottenbacher, 2017). Furthermore, price differentiation can be an additional factor that impacts the purchase intention. The study conducted by Kumar and Mokhtar (2016) found that price and brand are influencing factors affecting the purchase intention. The distribution of products in the market can directly affect the purchase intention of consumers if the products are not available. Similarly, the place where you buy the products must also be convenient for the consumers, for instance, enough parking spaces, and sufficient security at the shop's location (Kumar & Mokhtar, 2016).

- Other stimuli**:** The Stimulus-response for buyer behaviour as shown in figure 2.6 of other stimuli that influence the consumer's behaviour process includes economic, technological, cultural, and political. These are also known as uncontrollable factors and are discussed as follows:

The economic state of the country has an influence on consumers during the decision process (Armstrong, Adam, Denize, Volkov & Kotler, 2018). The economic factors in the country include interest rates, the exchange rate, employment, business circle, production of goods and raw materials, income distribution, and inflation that influence the buying behaviour of the consumers. The consumers are affected in such a way that, if the currency of a country is weak, there will be an increase in the price of basic goods; affecting the pockets of consumers so that they can't afford to buy the product (Kotler & Kevin, 2016). Technology is also another factor that affects the consumer behaviour process. In the case of the technology stimuli; when new technology is introduced to manufacture a new product, offering online banking services, and online shopping will affect the consumer buying process due to the consumer's literacy. Political factors such as the rules and regulations of local and international trading, policies on consumer protection, and policies on investments can have an impact on consumer behaviour. Political stimuli influence consumer

behaviour through political fighting among political parties, this triggers a change in consumer behaviour and the country experiences economic instability in the form of a high inflation rate, unemployment, and unfavourable consumer action (Armstrong, Adam, Denize, Volkov & Kotler, 2018).

The Black box model takes into consideration the consumer's response as a result of a mindful, coherent decision process which suggests that the consumer has acknowledged the problem, but in reality, a consumer is not always aware of the problem (Elammari & Cavus, 2019).

However, the Black box model does not provide a clear indication of how the consumer makes a decision. Additionally, the Black box model does not explain how purchase behaviour is developed, and it only discusses the effects of motivation, personality, attitude, and the learning process on the input stimulus and output consumer behaviour. This model is used as a metaphor for the consumer's mind of which marketers know nothing but can only predict based on what goes into the black box (Runyoni & Steward, 2017). The model acts as a base of arguments because it does not contain factors that influence the purchase intention of the smartphone, hence it will not be used for the current study.

The next model is the Howard-Sheth model of buyer behaviour representing the complex communication and different marketing stimuli that influence the consumer decision-making process.

2.5.4 Howard-Sheth Model

In the model of Howard and Sheth consumer bahaviour represents the complex integration of communication, marketing stimuli, and social factors that influence the consumer decision-making process during the information transmission process (Elammari & Cavus, 2019). Runyon and Steward (2017) indicate that the Howard-Sheth model attempts to define the rational brand choice behaviour where there are challenges of inadequate information and incapacity of individuals. The Howard-Sheth model also provides an empirically testable consumer behaviour which is rational to working with the outcomes (Runyoni & Steward, 2017). The Howard-sheth model includes the following variables; inputs, perceptual construct learning, and output. Inputs of the model include price, availability, services, and distinctiveness, whilst, symbolic stimuli are presented by media or the sales force personnel who influence the consumer behaviour purchase intention indirectly (Makhitha, 2016).

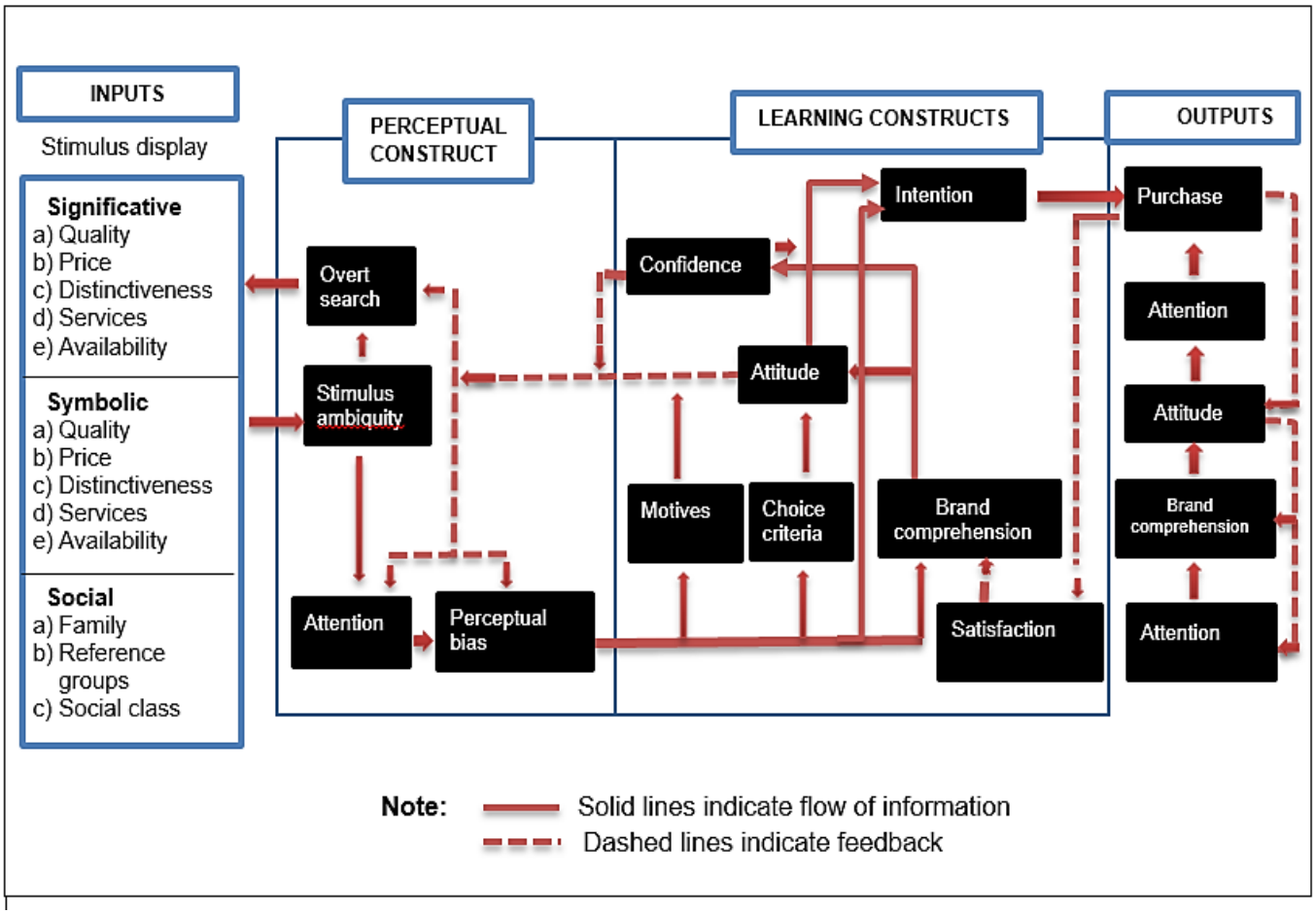

Figure 2.7: Howard-Sheth model of buyer behaviour
Source: Howard & Sheth in Schiffman & Kanuk, (2015)

As illustrated in figure 2.7 the Howard-Sheth model expresses the distinction between 3 stages of the decision-making process which are also referred to as levels of learning, namely: routinised problem-solving, extensive and limited.

- The extensive problem-solving states that the consumer does not have information about the product (Foxal, 2016). The consumer searches for information from various information sources due to the lack of preferences of the brand. To minimise the uncertainty of the brand, the consumer goes into the decision-making process whether he believes in the brand or not before purchasing it. The consumer will face little problems if he can not pick out the brand differences during the decision-making process (Foxal, 2016). The additional factor is considered as limited problem solving which is created by the choice criteria, for instance, knowing a few product brands and liking them equally.

- The routinised response behaviour shows that the consumer has full knowledge about the product and believes that they have enough experience with this product; thus avoiding the confusion of selecting the specific favorable product. Foxall (2016) states that routine response behaviour is characterised by an insufficient information search of the brand. The first stimuli are provided by the social environment of consumers, for example, reference groups, social class, and family. Another variable is perceptual and learning constructs where the model contains psychological variables that are assumed to be used when the consumer is anticipating making the purchase decision. However, these constructs are abstract and can not be defined or measured directly (Panwar, Ali, Singal, & Anand, 2019).

- In the Howard-Sheth model, the perceptual construct is used when the consumer receives and processes the information obtained from the input stimuli, so the consumer is not clear about the information if its meaning is ambiguous, and also when the message is distorted by other factors that do not match with the desired need.

- Learning construct is another component of the variable that include preferences of the consumer, goals, evaluation of alternative criteria, and information of the product that results in a purchase intention. The distinct connection between perceptual and learning variables enhances the interaction with other segments in the model, and also the combination of these constructs assist in the process of interpreting all input stimuli that are contingent on output variables and can not be observed.

- The third variable is known as output in the model which embodies the possibility of the response to all stimuli by the individual; these variables include attention, purchase, attitude, and brand comprehension (Panwar, Ali, Singal, & Anand, 2019).

The importance of the Howard-Sheth model is that it seeks to recognize and establish major variables that may affect low-income consumer's purchase intention behaviour (Runyon & Stewards, 2017). The model is seen to generalise the decision-making process through the search for active information by applying previous experiences. Moreover, the model is perceived to be vibrant, hence there is a complex understanding of the consumer behaviour process.

The criticism of the model, as noted by Runyon and Steward (2017), is that the proposed constructs presented in the model are not vividly explained and contain unclear terms and speculation. The

business does not understand the model to determine how consumers behave. The model is criticised because the theoretical concepts portrayed in the model are not well-defined; it contains unclear terms and the relationship of terms is somewhat speculative. Additionally, the model has too many variables and a specific distinction between exogenous and other variables has been explained but does not justify purchase intention. The variables that are investigated in the current study only include; attitude, social, motivation, and price.

The above consumer behaviour models (The Engel, Kollat and Blackwell, Nicosia model, Black Box consumer model, and Howard-Sheth model) have been provided to support the literature of the consumer behaviour. However, this study is based on Hawkins, Best and Coney's model because it was previously used for other studies to indicate external and internal factors that influence consumer's behaviour on purchase intention. The model is more comprehensive.

The next section will provide a discussion on Hawkins, Best and Coney's model.

2.5.5 Hawkins, Best and Coney Consumer Model

Ting, Thaichon, Chuah and Tan (2019) state that consumer wants and needs are affected heavily by internal factors, namely: perceptions, motivation, attitude towards the product; and external factors that include: price, reference groups, family and friends, culture and social status. The Hawkins, Best and Coney model combines factors that influence the decision-making process and purchase intention to provide a better understanding of consumer behaviour (Ting, Thaichon, Chuah & Tan, 2019). The model lists more factors than other models and some other models, such as the Howard - Sheth model, does not study the following factors: quality service, availability, distinctiveness, and services. The Hawkins, Best and Coney model is used for the current study because variables in this model have been identified in previous studies as factors that influence purchase intention. The model broadens the external and internal influences that shape the individual. The model makes the assumption that consumers approach consumption and purchasing decisions in a rational manner, weighing options and alternatives before making a decision. The Hawkins, Best and Coney model looks at the decision process as a flow that is rational, well-thought out and deliberated; weighing cost and functional benefits. Moreover, the model provides the axiological in intentional purchase as well as in understanding the reasons and factors that drive consumer behaviour (Stankevich, 2017).

Below is figure 2.8 indicating the factors the make up the Hawkins, Best and Coney model. However, similar factors have also been identified in other models such as Howard - Sheth and the Black box; these factors include family, reference group, and social.

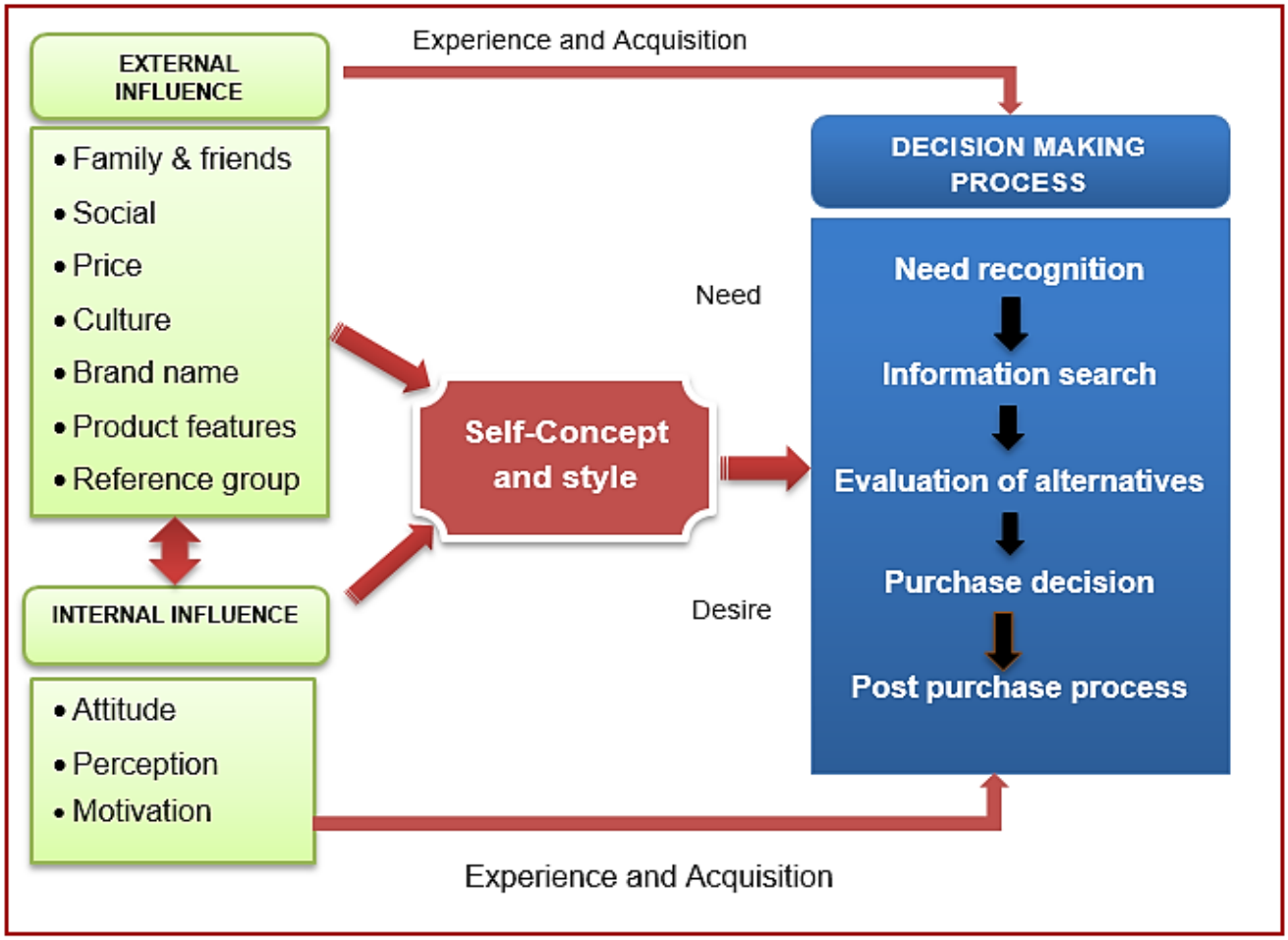

Figure 2.8: Hawkins, Best and Coney's model
Source: Hawkins, Best & Coney, (2004).

Hawkins, Best and Coney (2004) illustrate a consumer behaviour model, as shown in figure 2.8, with several internal and external factors that have an influence on consumer behaviour and how they make decisions.

2.5.5.1 External Factors Influencing Consumer Purchase Intention

Bartel-Radic and Giannelloni, (2017) pointed out that consumer behaviour is influenced by external factors during the purchase intention, namely: family and friends, price, social factor, cultural factor, reference groups, brand name, and product feature.

- **Family and Friends**

According to Hawkins, Best and Coney and the Howard-Sheth model, family and friends influence the decisions that consumers make. A research study conducted in Iran and Thailand by Sabnam, (2016), exploring the factors influencing consumer behaviour during the purchase of mobile phones, indicated that consumers are most influenced by the discussion with families. The study also indicated that Thai consumers are influenced by friends.

A study conducted by Franklin (2013) on the effect of buying behaviour on two-wheeler purchasers shows that family and friends significantly influence the purchase intention of two-wheeler purchasers. Chow, Chen, Yeow and Wong (2013) researched factors affecting the demand of smartphones among young adults. The researchers found that friends are the primary influencers affecting young adults' decisions when buying mobile phones. Another study conducted by Hung-Joubert and Huyssteen (2016), and Amanuel and Engidaw (2020) on purchasing intention behaviour of mobile phones shows that friends and family members are the most important influencers of consumers when purchasing mobile phones.

In a family, all members have specific roles to play as part of a joint unit and decisions are made in a complex way. Lee and Yung (2016) suggest that in a family structure, although more responsibilities are given to teenagers to make recommendations, they do not make the final purchase decisions; especially where parents work full-time jobs. Children or teenagers could intend to purchase smartphones but they don't purchase as their parents will make the actual purchase for their children.

Table 2.2: Role of decision-making in the family

Role	Family members
• **The initiator:** the person makes the first suggestion to purchase the product.	Brothers or sisters of the young generation act as initiators. Single families could also need smartphones because they are alone at home, for example; a single man would need to play online games and music.
• **The gatekeeper** is the person who controls the flow of information about the product/services in the family.	Friends of young boys or girls may act as gatekeepers about smartphones in the family or peers.
• **The influencer:** the person directly or indirectly influences the final purchase decision because the person's ideas and needs reflect the ultimate decision made by the entire family.	The children in the family will influence decision making. Parents such as a father could also be influencers when they have a choice of the mobile device (basic mobile phones versus smartphones).

Role	Family members
• **The decision-maker:** is the person who essentially chooses between alternatives and makes the decision of purchasing or consuming or disposing of the product or services.	Normally it's the father or the mother or anybody in the family intending to purchase a smartphone. The mother may intend to purchase the smartphone to use for online banking or online buying or price comparison.
• **The buyer:** does the actual buying of products or services.	This could be a father or a mother or any family member staying closer who would want to buy a smartphone.
• **The user:** someone who uses or consumes the product or service.	Anybody in the family who is close to each other could use smartphones for different purposes i.e. children for online learning.

Source: Adapted from Lee & Kyung, (2016)

- **Price**

Price is defined as the monetary value of a product that the seller asks for (Panwar, Singal & Anand, 2019). Sujata and Joshi (2016) indicate that the price of the product will influence the decisions that a consumer makes about the product. A study done by Amanuel and Engidaw (2020) revealed that price has influence on consumer purchase intention towards smartphones in Hawasasa city, Malaysia. A study conducted by Chu (2018) on the factors affecting young female adults' purchase intention towards smartphones indicated that there was a strong and significant relationship between the price of a smartphone and the consumer purchase intention. Consumers are exposed to marketing stimuli that focuses on lower priced smartphones, such as advertisements showing lower prices, discounts, coupons etc., which influences their decision to purchase a smartphone (Sujata & Joshi, 2016). Jain, Khan and Mishra, (2017) researched fashion apparel among young consumers in Australia. The outcome shows that price was the main influence for young Australian apparel consumers in purchase decisions. Lew and Suleiman (2015) state that a higher price of the product negatively affects the global brand's purchase intention. Chew (2015) identified that price is a significant factor in smartphone purchase intention among the young adult population of Malaysia. On the other hand, Winit (2016) noted that the relationship between price and purchase intention varies based on the product categories such as foreign products and local products.

The association between quality and price can be explained with a price-quality heuristic definition. The price-quality heuristic is described as a consumer's use of the rule of thumb that states that, if the product cost is higher, it means the quality of the product is also high (Narsajah, Preetham, Shashi, (2019). Perceived quality is the consumer's sentiments of a product's ability itself and its

usage compared to its alternatives, whilst the actual quality of the product is the collective features and appearances that ensures the ability to gratify given needs (Uyar, 2018; Sana, 2020).

Below is figure 2.9 showing the relationship between actual quality, perceived quality, and the purchase intention.

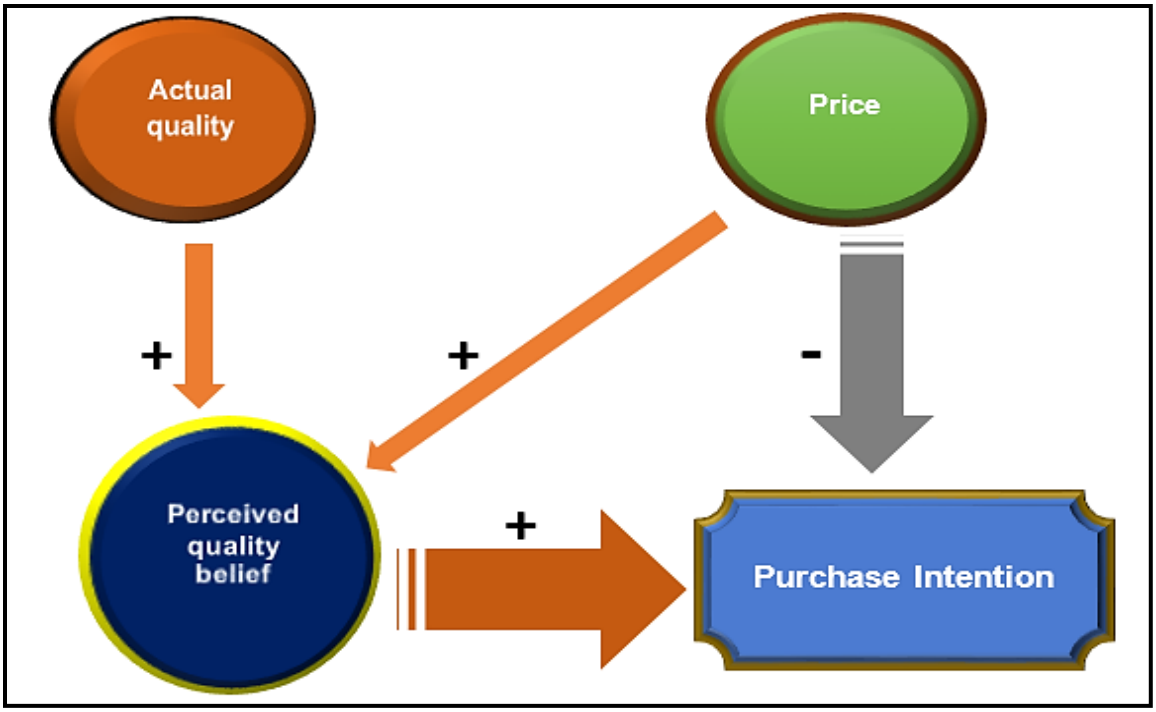

Figure 2.9: The price-quality heuristic model
Source: Kotler, P & Kevin L. K, (2016).

Perceived quality is described as the consumer's sentiments of the product's ability itself and usage compared to its alternatives, whilst, the actual quality of the product is the aggregate features and appearances that ensures its capability to gratify given needs (Uyar, 2018).

Ajitha and Sivakumar (2017) indicated that the perceived price is estimated instead of the real price. The perceived price aligns with the way the consumer thinks about the pricing of the product more than the real price and attracts the price to that level where consumers perceive the right price for the product (Uyar, 2018). In this study, the researcher will also need to investigate if the price of the product will have an impact on purchase intention.

In the study conducted by Winit (2015) on foreign brands such as imported white meal flour from America versus Iwisa that is made locally, or sugar imported from Malawi, the results shows that if the foreign brand's price increases, the result is the increase of purchase intention of local brands,

likewise, if the local brand's prices increases, the consequences of the purchase intention will drop, hence consumers will go for the cheaper priced foreign brands (Adenan, Ali & Rahman, 2018). Lew and Sulaiman (2016) supported that there is a negative relationship between purchase intention and high prices due to perceived quality of the product, the higher the product value, the higher the purchase intention of the consumer. Another study conducted on dairy products purchased in Thailand found that the relationship between purchase intention and price does not affect the purchase due to low involvement of price sensitivity of the consumer's behaviour on the product (Yolanda, Nurismilida & Herwinda, 2017). In the current study, the price of the product was analysed to determine how price influences consumer purchase intention.

The next section discussed the effects of the social factor on purchase intention.

- **Social Factor**

Social factors' influence can be defined as the changing of feelings, behaviour, attitude, thoughts, and intentions by other peers (Panova, Tayana, Carbonell & Xavier, 2018). As shown in figure 2.8, social influence is caused by interactions with people who know each other either in a family or a society. Social influence has an impact on feelings, individual beliefs, and behaviour (Filieri & Lin. (2017). Individuals may be influenced by different factors and observations during the purchasing of the product (Itani, Kassar & Loureiro, 2019).

A research study conducted by Chi, Yeh and Yah (2011) explored the factors that influence the consumer's purchase intention through advertising endorsements on the product. The result revealed that celebrities influence the purchasing of the product by adding perceived value and directing the consumer's feelings toward a certain product. The endorser provides recommendations about the product and this affects the consumer's choice, thus increasing the purchase intention.

Another study was conducted by Kim and Ko (2017) on perceived quality, social influence, and brand awareness towards the purchase intention of global smartphone brands. It was found that social influence was the major influencing factor for purchase intention since consumers rely on the views of others to make decisions.

A similar study conducted by Uddin, Reaz and Oheduzzaman (2015) indicated that the purchasing decisions are influenced directly or indirectly by role models. For instance, indirect role models such

as celebrities have a higher impact than direct role models such as parents. Consumers are influenced greatly by the different groups they belong to such as peer groups, and entertainment groups, on how they think about shopping for smartphones for better communication (Filieri & Lin, 2017). Social influences include beliefs of peers and neighbours, and peer judgment from the family (Rashotte, 2016). Visagie (2016) found that the decision of consumers to own a smartphone is heavily affected by friends and family members. The information provided by fellow members in the communities increases their knowledge of the product. Furthermore, social influence can change and influence the purchasing decision through the application of values and ideologies shared with the members of the society (Filieri & Lin, 2017).

Consumers are classified into social classes that include upper, middle, working, and lower class. Each class has its characteristics. Below is figure 2.10 showing social class classification.

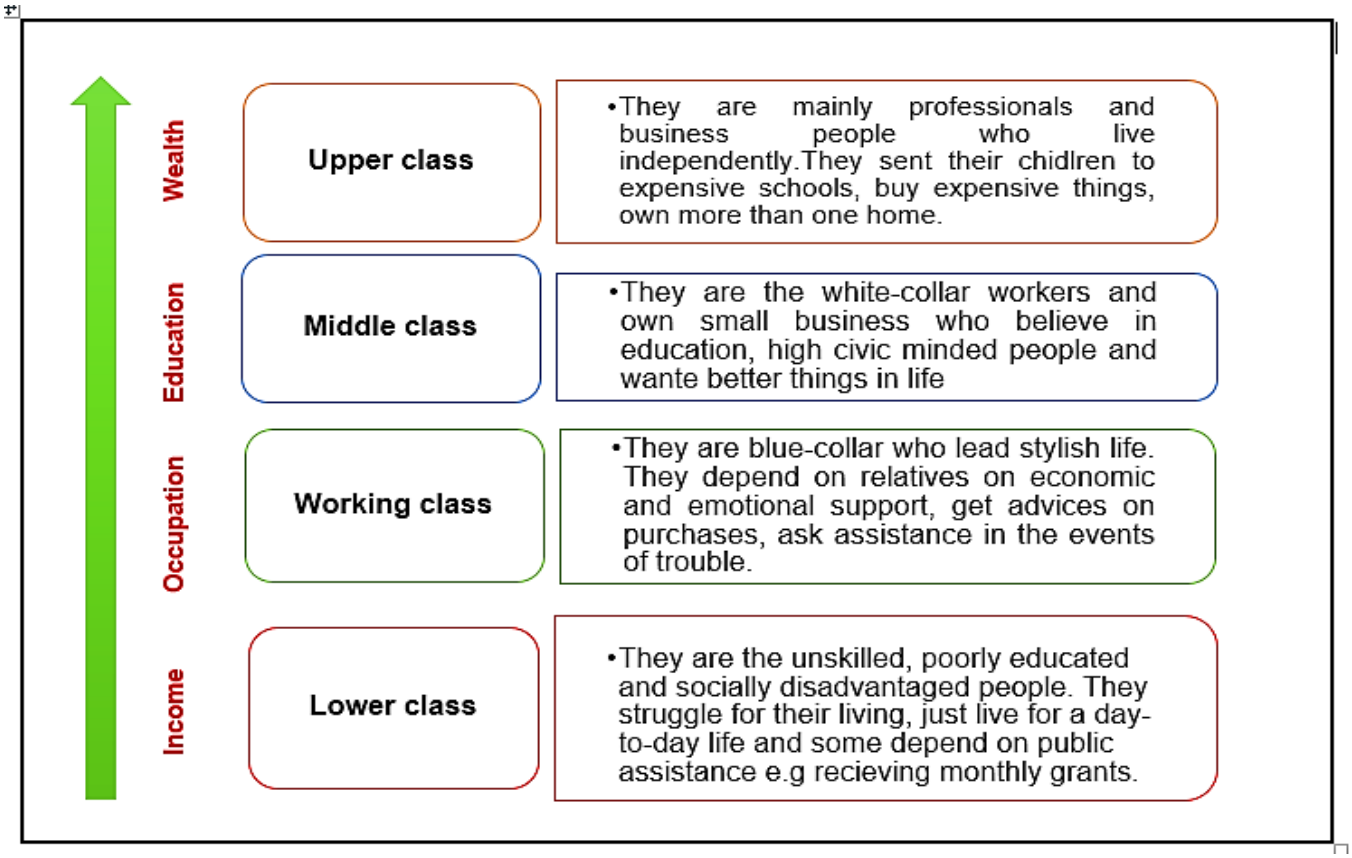

Figure 2.10: Social class levels

Source: Kotler & Armstrong (2018)

Figure 2.10 illustrates the social class levels of the consumers namely: upper class, middle class, working class, and lower class. The composition of a society with different social class levels may

have similar incomes but may have different needs. Consumers from middle and lower classes evolve rapidly in such a way that some may need a luxurious smartphone in their life. This means that their behaviour is determined by the values and attitudes they have towards purchase intention. Smartphones have become one of the most bought devices among the low-income consumer's population (Euromonitor International, 2019). Therefore, understanding social class levels as shown in the figure above is important because manufacturers will better serve the needs of the group, particularly the low-income earners.

The next section below is the discussion of culture as one of the factors that influence consumer purchase intention.

- **Culture**

Culture is described as the shared meaning, norms, and traditional beliefs in the society or organisation (Bartel-Radic & Giannelloni, 2017). As shown in the Hawkins, Best and Coney model, illustrated in figure 2.8, culture is a factor that influences consumers' behaviour. Consumers' cultural beliefs influence various activities that are attached to the benefits of the products. According to O'Dougherty, Haynes, Venter-Davis and O'Connor (2016) culture is taken as a basic influencing factor on the consumer's purchase behaviour and tends to change as things evolve. The buyer behaviour theory on culture shows, firstly, the influence of the consumer's internal factors that affects the output of purchase decisions. Secondly, culture may affect the evoked set which disturbs the consumer's information search. Finally, culture as a factor may also influence specific motives and evoked sets that are inputs to the consumer's tendency and this defines their attitude towards purchase behaviour (Bartel-Radic & Giannelloni, 2017).

South Africa has different cultures and sub-cultures and these influence consumers' purchasing behaviour (Stats SA, 2018). Cultural elements are transmitted from one generation to another (Bartel-Radic & Giannelloni, 2017). People from different cultures have different cultural points of view and value orientations that lead to a variety of products, brands, and services (Pandey & Dixit, 2016). Individuals and societies view things differently; like when to purchase and the environment where you purchase as such a space may be associated with respect rather than the need. For instance, an advanced office means a superior office space. In other words, some cultures and individuals prefer a fair distance from each other when talking to understand easily (Wang, 2019). It is therefore imperative to know and understand the value concepts and differences in consumer behaviour, which

are influenced by culture. De Mooij (2018) states that understanding cross-culture when advertising a global brand play an important role because cultures have different impacts on purchase intention on global brands.

The next section is brand name as one of the factors of the Hawkins, Best and Coney model will be discussed.

- **Brand Name**

The brand name is described as the name, symbol, term, and design of the product to differentiate it from another product offered by the organisations competitors (Armstrong, Adam, Denize, Volkov & Kotler, 2018). In the study conducted by Alkoliby and Rahman (2018) on mobile purchase intention decisions of generation Y, there was a strong relationship between brand name and purchase intention; where the brand name has a strong influence on the purchase intention of mobile smartphones. Consumers will purchase the product if they are familiar with the brand name of the product (De Mooij, 2018; Alzahrani, Hall-Phillips & Zeng, 2019). Another study was conducted by Etikam, Musa and Alkassim (2016) on factors that affect the purchase intention of smartphones, the results indicate that there is a positive relationship between brand name and purchase intention. A consumer's purchase intention is high when the consumer has gained more information about the product through advertisements on TV, radio, and through other communication channels. The consumer often avoids the risk of buying an unknown product hence they will require more information about the product. The more knowledge the consumer has about the brand name, the higher the purchase intention, and the more likely he is to purchase the product.

A study conducted by Gill (2016) highlighted that the consumer should be familiarised with the product because; the more product knowledge the consumers have, the higher their purchase intention towards the product. According to Jung, Lee, Kim, and Yang (2014), who explored the influence of brand name on the purchase intention on luxury fashion brands, luxury brand awareness positively influences purchase intention of luxury products (Jung, 2016). Other studies show that there is a relationship between brand name and purchase intention towards the product, thus higher product knowledge will lead to the purchase of the desired product (Lee & Barnes, 2016; Ding *et al.*, 2015; Jung, Lee, Kim & Yang, 2014; Alzahrani, Hall-Phillips & Zeng, 2019).

The next section is the discussion of product features that influence the purchase intention of low-income consumers.

- **Product Features**

Product features can be defined as the characteristics of the product that can satisfy consumer preference when acquiring the product and consuming or using it (Armstrong, Adam, Denize, Volkov & Kotler, 2018). The product features, such as hardware and software of smartphones, play an important role when a consumer wants to purchase a smartphone. A study conducted by Butt (2017) revealed that 56 % of consumers give recommendations of smartphones based on features such as design, 38 % focus on Wi-Fi connectivity access, 34 % on computing power, and 30 % on the smartphone's price. The hardware of the device such as its camera, colour, and the weight of the device is seen as additional motivational factors of the purchase intention (Mudondo, 2016). Chu, (2018) argued that a product's non-complementary features have more influence than its complementary product features during the purchase of a product. Konuk (2019) used the complimentary feature in functionality and compared it with non-complementary features of the product by using various colours of the product. The complementary features were recorded as having a lower probability of purchasing the product as compared to non-complementary features, and it was concluded that product features such as colour, influence the purchasing intention behaviour.

A further study on adult female consumers in Malaysia regarding smartphone purchases indicated that the consumer purchase intention was highly influenced by the product features; thus the software of the device was recorded at 86 % when compared to other factors (Vida & Cosmos, 2016). However, other product features can also influence the purchase intention of the smartphone.

During the purchase decision process, consumers are usually attracted to product features or attributes. Consumers will consider features /attributes such as screen display, size, and networking connectivity.

Smartphone features that are shown in table 2.3 below are common and relevant to low-income consumer's choices.

Table 2.3: Smartphone features

Smartphone Features	Examples
• **Operating system and Apps**	Operating system type (e.g. Microsoft, Android, iOs), App store access, App store containing various applications available for its operating system.
• **Camera**	Dual camera, high camera resolution
• **Networking and connectivity**	Device compatibility, Wi-Fi accessibility, inter-device connect ability e.g. Bluetooth, hotspot capability, GPS.
• **Storage and Life**	Large memory capacity, memory card slot, long-lasting battery life.
• **Speed**	RAM, high-speed processor, responsive application control.
• **Screen**	Wide touch screen, high-resolution display, borderless full-screen display, bright backlight, and High Definition (HD) graphics.
• **Social networking**	Social media/network accessibility, MMS, e-mail access, instant messaging, Internet browsing, WhatsApp, Facebook, Twitter,
• **Extra features**	Radio, loudspeakers, notifications, and alerts (Vida & Cosmos, 2016).

The product features of a smartphone as shown in table 2.3 are those that consumers may be attracted to. It is therefore important to understand these product features and how they influence the purchase intention of consumer behaviour through the decision-making process.

The above section was the discussion of a product feature that influences consumer purchase intention. The next section is also a review of information from previous studies defining how the reference group affects the purchase intention.

- **Reference Group**

A reference group has a real or fictional individually perceived evaluation or aspirational behaviour toward the purchase intention of the product. The reference group can be any external influence from a small group of people or large organisations (Strydom, 2017) as indicated in the model above. In South Africa's smartphone industry, the organisation has more power to control formal groups because they are accessible and can be identified easily. Reference groups can influence consumer purchase intention through providing information and value expression of the product in regards to its usefulness via a communication through a group WhatsApp. Cronje *et al.* (2016) go on to comment that purchase intention is affected by various types of reference groups which have different effects that include; formal and informal, membership and non-membership, aspirational and dissociative, and primary and secondary.

Different types of reference groups were proposed by Strydom (2017) and are discussed as follows:

- *Formal reference groups* clearly define structure and membership, for instance; an individual joining a soccer club might be influenced to purchase a smartphone for special communication with other members such as video conferencing (Baker, Donthu & Kumar, 2016).

- Another reference group is the *informal group*. In this group, there are no formal rules to follow, families, friends, and peer groups are influenced to purchase a smartphone for communication purposes such as WhatsApp messages and We-chat (Baker, Donthu & Kumar, 2016).

- *A membership reference group* is the type of reference group that has a membership of a certain group and copies the model behaviour of other members in the group. Non-membership reference groups are those members who do not have a membership but may still copy the model or the way that the group members are behaving (Strydom, 2017).

- Another reference group is *aspirational*; where people aspire to belong. For example, a small charity of community members helping each other would want to communicate effectively amongst its members (Strydom, 2017). An aspirational group can be regarded as, for instance: movie stars, soccer star players, and famous TV personalities; buying an expensive smartphone that can take self-photos or “selfies”.

- Lastly, a *dissociative reference group* is a group that people avoid or reject to be associated with. For instance, gang stars and smoking clubs (Strydom, 2017). The information obtained from the reference group is evaluated to match the need of the group which results in following the group norms (Cronje *et al*., 2016).

Reference groups can influence purchase intention and may vary when individuals use different sources of information during the purchase decision-making (Gecit, 2019). Members of reference groups observe how others perform or search for information from different sources (Baker, Donthu & Kumar, 2016). If a member of a reference group acquires information and take it as a reality or important, then he/she is likely to make a decision (Strydom, 2017). Individuals in a group will try to adhere to and meet the expectation of the entire group to avoid being expelled from the group or to receive a prize (Baker, Donthu & Kumar, 2016).

A study was conducted by khan in India in 2008 to identify the normative social influence of peer, celebrity, and family among youngsters for apparel; it was found that susceptibility to normative reference group influence has higher influence particularly for females as compared to males.

Therefore, reference groups may influence the purchase intention in several ways, for instance, they expose an individual member to new behaviour and a lifestyle to suit the group, they influence self-concept and individual attitude, and also they create peer pressure for conformity that may influence buying the product of choosing a specific brand name (Baker, Donthu & Kumar, 2016).

The next section will present internal factors that influence consumer purchase intention.

2.5.5.2 Internal Factors Influencing Consumer Purchase Intention

The internal factors are also known as psychological factors that influence consumer behaviour. These factors include perception, motivation, and attitudes (Kotler & Armstrong, 2018) that show the consumer's consciousness on purchase decisions. These internal factors are discussed in the sections below.

- **Perception**

Perception refers to receiving, classifying, and transmitting meaningful information and perceived stimuli through the 5 senses of a human being, i.e. smelling, hearing, tasting, feeling, and seeing (Blythe, 2016). Perception is a factor that influences the consumers' decision making either positively or negatively (Kiran, Thomas, Johny & Jose, 2019).

The perception of a consumer towards the product is formed by stimuli that influence consumer behaviour (Kiran, Thomas, Johny & Jose, 2019). According to Blythe (2016), perception is a process of converting sensory inputs into the way things work. The consumer's final decision is based on how he perceived the message from the stimuli (Ledikwe, Roberts-Lombard & Klopper, 2019). The research study conducted by Belch (2015) draws attention to perception and describes it as the way an individual can sense information externally; the selection of specific sources of information, and how to interpret it. Consumer perception differs because consumers with a similar situation or the same motivation may understand it differently, hence acting differently and gathering contrary information from each other (Armstrong, Adam, Denize, Volkov & Kotler, 2018). The relationship

between purchase intention of smartphones and the perception process develops when consumers select things that they can see and hear, and then rejecting those which are not useful in order to protect themselves from the content of the harmful message (Hawkins, Best & Cousy, 2004). To catch the positive perception of a consumer, marketers should deliver the message that can be easily understood by consumers and that will convert into the need to purchase the product (Strydom, 2017). Armstrong, Adam, Denize, Volkov and Kotler (2018) add that simplistic advertising messages are also stored in the consumer's memory and may, in time, have a positive impact that will draw the consumer's attention, otherwise, consumers ignore the message completely if it is too complex (Kiran, Thomas, Johny & Jose, 2019).

Pakol (2016) identifies the following reasons consumers have unique perceptions of a similar object or situation:

- **Selective attention**: Consumers will go through the process of screening the most important information because the capacity to process stimuli is very limited. For example, having more ads on the TV screen about smartphones will mean that the ads must be attractive to bring more attention. Through these TV ads, consumers will notice stimuli that brings forth the current need of the product (Pakol, 2016).
- **Selective distortion**: This is the tendency of a person to interpret the information that suits his presumptions. Consumers mostly distort information to back up their existing expectations, trust, and beliefs. Son, Jin and George (2016) go on to comment that it is helpful when the neutral and unclear information is interpreted positively.
- **Selective retention**: Although there is a tendency that much of the information will be forgotten, consumers will still retain the information to which they were exposed to and they will match that information according to their beliefs and attitude (Pakol, 2016).

The relationship of purchase intention toward smartphones and the perception process is seen when consumers often select things that they are able to see and hear, and to reject those which are not useful so that they protect themselves from the content of the harmful message (Son, Jin & George, 2016).
Figure 2.11 below illustrates the perceptual process.

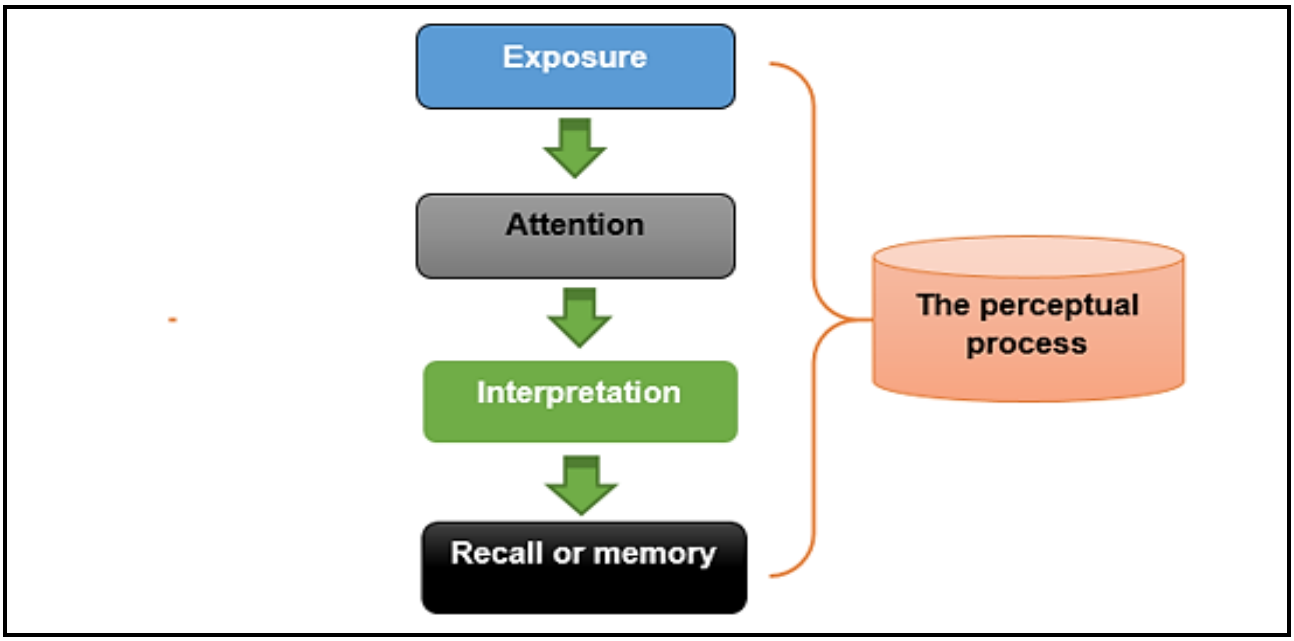

Figure 2.11: The perceptual process
Source: Strydom S. L (2017).

As shown in figure 2.11 above, perception consists of 4 levels, these are: exposure, attention, interpretation of the message, and memory (Strydom, 2017). The processing of information in perceptual stages is discussed in more detail below:

- **Exposure**: The message through the communication channel must be delivered to consumers where it is necessary and the exposure happens when all senses or 1 of them is active, for example, the advertisement on TV.
- **Attention**: The allocation of information is the next step and processes the size of the information received. When the information is relevant, attention to such information is high which determines the stimulus and situation of the individual.
- **Interpretation**: Here, the information is analysed and different meanings are kept in the memory if the attention is attracted. When the receiving message is not evaluated and not accepted, there will be no acceptance for the interpretation of such incoming information.
- **Recall or memory**: The incoming new information is accepted and will be kept in the memory for future use (Son, Jin & George, 2016).

In this section, the perceptions of the consumer and how they influence purchase intention was discussed. The levels of perception consist of: exposure, attention, interpretation of the message, and memory has been discussed.

The next section elaborates on how motivation influences purchase intention.

- **Motivation**

A study was conducted by Gill in 2016 on factors affecting generation Y in America towards the purchase of a mobile phone. Motives are seen as internal existing energies that change a person's activities towards nourishing a need or achieving a goal (Patel, 2016). Therefore, motives cause consumers to act in a certain way (Haba, Hassan & Dastane, 2017). Motives can direct a consumer towards the goal of satisfying a specific need (Brown, Suter & Churchill 2018). Patel (2016) comments that motive triggers, inspires, stimulates, and expresses consumer behaviour towards their purchasing goals. Brown, Suter and Churchill (2018) add that motivation towards purchase intention is driven by particular needs at specific times. Haba, Hassan and Dastane (2017) state that Maslow developed the hierarchy of human needs structure known as Maslow's hierarchy of needs and recognized 5 heights starting from highest to the lowest level. Maslow's hierarchy shows the needs at different levels that motivate consumers (Patel, 2016). In the structure, the hierarchy includes that an individual satisfies the lower level, known as basic needs, including clothing and food first (Brown, Suter & Churchill, 2018). Soon after these needs are satisfied, the higher needs, i.e. psychological and self-actualisation needs are fulfilled (Brown, Suter & Churchill, 2018).
Below is the Maslow hierarchy of needs shown in figure 2.12.

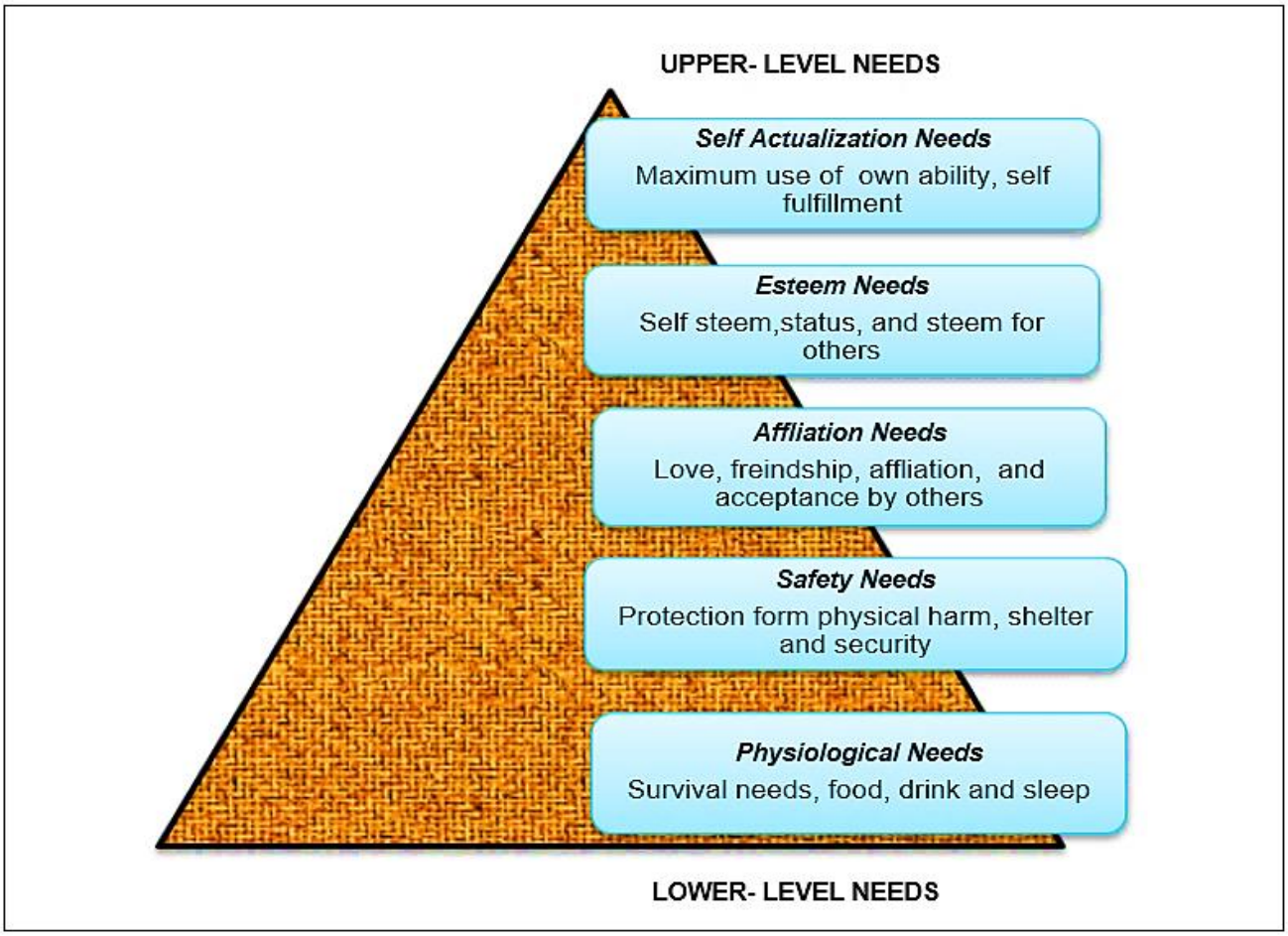

Figure 2.12: Maslow's Hierarchy of needs
Source: Adapted from Armstrong, G., Kotler, P. and Opresnik, M. (2016)

Maslow's hierarchy shown in figure 2.12 is summarised as follows:

- **Physiological needs**: The lower level of the hierarchy structure consists of physiological needs which are also described as the human survival needs. These include: sleep, air, drink, and food. These are purchased to satisfy hunger and they are the most important of needs. Human behaviour will be influenced or affected by these needs unless they are primarily satisfied (Armstrong, Kotler & Opresnik, 2016).
- **Safety and security needs**: These needs include protection from emotional and physical harm, e.g. signing an insurance policy agreement.
- **Affiliation needs**: The affiliation needs are expressed when an individual gets involved in group activities such as participating in sport activities, buying gifts, falling in love, and making friends with other people. Smartphones may satisfy the needs of the group (Brown, Suter & Churchill, 2018).

- **Esteem needs**: These needs provide hopeful self-image, honour, recognition, and respect from other people, for example, buying expensive jewellery or a smartphone. For instance, winning a 5G Samsung smartphone from an MTN shop competition. Smartphones in society represent the aspirations of consumers who can purchase them to satisfy their social needs (Brown, Suter & Churchill, 2018). Therefore, there is a link between these hierarchical needs and purchase intention because a need or want starts first before a consumer decides to buy the smartphone.
- **Self-actualisation needs** are at the top of the hierarchy and entail the realisation of someone's potential through achievements, personal growth and development. Anybody would want to achieve something in life such as becoming a boss at the company, having a stable financial status, or obtaining higher academic qualifications from reputable universities. In this case, consumers would intend to purchase a smartphone for easy communication via video conferencing, accessibility of online banking, and online shopping.

Using Maslow's hierarchy of needs framework, founder of Crackberry.com (a well-stabled gadget review website), Kevin Michaluk (2015) proposed a hierarchy of needs with regards to smartphones. In his model, Michaluk suggests the different levels of needs that consumers look for in smartphones that may influence their purchase of a smartphone (Michaluk, 2015).

The model in figure 2.13 below shows how consumers who intend to purchase smartphones will evaluate the weaknesses and strengths of the various smartphone devices.

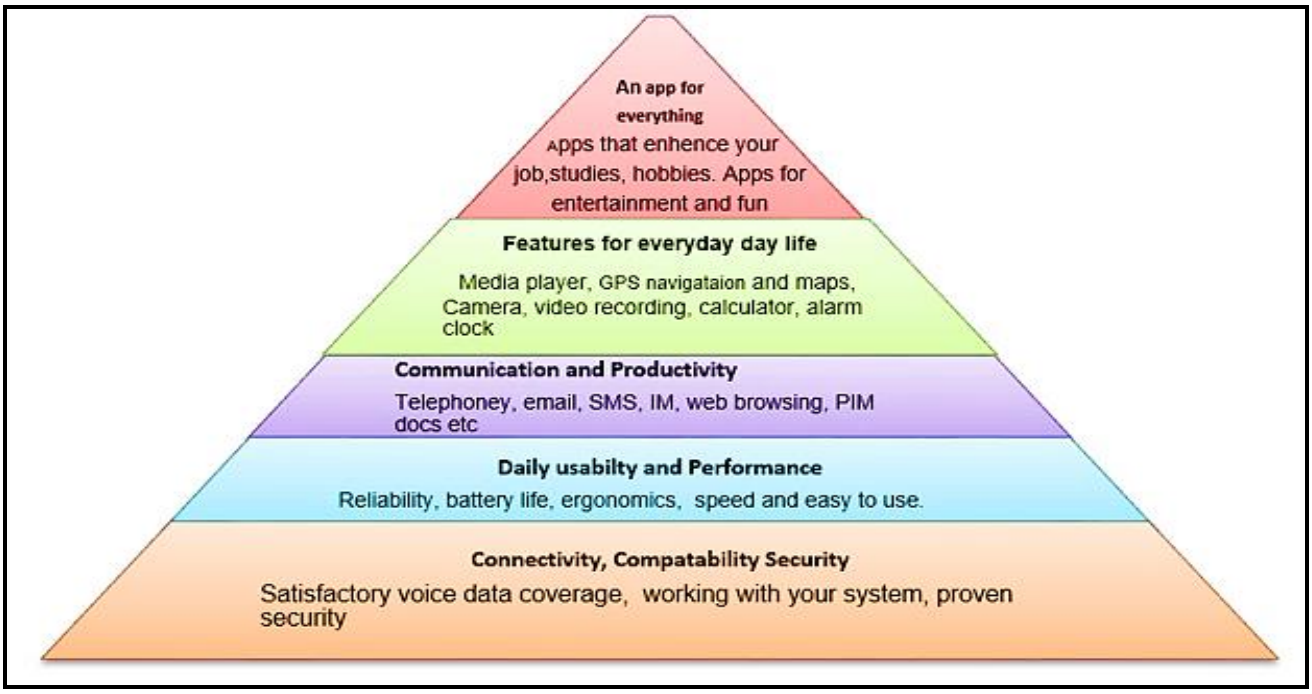

Figure 2.13: Smartphone hierarchy of needs
Source: CrackBerry Kevin's Hierarchy of Smartphone Needs (Michaluk, 2009).

The above model is comprised of 5 different levels. Connectivity is at the bottom level. It involves the ability of a smartphone to access the internet, Wi-Fi, secure data connection, security, and compatibility. The day to day usability performance of smartphones is on the second level, what a consumer becomes dependent on during the purchase of the smartphone (Michaluk, 2015). The consumer chooses the smartphone due to long-lasting battery performance and speed. The third level is communication and productivity, where the consumer makes the actual decision to buy by checking smartphone's features such as communication applications. At this level, the consumer gets more information about voice quality, web-browsing apps, and speakers. The fourth level is the features for everyday life where the consumer selects a smartphone that has everything in one. Features like; calculator, camera, video recording, media player, and GPS navigation are generally considered. Finally, the top-level considers apps for everything; the consumer wants the smartphone which has different apps that provide searches for jobs, study materials, games, and other entertainment apps and fun (Michaluk, 2015).

The motivation factors, following CrackBerry Kevin's Hierarchy of Smartphone Needs, motivate the consumer to buy the smartphone because they may feel that, by buying the smartphone, he/she has everything; thus the smartphone has greater functionality. The low-income consumers are motivated to buy smartphones because of smartphone features such as a widescreen display, an app store

where you can download different applications such as calendar, the Uber eats app, and Microsoft office packages such as PowerPoint, Word, and Excel (UNCTAD, 2019; BusinessTech, 2018).

The next section focuses on the customer's attitudes toward a product and how it influences consumer purchase intention.

- **Attitude**

Attitude is a known predisposition to respond to an object favorably or unfavorably (Du Plessis& Rousseau 2016). Balabanis and Siamagka (2017) argue that attitude is referred to as negative or positive feelings that a consumer has about an object. As indicated in the Hawkins, Best and Coney model, attitudes are internal emotional feelings that are favorable or unfavorable that consumers have about products or services (Chi & Leng, 2016). Attitudes are developed based on the consumer's values and beliefs and that can be hard to change (Haeffner, 2016). Wozniak (2016) goes on to comment that attitude is developed by information obtained from other consumers or direct outcomes of experiences from a product or service. Consumers have different needs that include utilitarian and hedonistic needs (Wozniak, 2016) and marketers should understand what drives the purchase intention of consumer behaviour during the decision making process.

A study conducted in China to determine consumers' purchasing intention towards luxury brands found that the purchase intention for a luxury brand is affected by the attitude of the consumer towards a product (Du Plessis, 2016). Another study by Kumar and Mokhtar (2016) found that attitude influences consumer purchase decision of smartphones. China Internet Watch (2019) found that the beliefs of a person are subjective and influences the likelihood that the person's behaviour will lead to a certain outcome. Assessments of the individual's response are anticipated to these outcomes. The social groups, experiences, and individual consumer characteristics are shaped by attitudes that influence the purchase intention of a product (Brown, Suter & Churchill, 2018).

Therefore, as illustrated in the Hawkins, Best & Coney model in figure 2.6, the following variables have been used for this study: family and friends, social factor, price, product features, brand name, culture, reference group, motivation, perception and attitude toward the product. The researcher has chosen this model to be appropriate because variables in this model have been identified in previous studies as factors that influence purchase intention (Bearden & Etzel, 2015; Brink, 2015; Brown, Suter & Churchill, 2018). Additionally, the Hawkins, Best and Coney model is comprehensive and takes

into consideration various factors that influence the consumer's behaviour as well as their purchase intention and will thus be used for the study.

Various models of consumer buying behaviour have been discussed in the above section; the next section is the discussion of purchase intention.

2.6 Purchase Intention Defined

Purchase intention is the likelihood that a consumer will purchase a product to satisfy human wants or needs (Kaushal & Kumar, 2016). According to Nikhashemi *et al.* (2019), marketers nowadays are offering a pleasant purchase experience by reducing prices, and offering quality products to consumers in order to increase their intention to purchase the product and services. Nikhashemi *et al.* (2019) indicated that when the purchase intention is high, the consumer is likely to do the actual purchasing of the product. Purchase intention describes a consumer's conscious plan to make an effort to buy a product or service (Altschwager *et al.*, 2017). It is considered as the consumer's behavioural tendency to foresee that the consumer will purchase the product (Nikhashemi *et al.*, 2019). Nguyeni (2020) define purchase intention as a general measurement tool used to gauge the future effectiveness of actual consumer buying behaviour. The whole idea of consumer purchase intention is that individuals will buy the product after evaluating it by going through the purchase decision-making process; however, various factors affect the purchase intention during the consumer's decision-making process (Altschwager *et al.*, 2017). In this study, the purchase intention definition is applied as the likelihood to purchase a smartphone in the future to satisfy the consumer's wants or needs. It is vital to understand the field of consumer behaviour in the context of purchase intention, thus, providing an opportunity to examine and classify a particular phenomenon from the viewpoint of the consumer's purchase behaviour. Knowing the consumer behaviour of low-income consumers is critical to acquire a robust understanding of the consumer behaviour that may assist retailers and manufacturers in understanding what factors influence their purchase intention (Leva & Ziliani, 2018).

Organisations and marketers determine the purchase intention of consumers to measure the likelihood of purchasing a certain product. When the consumer's purchase intention becomes high, the consumer is likely to purchase the actual product (Schiffman & Kanuk, 2016). Different factors affect the purchase intention of low-income consumer's behaviour that include attitude, perception, product feature, brand name, social factor, price, reference groups, motivation, perception, and family

and friends (Karimi & Nejad, 2016). Creating different experiences in the hearts and minds of the customers through social interaction, and positive perception, has an impact on purchase intention (Leva & Ziliani, 2018). According to Heras-Mozos *et al.* (2019), adding innovative features to a product such as user-friendly applications, and discounted prices improves consumers' purchase intention. Nowadays, the method of applying marketing strategies such as offering valuable products to customers is important in creating a positive experience for customers (Gorgoglione & Panniello, 2018). Studies conducted by various researchers (Nikhashemi, 2019; Sarabia, Andreu & Sarabia-Sánchez, 2016; Leva & Ziliani, 2018; (Karimi & Nejad, 2016); Altschwager *et al.*, 2017; Davies, Duan, Edwards & Kinman, 2016) showed that family and friends, culture, motivation, brand name and social attitudes are increasing among consumers (Bapat, 2017). Purchase intention is a theory that supports one's understanding of why consumers purchase certain brands and how they increase their purchase intention; how products and services will increase their purchase intention (Werelds *et al*., 2017). The variable of purchase intention is one of the most important variables in most of the research consumer behaviour studies (Altschwager *et al*., 2017).

2.7 Summary

Consumer behaviour should be well understood during the purchase decision-making process. Consumers are categorised into different segments that include upper, middle, and low-income consumers. Some factors are taken into account that may influence the purchase intention to understand the purchasing behaviour of individuals and how they make decisions.

This chapter aimed to present the relevant literature on purchase intention and low-income consumers, and discussed various consumer behaviour models that demonstrate the various steps of the decision-making process. In this chapter, external and internal factors that influence consumer purchase intention namely: family and friends, price, culture, brand name, reference groups, product features, perception, motivation, and attitude have been explained and discussed to support this dissertation research study report.

The next discussion below is chapter three; the conceptual framework for the study that illustrates all factors that influence the purchase intention of the study. Research hypotheses have also been developed and explained in this chapter.

CHAPTER THREE: CONCEPTUAL FRAMEWORK DEVELOPMENT

3.1 Introduction

The external and internal factors that include: family and friends, price, social, culture, brand name, product feature, reference group, perception, motivation, and attitude towards product were addressed in chapter two. The review of the literature was provided with relevant information from various previous studies including, low-income consumers, followed by a discussion of consumer behaviour models demonstrating the various steps of the decision-making process.

This chapter provides a conceptual framework developed for the study as shown in figure 3.1. The conceptual framework for this study has been developed based on the literature of previous studies. To answer the research objectives of the study, a theoretical framework has been drawn. The theoretical framework is the conceptual structure that has a basic hypothetical description process used for theory development and the gathering of information that can provide meaningful results (Kiran, Thomas, Johny & Jose, 2019). Below is a detailed discussion of the proposed research's conceptual framework.

3.2 The proposed Theoretical Framework and Hypothesis Development

The conceptual framework proposed in this chapter of the study is developed by the researcher to describe the relationship between independent and dependent variables of the study (Creswell, 2016). The dependent variable is the variable in which a researcher has shown interest in, whilst the independent variable is a variable that affects the dependent variables positively or negatively (Berg & Lune, 2017). As indicated below in figure 3.1 of the proposed framework, different factors that have a negative or positive impact on purchase intention of the smartphone have been conceptualised from the literature that includes internal and external factors (Sabnam, 2016). The Hawkins, Best and Coney model has been chosen because same factors in the model have been used in previous related studies of the purchase intention of the smartphone that include Miotto and Parente (2015); Werelds (2017); Leva and Ziliani (2018); and Nikhashemi (2019).

From the conceptual model portrayed in figure 3.1, external factors include family and friends, price, social, culture, brand name, product features, reference groups, and internal factors include motivation, perception, and attitude.

The proposed model variables are specifically for purchase intention of smartphone among low-income consumers in South Africa context. This makes the new conceptual model to be unique since limited studies have looked into the current study. The conceptual model contains factors found in other consumer behaviour models shown in chapter 2. Furthermore, the model was tested to low income consumers which has not been done before.

Below is figure 3.1 of the proposed theoretical framework used for the current study. Therefore, from the assessment of the purchase intention and related factors, the hypotheses have been formulated and a conceptual framework has been developed as a supposition made on some characters of low-income consumers of the population.

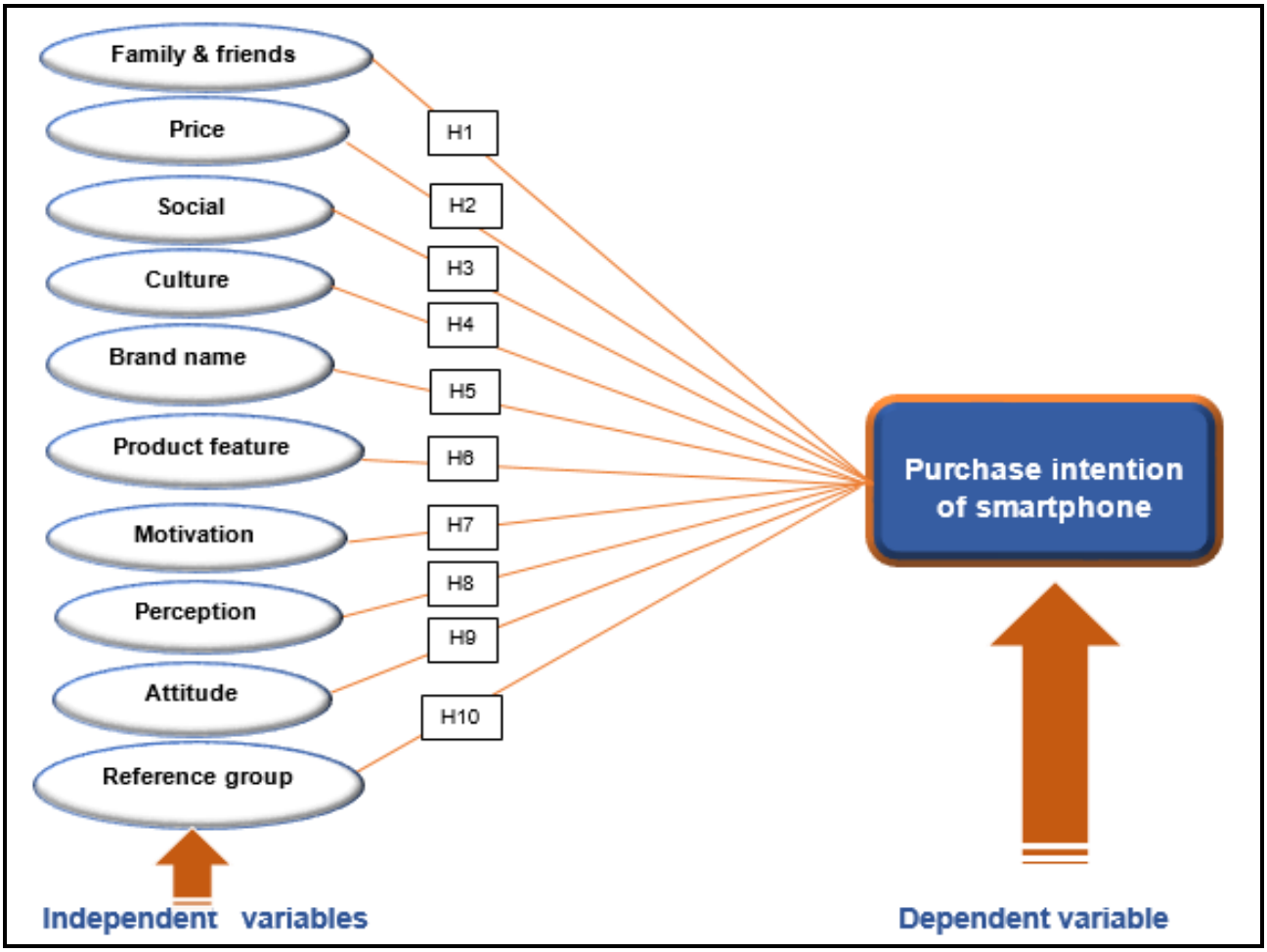

Figure 3.1: The proposed theoretical framework

The hypotheses have also been developed from the conceptual framework. A hypothesis is a formal statement that expresses the relationship between dependent and independent variables drawn in the framework (Creswell, 2016). In other words, a hypothesis can be described as a tentative

description of the research problem, or a professional guess about research outcome (Sekeran & Bougie, 2016). A hypothesis is a clear expression statement that is expected to be examined, and also allows identification of the research objectives (Sekeran & Bougie, 2016). In this study, null and alternative hypotheses have been used where the null hypothesis (H_0) signifies a theory that has been developed which is either true or has been not proved to be true, whilst alternative hypothesis (H_1 or H_A) is the opposite of null that represent what is set to be established (Hair, *et al*., 2017).

The external and internal factors based on the conceptual framework illustrated in figure 3.1 are discussed as follows:

3.2.1 External Factors that Influence Purchase Intention of Consumer Behaviour Based on the Conceptual Framework

This section is the discussion of the external factors drawn from the conceptual framework of the study that influence the purchase intention of Low income consumers.

- **Family and Friends**

Family members and friends can influence individuals' purchase intention (Walter, 2015). Family and friends may influence an individual to obtain product values, and to develop and shape the individual's personality (Walter, 2015). The influence may either be positive or negative, which develops attitudes or opinions towards the purchase intention of a product (Armstrong, Adam, Denize, Volkov & Kotler, 2018). Individuals play different influential roles in lives based on social statuses such as wealth, education, and occupation (Armstrong *et al*., 2018).

A study was conducted at the University of Tunku Abdul Rahman at the Sungai Long Campus by Ting, Lim, Patanmacia and Low (2014) on the purchase intention behaviour of mobile phones. The results show that consumers are influenced by friends and family members when purchasing mobile phones. Another survey was conducted to investigate the factors that have an impact on the demand of smartphones among young adults at the Multimedia University (Armstrong *et al*., 2018). The researchers found that friends are the primary influencers that have an impact on the young adult decision in buying mobile phones. A study conducted by Franklin in 2013 on the effect of buying behaviour on two-wheeler purchasers from ages ranging from 40-50 years, the findings show that family and friends significantly impact the purchase intention of two-wheeler purchasers. A previous

study by Amanuel and Engidaw (2020) on the purchasing intention behaviour of mobile phones found that friends and family members are the most important influencers to consumers when purchasing mobile phones.

Based on the above discussion, the research hypothesis (H1) is proposed as follows:
$H_1$1: Family and friends have significant influence on low-income consumers' purchase intention for smartphones
$H_0$1: Family and friends do not have significant influence on low-income consumers' purchase intention for smartphones.

- **Price**

Price is the amount of money a consumer sacrifices to obtain a product or a service (Kotler & Armstrong, 2015). The consumer's perceived price towards a product or service can negatively or positively impact purchase intention (Noel, 2016). Mudondo (2016) supported that consumers will seek low prices while other consumers feel that when the product has a higher price, it means it has higher quality and value.

A study conducted by Amanuel and Engidaw (2020) revealed that price has influence on consumer purchase intention towards smartphones in Hawasasa city, Malaysia. Filien and Lin (2017) investigated the reaction of young female adults on overpriced or underpriced products. The results show that young female adults were strongly influenced due to price changes in the marketplace. Purchase intention increases when the price of products decreased using sales promotion programs such as price discounts or coupons and quantity discounts (Mudondo, 2016). Another study was conducted by Jegethesan, Sneddon and Soutar (2012) in Australia investigating the effect of price on fashion apparel products, such as jeans, among young apparel consumers. The researchers found that the price of the product was the main factor for young Australian female apparel consumers in their purchase decision making. Conversely, Lew and Sulaiman (2015) found that there is a negative impact on globally priced products toward the purchase intention behaviour. Chew (2014) found that price has a significant influence on smartphone purchase decisions among Malaysia's young population.

Research hypothesis (H2) is proposed as follows:
$H_1$2: Price has significant influence on low-income consumers' purchase intention for smartphones.

$H_0$2: Price does not have significant influence on low-income consumers' purchase intention for smartphones.

- **Social Factor**

The division of social class in the society is hierarchically ordered and each social class consists of members that share related values, interests, and behaviour (Kotler & Armstrong, 2015). Social class is categorised into 3 different groups, namely: upper class, middle class, and lower-class groups (Armstrong, Adam, Denize, Volkov & Kotler, 2018). Each social class is different from the other in the way they lead their lives, their clothing style, reading practices, and eating habits (Sarwary & Chaudhry, 2015).

In the upper class, consumers usually want products and brands that fit their social status, for instance, sending the children to an expensive school, driving posh cars, and living in mansions (Rashotte, 2016). The middle-class consumers do their shopping carefully and they firstly gather the product information before they purchase the product, for instance, they will acquire information from various sources such as reading product ads and comparing prices (Rashotte, 2016). Lastly, lower social class consumers have limited funds to express themselves through their product choices; they are after satisfying their basic needs in their daily lives (Uddin, Reaz & Oheduzzaman, 2015).

Various research studies have been conducted regarding the social factor. The investigative study conducted by Chi, Yeh and Tsa (2011) researched the influence of advertising endorsers on purchase intention. The findings show that celebrities influence product purchase through adding product value. Another study was conducted by Wahid and Dastane (2013) on perceived quality, social influence, and brand awareness towards consumer purchase intention of global smartphone brands. The results found that social influence was the major influencing factor for purchase intention since consumers rely on the views of others to make decisions. A study conducted by Uddin, Reaz and Oheduzzaman in 2015 on social factors like role models showed that Malaysian consumer's purchasing decisions are influenced directly and indirectly by their role models. Celebrities have greater influence than parents towards product purchase (Uddin, Reaz & Oheduzzaman, 2015). Visagie (2016) found that the decision of consumers to own smartphones is heavily affected by social factors such as social groups in the community someone is living in.

The discussion above leads to the hypothesis (H3) as follows:

$H_1$3: Social factors have significant influence on low-income consumers' purchase intention for smartphones.
$H_0$3: Social factors do not have significant influence on low-income consumers' purchase intention for smartphones.

- **Culture**

Consumer behaviour is studied at the individual level and it involves a particular culture in the society. Bartel-Radic and Giannelloni (2017) pointed out that culture is the guideline for individual behaviour in a community and it is a collective belief in an environment with the same conditions of education and life experience. Culture is among other factors that have an impact on consumer purchase behaviour (O'Dougherty, Haynesa, Venter-Davies & O'Connor, 2016). The consumer culture tends to change as things evolve in the community (Pandey & Dixit, 2014; Wang, 2019). Culture is a factor that influences consumer's beliefs and has an impact on output purchase decision which could similarly have an impact on the evoked set. The impact can also affect the consumer's search for information, the specific input motives of consumer tendency, and attitude towards the product (Wang, 2019). Different cultures have different beliefs formed by the communities to which they belong (Wang, 2019). In Japan, for instance, the number 4, and 4 times is considered as unlucky as such products are sold to consumers in groups of five leads. Tradition is also a component of culture that is related to the non-verbal behaviour of individual consumers. Men in France use more cosmetic products as compared to women which indicate that there is a self-consciousness tradition in the French culture, especially for men (Yunus & Rashid, 2016). Subcultures, within larger cultural groups, is said to also influence the consumer's purchase intention (Wang, Tao & Chu, 2020). Individuals within different geographical regions, or those with different religious beliefs etc., will behave differently as to what they purchase and why they make the purchases (Yunus & Rashid, 2016). People from different cultures have different cultural points of view and value orientations that lead to a variety of products, brands, and services (Wang, Tao & Chu, 2020)

Thus, the researcher proposes the hypothesis (H4) as follows:
$H_1$4: Culture has significant influence on low-income consumers' purchase intention for smartphones.
$H_0$4: Culture does not have significant influence on low-income consumers' purchase intention for smartphones.

- **Brand Name**

Various studies have been undertaken to find the relationship between brand name and consumer purchase intention. A study was carried out in Greece by Cazacu (2015) where a sample size of 70 Greek consumers participated in the survey determining purchase intention on the Water Buffalo milk brand. The results show a strong relationship between brand name and purchase intention, which indicates that the more knowledge a consumer acquires about the product information, the higher the purchase intention towards the brand becomes because consumers are afraid of purchasing the unknown product (Cazacu, 2015). A study was conducted by Jung, Lee and Yang (2015) to investigate factors that influence purchase intention towards luxury fashion brands. The results found that luxury brand awareness has a positive influence on purchase intention of luxury products (Jung, 2015).

Another study was conducted by Kuching in India to determine if brand name influences generation 'Y' consumers towards a higher smartphone purchase intention (Liew, 2014; Lay-Yee *et al.*, 2015). The findings revealed that brand name positively impacts purchase intention of smartphones (Harrington, Fauser & Ottenbacher, 2017).

In the light of the above discussion, the hypothesis (H5) is proposed:
$H_1$5: Brand name has significant influence on low-income consumers' purchase intention for smartphones.
$H_0$5: Brand name does not significant influence on low-income consumers' purchase intention for smartphones.

- **Product Features**

Shaharudin, Mansor, Hassan, Omar and Harun (2015) conducted a research study investigating if the product features influence purchase intention of motorcycles/scooters. The findings of the study show that there is a significant influence of special product features towards consumer purchase intention of motorcycles/scooters.

Another study was conducted by Karen Lime (2016) where a sample size of 379 Honours students was used to determine if product features have an influence on generation Y consumers towards mobile phone purchase intention. The study found that product features of mobile phones such as widescreen and longevity of phone batteries increase purchase intention. Smartphones are designed

to have numerous product features that include, Apps, touch screens, internet accessibility, built-in software etc., and can influence the consumer's purchase intention decisions (Chen, 2017).

The following hypothesis (H6) is developed as follows:
$H_1$6: Product features have significant influence on low-income consumers' purchase intention for smartphones.
$H_0$6: Product features do not have significant influence on low-income consumers' purchase intention for smartphones.

- **Reference Group**

A reference group is defined as a group of people conceived of having important relevance upon one another's evaluation, ambition, or behaviour (Cronje, 2016). A reference group usually involves a group of 2 or more people that have an external influence and provides social cues (Strydom, 2017). Reference groups influence an individual's attitudes and norms through different interactions such as telling successful stories about using smartphones, achievements, fashionable lifestyles, and opinions through which individuals can observe the values from them (Strydom, 2017). The information obtained from the reference group is evaluated to match the need of the group which results in following the group norms (Stankevich, 2017). Reference groups can influence purchase intention and may vary when individuals use different sources of information during the purchase decision-making (Cronje *et al*., 2016). Members in reference groups observe how others perform or search for information from different sources (Cronje *et al*., 2016). If a member of the reference group acquires information and takes it as a reality or sees it as important, then it is likely to make a decision (Strydom, 2017). Individuals in a group will try to adhere to and meet the expectation of the entire group to avoid being expelled from the group or to receive a prize (Baker, Donthu & Kumar, 2016). Consumers who interact with their peers in groups are always influenced when deciding because they seek advice from those who have more knowledge about high involvement products (Stankevich, 2017).

Various studies by Baker, Donthu and Kumar (2016); and Beardenand& Etzel (2015) were conducted on reference groups, for instance; Sridhar, Ramesh and Murthy carried out research in India in 2010 on value expressive reference group's influence for televisions and bikes in the rural market of Warangal District. The results show that reference groups plays a significant part in purchase decision making.

A study was conducted by khan in India in 2008 to identify the normative social influence of peers, celebrity, and family among youngsters for apparel, and found that susceptibility to normative reference group influence has higher influence, particularly in females as compared to males (Cronje *et al*., 2016).

From the above discussions hypothesis (H10) is proposed as follows:
$H_1$10: Reference group has significant influence on low-income consumers' purchase intention towards smartphones.
$H_0$10: Reference group does not have significant influence on low-income consumers' purchase intention towards smartphones.

The next section is the discussion of internal factors drawn from the conceptual framework of the study.

3.2.2 Internal Factors that Influence Purchase Intention of Consumer Behaviour Based on the Conceptual Framework

The internal factors that influence the purchase intention of consumer behaviour is discussed as follows:

- **Motivation**

A study was conducted by Rashid (2015) to determine the effect of visual merchandising displays towards consumer's purchase intention in Tshwane in the South African apparel retail industry. The results found that consumer purchase behaviour is influenced by it and motivates them to purchase the product. Motivation involves internal feelings that can change a person's behaviour towards a particular need or to achieve a certain goal (Brown, Suter & Churchill, 2018). Motives are internal states that inspire, trigger, stimulate, and express the consumer's behaviour during product purchase (Brown, Suter & Churchill, 2018). Motives drive consumers to behave in a certain way and direct them to take action towards satisfying particular needs (Armstrong *et al*., 2018). For instance, the design of the product and features such as a golden colour can positively motivate consumers to purchase that product.

Based on the above discussion, the following hypothesis (H7) is proposed:

$H_1$7: Motivation has significant influence on low-income consumers' purchase intention for smartphones.
$H_0$7: Motivation does not have significant influence on low-income consumers' purchase intention for smartphones.

- **Perception**

Son, Jin and George (2016) defined perception as a process of how information is selected, organised, and interpreted from input information to achieve meaningful information. The perception starts with the consumer's exposure to stimulus which could be for instance: a smell, voices, a touch, or a taste**.** According to Blythe (2016) perception helps consumers to decrease their buying risk. On the other hand, the perceived quality of the product is influenced, directly or indirectly, through the concepts of perceived value or brand (Kotler *et al.,* 2016). Strydom (2018) added that perceived quality has a direct impact on the buying decision process and brand loyalty. For instance, a consumer does not have motivation towards the product and is willing to do a thorough product analysis before purchase (Asshidin, 2016).

A research study was conducted by Asshidin in 2016 on consumer perception of foreign and local products in India. The study surveyed 210 respondents and showed that the consumer's perception is higher towards foreign products than the local product because of perceived quality (Asshidin, 2016). Another study was conducted in Tanzania in 2015 by Jani and Mzalendo on the consumer perception of imported and local wine. The study results indicated a strong relationship between purchase intention and perceived quality of the local and foreign wine where consumers preferably go for wine products produced in Tanzania (Jani & Mzalendo, 2015).

Based on the previous studies (Kiran, Thomas, Johny & Jose, 2019; Blythe, 2016; Pakol, 2016; Son, Jin & George, 2016) the perception has an impact on the purchase intention of the smartphone through the consumer's exposure to the stimulus of touch and sight. The consumers will pay attention to that stimulus which will help them to know the product; hence storing it in his/ her memory to later retrieve it when needed. A typical example can be expressed by the consumer looking at the smartphone on display on the shelf. The consumer looks at the product quality that he intends to buy (Son, Jin & George, 2016).

In the view of the above discussions, the research hypothesis (H8) is proposed as follows:

$H_1$8: Perception has significant influence on low-income consumers' purchase intention for smartphones.
$H_0$8: Perception does not have significant influence on low-income consumers' purchase intention for smartphones.

- **Attitude**

Chiu and Leng (2016) says that attitude is one of the essential factors that have an impact on the consumer's purchase intention, depending on an individual's own opinion or one gained from another person. The consumer's attitude towards a product or service acquisition plays a significant role because it motivates the consumer positively to purchase a product (Uyar, 2018). According to Schiffman (2015), the consumer's purchase intention is higher when there is a strong and significant positive relationship with the product, thus, manufacturers should make sure that products are made favourably, with more attractive features so that it stimulates the consumer's positive attitude and increases purchase intention (Chiu & Leng, 2016).

A study was conducted in South Africa by Simone in 2016 on factors that influence low-income consumer behaviour towards personal care products. The study used 350 respondents and found that low-income consumers have positive attitudes towards personal care products because of favourable ingredients that the product contains. This makes them feel healthier towards their bodies when applied (Du Plessis, 2016). Du Plessis (2016) goes on to comment that a consumer who has a positive attitude towards a particular brand will be more likely to have a higher purchase intention towards the brand. Uyar (2018) supports that If the brand demonstrates that the consumer likes the product, then it is likely to drive positive attitude. Consumers with a positive attitude towards a brand name are probably to look for a similar relationship with the brand company from whom they purchase products and services (Du Plessis, 2016). Consumers with a positive attitude toward the brand will likely have a reciprocal relationship with a product (Uyar, 2018).

The hypothesis (H9) is proposed as follows:
$H_1$9: Attitude towards smartphone has significant influence on low-income consumers' purchase intention to acquire them.
$H_0$9: Attitude towards smartphone does not have significant influence on low-income consumers' purchase intention to acquire them.

3.3 Summary

This chapter was a discussion of the conceptual framework, discussing factors and how they impact the purchase intention of consumer behaviour. The formulation of a hypothesis has been discussed that includes; family and friends, price, culture, social, brand name, motivation, perception, attitude, product feature, and reference groups. The framework structure was developed and presented with a hypothesis based on the previous studies to provide a unified cohesive view.

The next chapter is the research methodology. The discussion of the methodology in chapter four allows the researcher to have an in-depth understanding of the knowledge on which methods can be used to collect the necessary information to achieve the objectives of the study. In this chapter, the research onion model in figure 4.2 has been used to discuss the methodologies. Furthermore, designs, the non-probability method, and the data collection method will be discussed; thus primary and secondary data are also presented. The questionnaire development, as a data instrument has also been highlighted. The chapter will also address the descriptive data analysis to get the findings, results, and data analysis presentation.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

Chapter three presented the proposed theoretical framework, as portrayed diagrammatically in figure 3.1, and the hypotheses development. Various variables were presented in the proposed research framework and discussed. In this study, the research methods that were used to collect and analyse data were selected in line with the aims and the objectives of the current study.

The primary objective of this research study is to determine the factors that influence the purchase intention of smartphones by low-income consumers in Gauteng, South Africa to better serve their needs.

The secondary research objectives for the research study are:

- To determine if external factors (family and friends, price, social status, culture, brand name, product features and reference group) influence purchase intention of low-income consumers,
- To determine if internal factors (that include: motivation, perception, and consumer attitude) influence the purchase intention of low-income consumers.

Chapter four begins with an introduction of the dissertation structure for the study and illustrate different chapters and stages that the researcher has gone through. In this chapter of the research methodology, research designs, tools, and research approaches will be discussed. The chapter covers the research onion framework proposed by Saunders *et al.* (2019). The framework highlights the research process drawn in the form of an onion diagram showing various layers (Raithatha, 2017). The research onion model has been provided in order to give thorough descriptions of the main layers of methodology that are effective in the current study (Raithatha, 2017). Additionally, the chapter continues to discuss the statistical analysis method of confirmatory factor analysis (CFA) with structural equation modelling (SEM) used in a sample data. The purpose of Structure Equation Modelling is to define a theoretical contributing model consisting of a set of predicted co-variances between variables in this study (family and friends, price, social factor, culture, brand name, product features, reference group, perception, motivation, and attitude) and then test whether it is probable when compared to the observed data (Saunders, Lewis & Thornhill, 2019). Further discussions on the validity of the data and reliability are also included. The chapter will conclude by discussing the research's ethical considerations.

The next section is the dissertation structure which the researcher will go through to accomplish the current research objectives.

Figure 4.1 depicts the overall layout of the study, including where chapter four fits into the structure (from chapter one to chapter six) of the study.

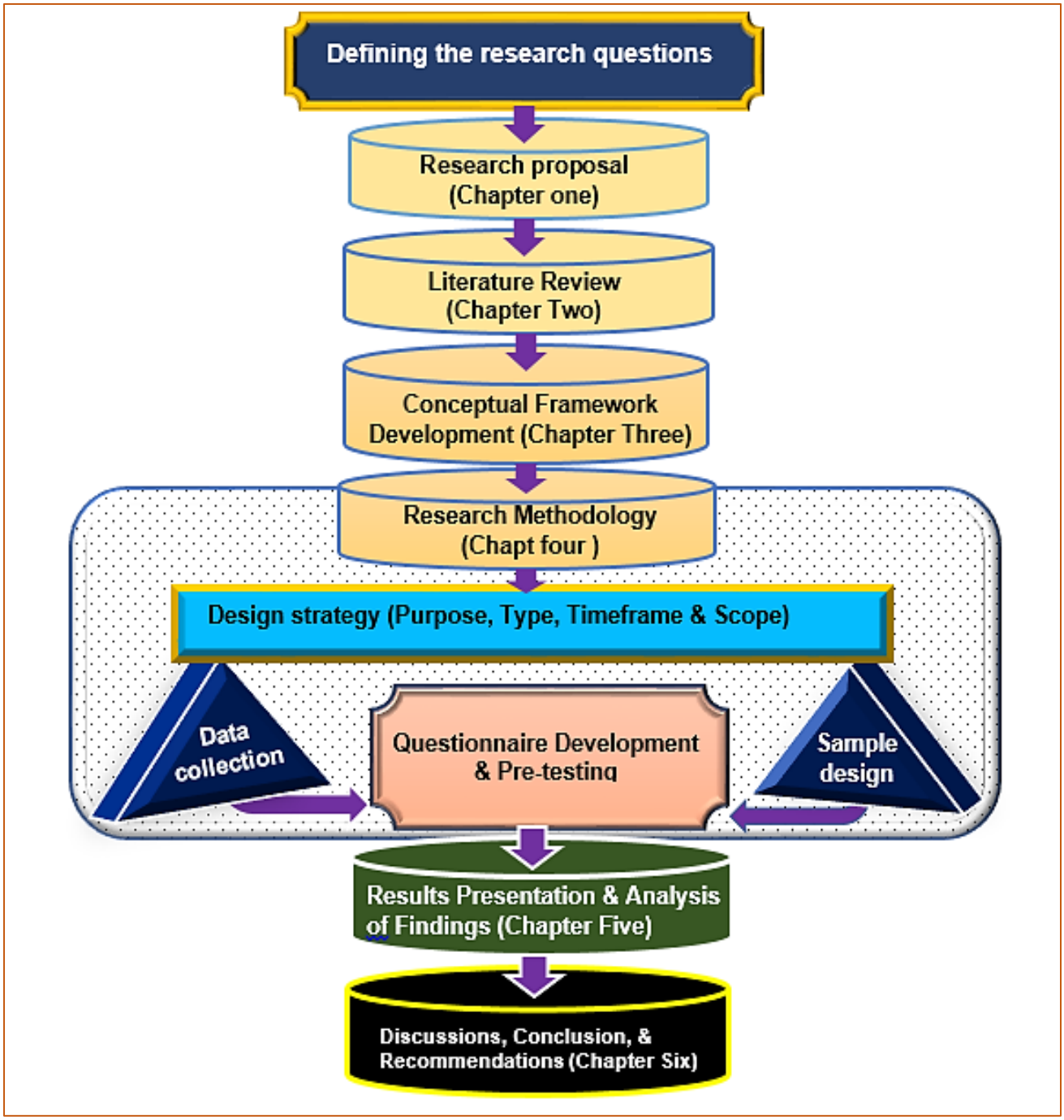

Figure 4.1: Study layout flow of dissertation

The dissertation structure shown in figure 4.1 illustrates stages that the researcher has gone through for the entire project. The discussion of the research onion model will be provided with various layers of the methodology for the study.

4.2 Research Onion Model

The theoretical notion of the research onion is one of the techniques of assembling research methodology which provides comprehensive layers and steps to be followed to accomplish the purpose of formulating an effective research methodology (Raithatha, 2017).

Saunders (2019) proposed the research onion as a tool which provides a way to organise the research study process and design by following its layers (Saunders, Lewis & Thornhill, 2016). The research onion model was, however, designed fundamentally for business study purposes; thus researching for a future which has not actualised as yet (Saunders, Lewis & Thornhill, 2019). The research onion model is adapted to examine the suitability for future studies and the probability to make logical corrections in the seven original layers of the research model. These layers of the research onion include: the first layer is research philosophy, the second layer is the research approaches, the third layer is approaches to theory development, the fourth layer is research strategy, the fifth layer is methodology choice, the sixth layer is time horizon, and lastly the seventh layer is techniques and procedures.

Below is the illustration of the layers in figure 4.2 of the research onion model.

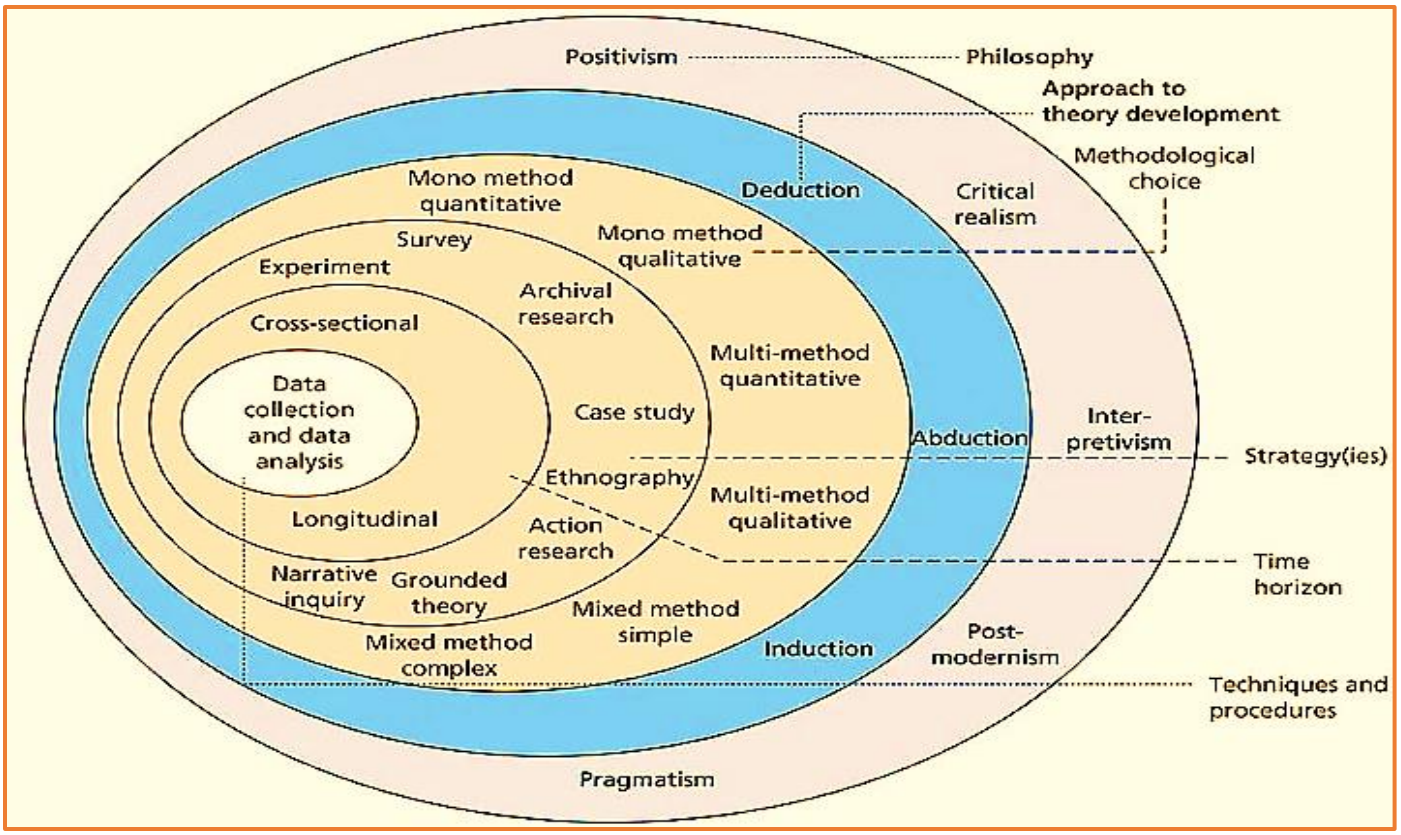

Figure 4.2: Research onion model
Source: Saunders, M., Lewis, P. & Thornhill, A. (2019)

4.2.1 Research Philosophy

Figure 4.2 displays various layers of the research model, and research philosophy is the first layer of the model. Creswell (2018) indicates that it is importance to articulate appropriate research strategy that describes how data is collected, analysed and how results are summarised. Creswell (2018) goes on to say that a clear research philosophy provides an understanding of philosophical research assumptions throughout research project execution. The onion model has different types of philosophies namely: positivism, critical realism, interpretivism, post-modernism and pragmatism and 2 of these will be discussed in more detail.

Positivism philosophy has been essentially used in association with quantitative research studies where statistical data collection and analysis of the results provide numerical format (Hair, Hult, Ringle & Sarstedt, 2017) Positivism is discussed in detail in the next section.

- **Positivism**

The presentation of positivism philosophy is a quantitative purist (Zikmund, Babin, Carr & Griffin 2016). The philosophy believes that the observation of social issues is related to physical occurrences and is considered to be a scientific inquiry (Jonson & Onwuegbuzie, 2016). The observation in positivism is taken as a stand-alone entity where the person observing is distinctly detached from the object being observed and makes it easy to find the causes of validity and reliability of the research (Mishra & Alok, 2017). The researcher starts with developing a theory based on findings of previous studies and then hypotheses are formulated to be tested, thereafter; data is collected on whether it supports the hypotheses or rejected it based on the outcome (Jonson & Onwuegbuzie, 2016). The collection of data within the pure paradigm follows the quantitative research study (Wyse, 2016). This quantitative method encompasses holistic presentation of a phenomenon which is measurable and observable with reductive variables (Saunders, Lewis & Thornhill, 2019). However, positivism is taken as a popular social science, management research tool, and purist imitative; it's been criticised for bringing barriers in research in favourable situations because of its narrow description of the concept of science (Johnson & Onwuegbuzie, 2016). Du Plooy-Cillers, Davis and Bezuidenhout (2016) highlight that positivism stimulates objective ideas towards validation and distortion of research, this position neglects that decisions are not made during the process of conducting research. Additionally, researchers become part of the members of the social background which is vulnerable to subjectivism, for instance, a researcher may decide what type of a study to conduct, deciding what instruments to use and interpret the findings of the study (Berg & Lune, 2017).

Post-positivism in social science studies replaces positivism (Saunders, Lewis & Thornhill, 2019) and the difference between positivism and post-positivism is that positivism does not consider the assumptions about dependability of the findings as hypothetical. Post-positivism states that there is no common reality or distinctions separating known and unknown assumptions (Saunders *et al*., 2019). These assumptions therefore, seek to resolve challenges of the positivism philosophy (Leedy & Ormrod, 2016). Positivism supports the use of observed data to develop the theory while post-positivism support the development of theory before data collection and scientific data analysis (Leedy & Ormrod, 2016). The post-positivist point of view, Nayak and Narayan (2019) indicates that the researcher has the knowledge of what will be studied and how the research process will be conducted by writing down research hypotheses, defining the methods and converting them into a practical exercise. Therefore, the current study uses a post-positivist procedure as an extension of positivism which was primarily looking at the aim and nature of the study, thus; investigate the factors

that have an impact on purchase intention of smartphones among low-income consumers in Gauteng, South Africa.

- **Interpretivism**

The approach is based on the subjectivist ontological expectation that organisation is established separately, which means that it is socially constructed and can only be researched through social reality (Saunders *et al*., 2019). The reality is constructed socially, facts and knowledge are subjective and relative (Ramdhani, Mnyamana & Karodia, 2017).

The contrast between positivism and interpretivism is the constant criticism on the basis of the differences between social sciences and nature (Creswell, 2016). Positivist philosophy states that entities like ideas and social structures exists independently of human nature, moreover, it does not take into consideration the role of an individual in the social reality (Ramdhani, Mnyamana & Karodia, 2017).

According to Saunders *et al*. (2016), the choice between positive or interpretive may not be realistic because other philosophical situations of sciences are based on two additional issues namely; pragmatism and critical realism. Pragmatism is grounded in the assumption that the research study has research questions that need to be answered whilst critical realism is constructed on ontological assumptions (Myers, 2015). These assumptions state that the world consists of entities and the perception of the feelings and images of real entities (Ramdhani, Mnyamana & Karodia, 2017).

4.2.2 Research Approach

In figure 4.2 of the research onion model, the second layer demonstrates the research approach. The layer includes deductive and inductive approaches that have been employed and discussed to test the hypotheses (Saunders *et al.*, 2016). Below is a detailed discussion of deductive and inductive approaches respectively:

- **Deductive Approach**

Deductive approach is defined as examining theory where a researcher develops a hypothesis and comes up with a strategy on how to test that theory (Sekaran & Bougie, 2016). The deductive approach provides important characteristics that include describing the casual relationships between

various variables of the study that are measured quantitatively (Saunders, Lewis & Thornhill, 2019). This approach offers better understanding of the problems when they are reduced to the simplest possible element in the study by using a quantitative approach (Creswell & Creswell, 2018). Another characteristic of deductive approach is the generalisation of outcomes (Saunders et al., 2016). Lastly, deductive approach provides a bases for scientific model description and testing theory in order to have recommended accurate outcomes (Creswell & Creswell, 2018). The current research project uses deductive approach which is generally linked to positivist and quantitative research; involving hypotheses development based on the relevant review of literature (Saunders *et al*., 2016).

- **Inductive Approach**

The second approach is inductive as shown in figure 4.2 of the research onion model. Inductive approach is described as building theory, since the researcher begins with gathering data to develop a theory as compared to deductive (Creswell & Creswell, 2018). Inductive approach begins with precise observations and measures them to detect the patterns and regularities which, at the end, formulate an indefinite hypothesis that cannot be explored.

The research approaches have been addressed, and the next section will provide a discussion of research strategy.

4.2.3 Research Strategy

As shown in figure 4.2 of the research onion model, research strategy is the third layer that provides the information by identifying various methods of research strategies adapted to answer research questions. The identification of research strategies in this layer include: experience, research action, guides approach and ethnography (Berg & Lune, 2017).

The survey method is commonly used for descriptive and exploratory research (Raithatha, 2017). The survey method as one of the strategies is defined as the systematic process of data collection from a population using a sample of that large population to generalise the entire population (Raithatha, 2017). An online-based survey approach was used for the study to collect a sufficient amount of data from the sizeable low-income population; using a self-administered questionnaire as a data collection instrument (Ramadhan, Mnyamana & Karodia, 2017). Due to the Covid-19 pandemic and the prohibition of face to face data collection, the researcher used the services of Osmoz

consulting, an independent research company, to assist with the online-based survey as they have the database for the target population and the technological capacity to do so. The survey method is commonly used for gathering quantitative data than can be statistically analysed in a numerical format and presented in graphs, frequency tables and means (Hart, 2016).

The processing of data begins with data editing which involves checking for errors, omissions, legibility and categorising data consistency (Zikmund & Babin, 2017). At the quantitative analysis level of the study, data was entered in the structural equation model for editing, coding, and analysing (George & Mallery, 2019). Quantitative research was employed to get the findings of the study (Zikmund & Babin, 2017). Quantitative research uses numerical forms to get the respondents' answers for the research questions (Zikmund & Babin, 2017). The characteristics of the respondents from the sample were drawn using descriptive statistics to get numerical descriptive findings of the data (Creswell, 2018).

The quantitative research strategy was used for the current study. The next section will provide the research methodical choices, as portrayed in onion research model in figure 4.2.

4.2.4 Research Methodical Choice

The research methodical choice is a layer in the research onion model as shown in figure 4.2. There are 2 research methodologies that can be used when collecting data; the mono quantitative design which uses a single technique and mono qualitative data collection design (Berg & Lune, 2017). The researcher may decide to use mix methods which combines both qualitative and quantitative designs to get the objectives and findings of the study (Raithatha, 2017). The current research project used the quantitative method because it was considered to be appropriate for data collection.

The next section is the discussion of time horizon which is the fifth layer of the research onion model.

4.2.5 Time Horizon

Figure 4.2 of the research onion model, the fifth layer, is time horizon. In this layer, the researcher commences the research by answering the identified problems or questions at a specific scheduled time and a snapshot which is known as the cross-sectional part where research strategies are developed, for instance, a survey method is selected or a case study (Schindler, 2019). In this layer

the data is collected over an extended period to address the research problems and to answer questions. The cross-sectional studies regularly use the survey strategy to collect data (Raithatha, 2017). The cross-section is carried out once to represent the snapshot of a specific time; it contains a large number, or sample size, of respondents and uses a questionnaire survey technique (Laher, 2016). Apart from the cross-section time horizon, another type is the longitudinal studies time horizon which is usually repeated over a period of extended time in order to depict the changes of the time (Schindler, 2019). The nature of horizon is purely appropriate for the examining and evolving theory based on human progression and its outcomes (Du Plooy-Cillers, Davis & Bezuidenhout, 2016).

The next discussion is based on research techniques and procedures.

4.3 Techniques and Procedures

In figure 4.2 shown above, the last layer of the onion research model is the research techniques and procedures involved during the collection of data and the statistical analysis. In this layer, activities such as: primary and secondary data, selection of sample group, developing the questionnaire instrument, and preparation of interviews takes place. In this inner layer of the research onion, the researcher has to make sure that there is no bias toward data collection and the interpretation of data analysis (Hair, Hult, Ringle & Sarstedt, 2017). With regards to the deductive approach, hypotheses were developed based on various consumer behaviour theories, there is a review of the literature, the hypotheses are tested, and data analysis takes place (Sekaran & Bougie, 2016). The 2 methods of data gathering include: primary and secondary data (Saunders, Lewis & Thornhill, 2019). The current study made use of both data collection methods of primary and secondary. Further details of the primary and secondary data collection method are provided in the next section below.

4.3.1 Primary Data

Primary data is described to be first hand data that has been directly gathered from first sources through surveys intended for that particular research study (Du Plooy-Cillers, Davis & Bezuidenhout, 2016). Primary data was used for this research to determine the impact of factors on low-income consumers towards the purchase intention of smartphones and to answer specific questions to elicit information that is helpful. Since the primary data is first-hand information, the information is considered to be reliable and more valid than secondary data (Berg & Lune, 2017).

Additionally, primary data is more credible when it has been collected objectively for the stated study (Maree, 2016). However, primary data collection exercise is expensive in such way that the researcher and fieldworkers have to go through the whole study process of data collection, for instance: getting the right participants, organising materials, having limited time, and finding places to get the target population may be difficult hence need for authorisation as compared to secondary data, where the information is readily available (Maree, 2016).

Before collecting primary data for the study, the ethical research clearance certificate approval was obtained from the Department of Marketing and Retail Management (Reference number 2019_MRM_014). The purpose of the ethical clearance certificate is to ensure that the research complies with the ethical guidelines of the university and that the rights of the participants are protected. Data were collected using a self-administered questionnaire via an online platform due to the Covid-19 pandemic, which made personal interviews impossible. An external company (Osmoz consulting) assisted with the online data collection exercise. Osmoz consulting specialises in data research collection and data analysis for academic and for business purposes. The company was selected because it has the capacity of technology, and the database of the population required for the current study. The online-based survey instrument was loaded on the podium that Osmoz consulting uses. The data collector (Osmoz consulting) had a database of low-income consumers who earn ZAR3000 - ZAR6000 in a month who are regarded as the target population of this study. The earning amount of ZAR3000 - ZAR6000 per month was used as a screening question for an individual to participate in the study. An email that comprised of the Lime survey to the online questionnaire was forwarded to participants from Osmoz's database. The email to participants contained the needed information concerning the objectives of the study, benefits, and ethical information concerning confidentiality. The researcher required the individual respondent's consent by requiring the respondent to read, understand the information sheet and to sign the consent form. According to Zikmund *et al*. (2016), a respondent's consent is reached when the participant has understood what the research and researcher wants them to do.

4.3.2 Secondary Data

Secondary data was also analysed for the study. Secondary data, in other words, is second-hand data that was collected by another researcher or institution for other purposes (Ngulube, 2020). The secondary data can also be further categorised into electronic data based, and paper sources (Wyse, 2016). In this research study, both paper based data that include: research journals, articles, and

academic books, as well as electronic sources such as: internet news, and online published articles were used to develop the literature review for the study (Laher, 2016). The secondary data is also useful because it provides in-depth understanding of theoretical concepts contained in the study (Laher, 2016). Secondary data collection has several advantages that include the following: it is easy to access, secondary data is cheaper, faster and a shorter period of time is needed when gathering information (Ngulube, 2020). Additionally, using secondary data needs no expertise or less required knowledge from the researcher, and it is trustworthy regarding ethical practices as it was recommended or organised for other research studies (Berg & Lune, 2017). However, the information collected from secondary sources may be irrelevant to the problem at hand or unsuitable to the current study. It may also lack detailed information that fulfils the goal of the researcher (Saunders, Lewis & Thornhill, 2019).

The primary and secondary data collection methods have been discussed in the above section. The next section will provide research design discussion.

4.4 Research Design

A research design is the structure or layout for the research project, employed to assist in formulating the data collection and analysis (Creswell, 2018). The selection of the research design in this study is based on the identified problem as well as the research objectives. This research represents a descriptive study, attempting to clarify factors influencing consumer purchase intention towards smartphones in South Africa. The study is considered to be descriptive as it quantifies data in order to identify the characteristics of the selected respondents that are being studied (Wyse, 2016). Descriptive research is advantageous as it allows for the collection of unique data, similarly, it allows for the collecting of consumer insights of information from life experience, where other research methods cannot *(*Du Plooy-Cillers, Davis & Bezuidenhout, 2016*).*

Descriptive research provides a clear analysis of information through a survey questionnaire. A questionnaire can be described as a tool that contains a set of questions used for gathering relevant information from targeted participants (Saunders, Lewis & Thornhill, 2019). Due to the Covid-19 pandemic and the prohibition of face to face data collection, the online survey approach was appropriate in accordance with UNISA's policy (UNISA, 2020). Additionally, the advantages of online research include access to a unique population, saving time and conducting research at minimum cost (Nayak & Narayan, 2019). An external data collection company, Osmoz consulting, was recruited

for data collection. Osmoz consulting has a database of 450,000 consumers (members). Between 3 000 and 5 500 consumers fall within the stipulated inclusion criteria of low-income consumers (consumers who earn ZAR3000 – ZAR6000 per month). A total of 315 consumers were emailed at a time, requesting the consumers to complete the self-administered web-based questionnaire. The email invitation that was sent to individual participants stated the purpose of the study, the duration of the study, and also indicated that participation was voluntary and anonymous. In the email a hyperlink was provided that redirected the participants directly to Osmoz consulting's online system to complete the self-administered web-based questionnaire. It was clearly explained in the email that by clicking on the hyperlink "you agree and give your consent" to participate. A screening question was used to determine if consumers qualified to participate in the research. The qualifying question aimed to determine if consumers were in the low income group, that is, consumers who earn between ZAR3000 – ZAR6000 per month. The survey was closed as soon as the target of 300 responses was received. The responses were captured automatically on Osmoz consulting's online system as soon as the respondents completed the self-administered web-based questionnaire. The data collection process was completed over 3 months (May to July 2021).

A Quantitative research approach using the Chi-square test was used that aims at examining the relationship between variables (Maree, 2016). Leedy and Ormrod (2016) explains that quantitative research methods consists of a body of data, which can be numerically analysed. Quantitative research was appropriate for the study as questionnaires obtained the data for analysis. Following the guide of previous studies, such as Leedy and Ormrod (2016); Nachmias (2015), Du Plooy-Cillers, Davis and Bezuidenhout 2016, and Nayak and Narayan (2019), they employed similar quantitative research methods.

Based on the discussion above, Table 4.1 below provides a summary of the quantitative research process of this study.

Table 4.1: Summary of the quantitative research process

Aspect	Action considered for the study
Population	• All low-income consumers in South Africa residing in Gauteng province. Consumers that are listed on Osmoz Consulting's database of a population of 450,000 consumers.
Research instrument used	• Self-administered web-based questionnaire
Sample frame	The criteria inclusion for the sample is as follows: • Male and female consumers older than 18 and below 65 years of age; • Male and female consumers that can read, write and speak English; • Male and female consumers that have access to email and the Internet; • Male and female consumers that have the time and willingness to participate; • Male and female consumers that are on the database of Osmoz consulting.
Sampling method	• Non-probability sampling method with convenience sampling.
Sample size	• A sample size of 300 with a confidence level of 97.8%.
Data collection	• Consumers that fall within the stipulated inclusion criteria who earn between ZAR3000 - ZAR6000 per month were emailed, requesting them to complete the self-administered web-based questionnaire. • The email invitation included the purpose of the study, the duration of the study, and that participation was voluntary and anonymous. • A hyperlink was provided in the email that redirected the participants to Osmoz consulting's online system to complete the self-administered web-based questionnaire.
Data analysis	• SPSS version 27 combined with the AMOS version 18 was used to conduct various statistical tests (SEM, Cronbach's Alpha and Confirmatory factor analysis, Goodness–of-fit test, Chi-square)

The next section is the discussion of sample design for the study.

4.5 Sampling Design

Sampling involves the selection procedure of elements from a larger population in order to draw the outcome and conclusion for target population (Cooper & Schindler, 2016). Wyse (2016) go on to comment that sampling is a method of selecting partial or a limited number of elements from a complete population with similar characteristics. Sampling helps to achieve a better outcome. However, the sampling may have a limitation in such a way that the selected sampling method may be biased; either the method may not truly select the representative population and as a result lead to erroneous conclusions of the study (Wyse, 2016). In this study the sample population from the

Osmoz consulting data base was 450,000, and between 3000 and 5500 consumers fall within the low-income group who earn ZAR3000 - ZAR6000. A sample of 308 respondents participated in the study. The number was deemed appropriate for the study (Mishra & Alok, 2017).

The analysis of response rate is calculated in chapter five of in the analysis and results presentation. During selection of sampling methods, decisions are made at different stages of the sampling methods which can be used in the study.

The stages of the sampling process are presented in figure 4.3 below.

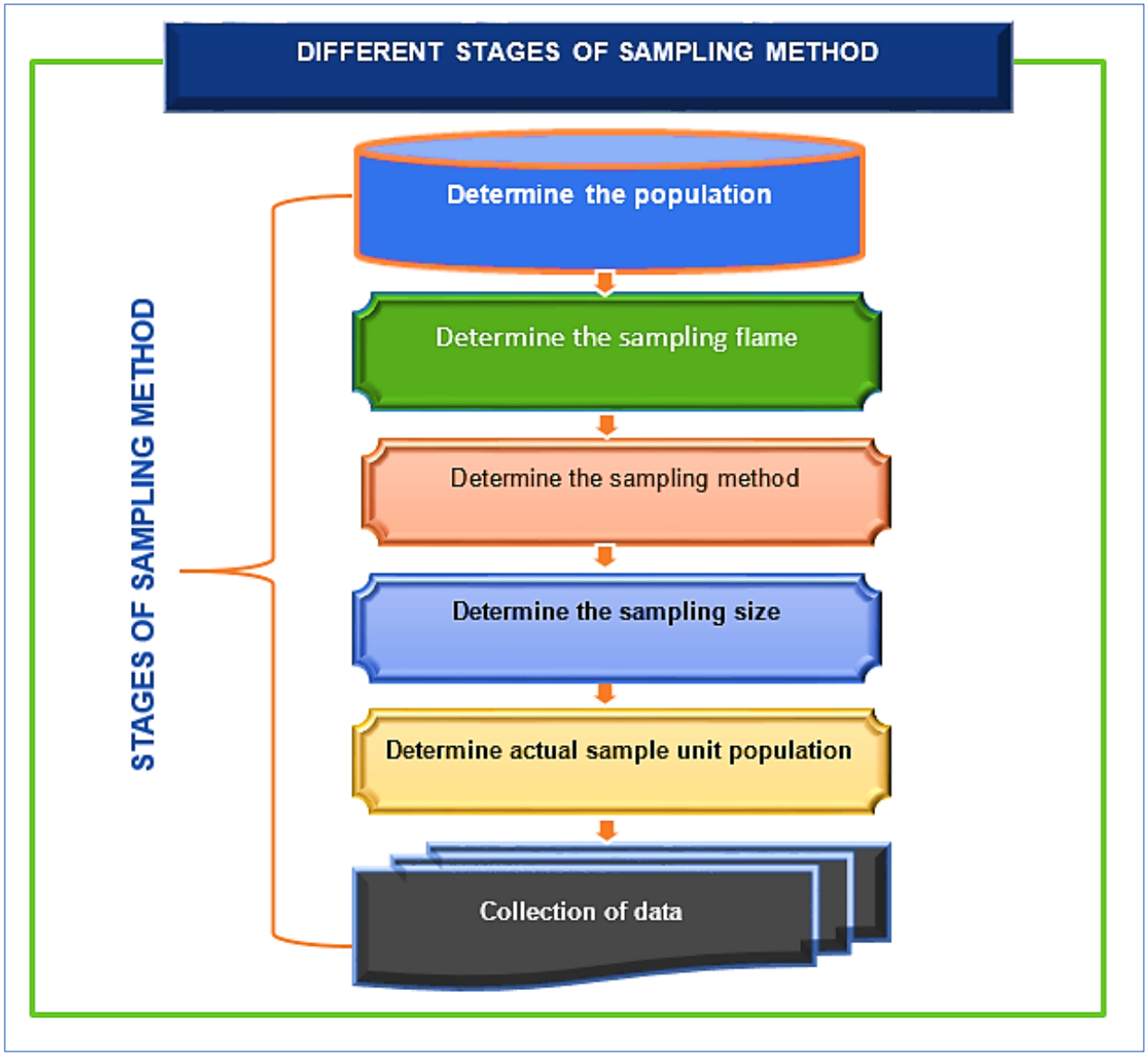

Figure 4.3: Stages of sample selection process
Source: Zikmund, G. & Babin M., (2016).

Based on figure 4.3, the sampling process is discussed as follows:

4.5.1 Target Population

A complete chosen group of elements from the entire population to be surveyed in a research study is known as the target population (Hair, Hult, Ringle & Sarstedt, 2017). Cooper and Schindler (2016) go on to comment that the target population contains the same information that the research study wants to achieve. The current study's target population selected are consumers who reside within Gauteng and are between the ages of 18 and 65 years. The target population for this study fall within the lifestyle measurement of LSM 3 - 5 and are considered low-income, earning approximately between ZAR3000 and ZAR6000 per month (UCSR, 2018; Visagie, 2016; Prahalad & Hammond, 2016).

4.5.2 Sampling Frame

Sample frame is described as a list of items in a target population (Saunders, Lewis & Thornhill, 2019). It is a complete list of everyone or everything the researcher wants to study (Cooper & Schindler, 2016). The importance of the sample frame determines the type of sample method to be drawn from the population (Saunders, Lewis & Thornhill, 2019). A list of the sample frame in this study include consumers between the age of 18 and 65 years, both male and female, and the data collector company (Osmoz consulting) who had a database of low-income consumers.

4.5.3 Sampling Method

Sampling techniques in a research study are used to draw samples from a chosen population and come up with the conclusion for the population (Berg & Lune, 2017). Cooper and Schindler (2016) state that the categories of sampling techniques, when conducting research include both probability and non-probability sampling techniques. Probability sampling method refers to the method where a sample is selected randomly from each unit of the sample, the sample has equal opportunity of being selected (Cooper & Schindler, 2016). The sampling frame of low-income consumers who intend to purchase a smartphone was a purposive sample gathered by the researcher. Purposive sampling is a sampling technique whereby the respondents are chosen deliberately based on the qualities and information they possess (Cooper & Schindler, 2016). According to Nayak and Narayan (2019), when using the purposive sampling the researcher decides what needs to be known and sets out to find

people who can and are willing to provide the information based on their knowledge or experience of the subject. Purposive sampling was chosen for this study because the researcher wants to understand the relationship between the constructs and low-income consumers; therefore have purposely targeted the low-income consumers found on the database of Osmoz consulting. However, it can also be said that the gate keeper (Osmoz consulting) provided contact details for low-income consumers. This sample frame was used as a database and each individual was sent an email of invitation to take part in an online survey. A convenience sampling method was used to target low-income consumers. The advantage of online survey is that it's cost effective, and has wider coverage. However, online surveys have low response rates due to non-delivery to email addresses (Cooper & Schindler, 2016).

Below is table 4.2 indicating a summary of stages of the sampling process with discussion for each stage.

Table 4.2: Sampling process with discussion for each stage

Stages of sampling process	Discussion for each stage
Determining the population	• Consumers who reside in Gauteng South Africa • Male and Female • Over 18 years and below 65 years of age • Consumers who earn ZAR3000 - ZAR6000 per month • Participants who have email addresses • Participants who can read and write English • Respondents already on Osmoz consulting's database
Determining parameters of interest	• Those who have the intention to purchase a smartphone • The selected respondents must answer on their capacity and behalf
Determining sampling frame	• Consumers between the age of 18 and 65 • Males and females who earn ZAR3000-ZAR6000 per month
Determining sampling method	• Non-probability sampling method, using convenience sampling
Determining sample size	• 308 (n=308) respondents
Selecting actual sample units	• Over 18 years and below 65 years of age
Collection of data	• Online survey questionnaire

4.5.4 Sampling Size

A sample size is the total number of all elements involved in the study (Du Plooy-Cillers, Davis & Bezuidenhout, 2016). The current sample size for the study was determined based on previous related studies on consumers' purchase intention. Several similar studies have used different sample sizes for the population, for instance: in a study conducted on factors affecting the purchase intention of young adult female consumers towards a smartphone brand, they used 200 participants as the sample size for the study (Brown & Nailler, 2018). For a research study conducted on factors which impact Malaysia's generation Y' towards smartphone purchase intention, researchers used a sample size of 150 (Konuk, 2019). Another research study by Rahim, Safin, Kheng, Abas and Ali (2016) on investigating the factors that have an impact on purchase intention of smartphones among university students in India used a sample size of 364. Chu (2018) on investigating South African Millennials' acceptance and use of retail and mobile banking apps, the author used a 350 sample size. Based on these previous similar studies, 308 respondents (n=308) were used in the current study and the sample size was appropriate and deemed viable. A sample size of 300 respondents is a big enough sample, according to Hair *et al*. (2020). Most quantitative technique studies require a sample size of 300 or more to enable good statistical analysis. When the research project has used a larger sample size, then, there is a higher research liability and better generalisation of the results. Therefore, the sample size of 308 for the current study is deemed good for analysis (Saunders *et al*., 2016),

The next section is the discussion of unit of analysis of the study.

4.5.5 Selecting Actual Sample Units Population

The low-income consumers were selected, surveyed and analysed. According to Du Plooy-Cillers, Davis and Bezuidenhout (2016) units of analysis are who or what is wanted for analysis in the study. Therefore, units of analysis for the current study include consumers who are over 18 years of age and are low-income consumers earning approximately ZAR3000 to ZAR6000 per month in South Africa (SAARF, 2019).

Selecting actual sample units of the population for the study has been provided and discussed. The next section is the discussion of questionnaire development and design for the study.

4.6 Questionnaire Development and Design

A set of questions were designed and aligned with the objectives. The research question for the study was “what are the factors that influence low-income consumers’ purchase intention when deciding to buy a smartphone?” The use of a questionnaire was useful because it helps to save more time during data collection; hence participants provided the answers which were applicable to them by ticking or circling (Humble, 2020). The researcher used a self-administered questionnaire to allow respondents to answer questions at their convenience and on their own accord without getting intervention from the researcher (Saunders, Lewis & Thornhill, 2019). A self-administered questionnaire, which consists of questions and statements, was used to enable the researcher to reach online respondents relatively easily and economically, and provided the researcher with quantifiable answers which are easy to analyse. The questionnaire used a five-point scale (1-5) which has 5 responses. The researcher used five-point scale (1-5) because the questions were straightforward and to the point, not needing more options for responses. The 5 (1-5) Likert scale comprised of favourable and unfavourable statements towards smartphone purchase intention. The Likert scale was purposely used to present the data in a quantitative form about the events, persons or any situation (Zikmund, 2017).

The respondents used the following ratings to answer the multiple statements shown in appendix “A”: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The questionnaire contained fact-finding questions for each of the research objectives in sections as shown below:

- In section A, the focus was identifying low-income consumers.
- Section B, contained consumer purchase intention questions.
- In section C, the focus was on various independent variables (factors) that influence purchase intention namely: family and friends, price, social factor, culture, brand name, product features, motivation, perception, attitude, and reference groups.
- Section D, contained the demographic information of the respondents.

To show the reliability and validity of the questionnaire, different authors have been adapted and adopted to assist in designing the research questions that aim at achieving the research objectives.

Below is table 4.3 showing various authors adapted and adopted from for formulating research questions.

Table 4.3: Questionnaire development and adapted authors

Construct	Item	Original construct	Cronbach's alpha	Adapted construct	Adapted authors
Purchase Intention	PI	**To measure the Purchase Intention (PI), this study adapted Norazah M.S. (2013) measurement four items that had a Cronbach's Alpha of 0.855, and one item from Nawal A, & Kishor N.,(2019) with a Cronbach's Alpha of 0.910**			
	PI1	I will try to buy luxury fashion goods in future	0.910	I intend to buy a smartphone in the near future.	Arora A.P & Kishor N. (2019); Nawal A, & Kishor N. (2015); Madden *et al*. (1992); Ajzen and Fishbein (1980); Bian & Forsythe (2012) and Summers *et al*. (2006),
	PI2	It is very likely that I will purchase a smartphone.	0.855	It is very likely that I will purchase a smartphone	Norazah M.S (2013)
	PI3 DD3	I intend to use smartphone for e-commerce	0.855	I intend to use smartphone for e-commerce	Norazah M.S (2013)
	PI4 DD5	I intend to recommend others to use smartphone	0.855	I intend to recommend others to use smartphone	Norazah M.S (2013)
	PI5 DD4	I will find more details about smartphones	0.855	I will find more details about smartphone If I intend to purchase one	Norazah M.S (2013)
Family & friends	FF	**To measure family and friends (FF), this study adapted Sangkakoon P, Ngarmyarn A. & Panichpathom S. (2015) which had a Cronbach's Alpha of 0.839.**			
	FF6	My friends and family suggested me when purchasing a house	0.839	My friends and family influence my decision in buying smartphone	Sangkakoon P, Ngarmyarn A. & Panichpathom S. (2015)
	FF7	My friends influence to choose a house that is similar in size to a friend's house	0.839	My friends and family influence my intention to purchase a smartphone that is similar in size like a friend's smartphone.	Sangkakoon P, Ngarmyarn A. & Panichpathom S. (2015)
	FF8	My friends influence me when choosing my house	0.839	My friends and family have influence on me when choosing my smartphone.	Sangkakoon P, Ngarmyarn A. & Panichpathom S. (2015)
	FF9	I would collect house information from family members	0.839	I would collect smartphone information from family members.	Sangkakoon P, Ngarmyarn A. & Panichpathom S. (2015)

Construct	Item	Original construct	Cronbach's alpha	Adapted construct	Adapted authors
Price	P	**For the measurement of price (P), this study adopted and adapted Norazah M.S (2013) four items, with a Cronbach's Alpha of 0.748**			
	P10 PR1	I am willing to buy a smartphone even though the price is higher	0.748	I will purchase a smartphone if it is priced reasonably	Norazah M.S (2013)
	P11 PR2	I will only buy a smartphone during a price reduction period	0.748	I will only buy a smartphone during a price reduction period	Norazah M.S (2013)
	P12	Price is my main consideration when deciding whether to buy a smartphone	0.748	Price is my main consideration when deciding whether to buy a smartphone	Norazah M.S (2013)
	P13 PR1	I am willing to buy a smartphone even though the price is higher	0.748	I am willing to buy a smartphone even though the price is higher	Norazah M.S (2013)
Social influence	S	**For the measurement of social influence (S), this study adopted Norazah M.S (2013a), and three items from of a Cronbach's Alpha of 0.873, and two items from Norazah M.S (2013b) with a Cronbach's Alpha of 0.722**			
	S14	I would buy a smartphone if it helped me fit in with my social group better.	0.722	I would buy a smartphone if it will help me to fit in my social group better.	Norazah M.S (2013b)
	S15	I use smartphone to stay connected with friends and family through social networking web sites (Twitter, Facebook, Myspace and etc.).	0.761	I purchase smartphone to stay connected with friends through social networking web sites (WhatsApp Twitter, Facebook, MySpace and etc.).	Norazah M.S (2013b)
	S16	The pressure from friends and family is likely influence the usage rate of smartphone.	0.722	The pressure from friends is likely influence the usage rate of smartphone.	Norazah M.S (2013a)
	S17 SI4	People around me have encouraged me to use smartphone	0.783	People around me have encouraged me to use smartphone	Norazah M.S (2013a)
Culture influence	C	**To measure culture (C), Patil H. & Kappa B. (2012)), this study adopted Patil H. & Kappa B. (2012) with a Cronbach's Alpha of 0.803**			
	C18	The religion to which we belong has a subculture which influences my cosmetics selection.	0.803	The religion to which I belong has a subculture which influences my intention to purchase a specific smartphone.	Patil H. & Kappa B. (2012)

Construct	Item	Original construct	Cronbach's alpha	Adapted construct	Adapted authors
	C19	The language and the symbols used on the package influences the selection of cosmetics	0.803	The language and symbols used on the package influences my intention to purchase a specific brand of smartphone.	Patil H. & Kappa B. (2012)
	C20	The ritual which we perform has an effect on the use of cosmetics.	0.803	The ritual which we perform has an influence on my intention to purchase a smartphone.	Patil H. & Kappa B. (2012)
	C21	One's own personal culture guides the selection of cosmetics.	0.803	My own personal culture guides me and influences the purchase of smartphone.	Patil H. & Kappa B. (2012)
Brand name	BN	**To measure brand name (BN), Norazah M.S (2013) scale was adapted. The Cronbach's Alpha of their measurement items is 0.891.**			
	BN22 BD2	I prefer to buy a trustworthy brand of smartphone	0.891	I prefer to buy a trustworthy brand of smartphone	Norazah M.S (2013)
	BN23 BD1	I prefer to buy an internationally recognized smartphone	0.891	I prefer to buy an internationally recognized smartphone brands.	Norazah M.S (2013)
	BN24 BD3	I will only buy my favourite brand of smartphone	0.891	I will only buy my favourite brand of smartphone	Norazah M.S (2013)
	BN25 BD4	Brand name is a major factor that influences my decision towards buying a smartphone	0.891	Brand name is a major factor that influences my decision towards buying a smartphone	Norazah M.S (2013)
Product feature	PF	**To measure product feature (PF), Norazah M.S (2013) scale was adapted with three items with Cronbach's Alpha of 0.939, and one item from Sainy M. (2014) with a Cronbach's Alpha of 0.832**			
	PF26	Smartphone has more applications than basic mobile phone	0.939	I will purchase a Smartphone that has more applications than basic mobile phone	Norazah M.S (2013)
	PF27	I use smartphone due to its operation system (Apple, iPhone, Blackberry, Google Android, Microsoft, or others).	0.832	I will purchase smartphone due to its operation system (Apple, iPhone, Blackberry, Google Android, Microsoft, or others).	Sainy M. (2014)

Construct	Item	Original construct	Cronbach's alpha	Adapted construct	Adapted authors
	PF28	Smartphone's internet accessibility is speedier than basic mobile phone	0.939	I will purchase a Smartphone that has fast internet access compared to a basic mobile phone	Norazah M.S (2013)
	PF29	I like smartphone's design	0.939	I will purchase a smart phone that has a good design.	Norazah M.S (2013)
Motivation	M	**To measure the consumers' motivation (M) towards smartphones, the study adapted from Joo J. & Sang Y. (2013) measure two items with a Cronbach's Alpha of 0.92, and one item with a Cronbach's Alpha of 0.92.**			
	M30	I use the iPhone because it informs me for things that happen in everyday life	0.92	I intend to buy smartphone because it will inform me for things that happen in everyday life.	Joo J. & Sang Y. (2013)
	M31	I use the iPhone because it passes the time away, particularly when I'm bored	0.94	I intend to purchase smartphone because it will pass the time away, particularly when I am bored.	Joo J. & Sang Y. (2013)
	M32	I use the iPhone in order to get information about products and services	0.92	I intend to purchase smartphone in order to get information about products and services.	Joo J. & Sang Y. (2013)
Perception	PER	**To measure the consumers' perception (PER) on smartphones, the study adapted Arora A.P & Kishor N. (2019) measure items, which have a Cronbach's Alpha of 0.874**			
	PER33 BPC!	I myself decide whether to buy luxury fashion goods or not	0.874	I myself will decide to buy smartphone.	Arora A.P & Kishor N. (2019); Francis *et al*. (2004) & Shim *et al*. (2001)
	PER34 BPC2	I have money to buy luxury fashion goods	0.874	I have money to buy smartphone.	Arora A.P & Kishor N. (2019) (Francis *et al*. (2004) and Shim *et al*. (2001)
	PER35 BPC3	For me, purchase of luxury goods is very difficult or very easy	0.874	For me, purchase of smartphone is very easy.	Arora A.P & Kishor N. (2019); Francis *et al*. (2004) and Shim *et al*. (2001)
	PER 36 BPC4	For me purchase of luxury goods is impossible or possible	0.874	For me, purchase of smartphone is possible.	Arora A.P & Kishor N. (2019); Francis *et al*. (2004) and Shim *et al*. (2001)

Construct	Item	Original construct	Cronbach's alpha	Adapted construct	Adapted authors
Attitude	ATT	**For the measurement of attitude (ATT), this study adopted and adapted Arora A.P & Kishor N. (2019) two items, with a Cronbach's Alpha of 0.911, and two items from Maichum K., Parichatnon S. & Chung Peng K. (2016) with a Cronbach's Alpha of 0.858**			
	ATT37	My attitude towards purchasing green products is positive	0.858	My attitude towards purchasing smartphone is positive.	Maichum K., Parichatnon S. & Chung Peng K (2016)
	ATT38 AT2	Luxury goods are worthless or worthwhile	0.911	Purchasing smartphone is worthwhile.	Arora A.P & Kishor N. (2019) Ling (2009); Fitzmaurice (2005); Park *et al*. (2007) and Madden *et al*. (1992)
	ATT39 AT3	Luxury goods are harmful or beneficial	0.911	Purchasing smartphone is beneficial.	Arora A.P & Kishor N. (2019) Ling (2009); Fitzmaurice (2005); Park *et al*. (2007) and Madden *et al*. (1992
	ATT40	I think that purchasing green product is favourable	0.858	I think that purchasing smartphone is favourable.	Maichum K., Parichatnon S.,& Chung Peng K,(2016)
	ATT41	I think that purchasing green product is a good idea	0.858	I think that purchasing smartphone is a good idea.	Maichum K., Parichatnon S. & Chung Peng K. (2016)
Reference group	RG	**To measure the reference group items (RG), this study adapted three items from Sangkakoon P., Ngarmyarn A. & Panichpathom S. (2015) with a Cronbach's Alpha of 0.839 and Bearden & Etzel (2015) measurement one item that had a Cronbach's Alpha of 0.893**			
	RG42	I will ask the opinion from my friends when buying a smartphone in the shop	0.893	I will ask the opinion from my friends when buying a smartphone.	Bearden & Etzel (2015)
	RG43	My friends would suggest for me when purchasing a house	0.839	My friends would suggest for me when purchasing a smartphone.	Sangkakoon P., Ngarmyarn A. & Panichpathom S. (2015)
	RG44	My friends influence me when choosing my house.	0.839	My peers influence me when purchasing my smartphone.	Sangkakoon P., Ngarmyarn A. & Panichpathom S. (2015)
	RG45	I want to be like my peers when I want to buy the same house that they buy.	0.839	I want to be like my peers when I want to buy the same smartphone that they buy.	Sangkakoon P., Ngarmyarn A. & Panichpathom S. (2015)

Construct	Item	Original construct	Cronbach's alpha	Adapted construct	Adapted authors
	RG46	I often identify with other people by purchasing the same smartphone and brands they purchase.	0.839	I often identify with other people by purchasing the same smartphone brands they purchase.	Sangkakoon P., Ngarmyarn A. & Panichpathom S. (2015)
	RG47	I achieve a sense of belonging by purchasing the same smartphone and brands that others purchase.	0.839	I achieve a sense of belonging by purchasing the same smartphone brands that others purchase.	Sangkakoon P., Ngarmyarn A. & Panichpathom S. (2015)
	RG48	I like to know what brands and smartphone make good impressions on others.	0.839	I like to know what brands of smartphone make good impressions on others.	Sangkakoon P., Ngarmyarn A. & Panichpathom S. (2015)

Sources: Sangkakoon P, Ngarmyarn A. & Panichpathom S., (2015)

The above table presented the questionnaire development and adapted authors (Sangkakoon, Ngarmyarn & Panichpathom, 2015). It is important to discuss the pre-testing of the questionnaire to test the reliability and effectiveness in order to see if there is validity before conducting the main study.

Pre-testing of the research instrument will be discussed in the next section.

4.7 Pre-testing of Research Instruments

Pre-testing, also known as the pilot study, involves testing and refining aspects of questions before conducting the final research study (Nayak & Narayan, 2019). For the purpose of determining the questionnaire's effectiveness for the study, pre-testing was used to determine weaknesses and strengths of the questions regarding the format, order and wording. Pre-testing was done when the draft of the questions were developed. Pre-testing is a continuous process that allows the researcher to test, improve and review each question so that it does not contain ambiguous words and unclear sentences (Mishra & Alok, 2017). The questionnaire was developed with the guide of other scholars and researchers who carried out similar studies and the instrument was pilot tested with minor challenges experienced. In this study 10 respondents were pre-tested to test the time that a participant will take to complete the questionnaire. Additionally, the pre-testing was done to gauge the cost, understanding of the questions and evaluate of sample visibility (Sekeran & Bougie, 2016).

4.8 Data Analysis of the Research

The data analysis is presented and discussed from the use of primary data collected to answer the research questions and objectives of the study (George & Mallery, 2019). The data presentation and findings of the study were done to explore the similarities and differences, and specific item peculiarity in order to make them sensible and observable (Mishra & Alok, 2017).

During primary data collection, the researcher used Osmoz consulting's database which has 450,000 consumers. From this database, 3,000 to 5,500 consumers fall within the low-income consumer group which are the target population of the study. An email invitation was sent to potential participants at a time requesting them to complete the self-administered web-based questionnaire. The email also included the information to provide the purpose of the study, the duration of completing the questionnaire, and also indicated that the participation in the study was anonymous and voluntary. In the email, a hyperlink was provided to redirect the participants to Osmoz consulting's online system that allowed them to complete the web-based questionnaire. It was clearly indicated in the email that by clicking on a hyperlink "you agree and give your consent" to participate in the study. The responses from participants were automatically captured on Osmoz consulting's online system after the completion of the self-administered web-based questionnaire. The data collection process took over 3 months (May to July 2021) to complete.

The presentation of the data analysis and research findings of the study will be discussed in detail in chapter five of this study document. The study used a quantitative research method and employed SPSS version 27 combined with AMOS version 18. Both are statistical analysis tools that provide comprehensive descriptive statistics of the constructs, and structural equation modelling. The significant differences of variables for the study were tested using Goodness-of-fit test that will indicate the relationships, and forecast the degree or extent of influence on another variable. The chi-square was used to test the influence on the structural model development.

The discussion below includes descriptive statistics, structural equation modelling, exploratory factor analysis, and confirmatory factor analysis followed by goodness-of-fit used for the study.

4.8.1 Descriptive Statistics

Descriptive statistics provide meaningful information and summarises the characteristics of a large set of data (Bono, Arnau, Alarcón & Blanca, 2020). Descriptive statistics indicate the summary of characteristics that allows the researcher to have measurements of central tendency, measurement of percentages, dispersion, and statistical tests. Central tendency presents the average (mean) which is the values added up divided by the number of observations in a data set. The median, which is the 50% mark of observations; the frequency which indicate the number of times each value appears within a data set. The mode is the value which occurs most often (Nayak & Narayan, 2019). The dispensation measurements indicate how data is spread around central tendency measurements, and include the differences between highest and lowest value in the dispensation which are known as the range, variance, and standard deviation (Hair, Hult, Ringle & Sarstedt, 2017). The standard deviation answers the questions such as how different are the individual scores from the mean of the group? Or where the standardised value is allocated from the mean of each individual response? (Bono, Arnau, Alarcón & Blanca, 2020).

Skewness is defined as a measure of the degree on how lop-sidedness in the frequency distribution appears (Bono, Arnau, Alarcón & Blanca, 2020). The skewness indicates that both left and right sides are not equal according to the central point. It is an indicator of lack of balance or steadiness (WowEssays, 2019). The interpretation of skewness as an indicator for distribution analysis, showing the asymmetry and a normal distribution deviation is as follows:

- If the skewness value is above 0, it is called right-skewed distribution, this means that most of the values are to the left of the mean.
- If the skewness value is less than 0, it is called left-skewed distribution, meaning that most values are to the right of the mean, and
- If the skewness is at 0, it shows that mean is equal median, meaning that the distribution is symmetrical around the mean

On the other hand, kurtosis is the measurement of the tiredness degree in the frequency distribution (WowEssays, 2019). The Kurtosis represents the peakedness of the set of values that appear on a distribution graph (Bono, Arnau, Alarcón & Blanca, 2020). The interpretation of kurtosis is as follows:

- If the value of kurtosis is above 3, it is called leptokurtic distribution, sharper than a normal distribution with values focussed around the mean and has thicker tails. This means that there is a higher probability for extreme values.
- If the value of kurtosis less than 3, it is called platykurtic distribution, and is flatter than a normal distribution with a wider peak. The probability for extreme values is less than in a normal distribution. The values are wider spread around the mean.
- If the value of kurtosis is equal to 3, it is known as mesokurtic distribution, meaning that there is normal distribution.

4.8.2 Structural Equation Modelling (SEM)

Hair (2020) indicates that structural equation modelling is the combination of factor analysis and multiple regressions used for testing and demonstrating methodology, and assessing and testing a linear relationship between measured variables and latent constructs. The structural modelling analysis for the current study is based on the proposed conceptual model presented in Figure 3.1 in chapter 3 that will be tested in chapter five.

The researcher will employ IBM SPSS version 27 and AMOS 18 to test the structural model. Following the recommended procedure pronounced by Humble (2020), the measurement model will be first evaluated for its validity, and afterwards the structural model will be assessed to test the paths of significance and coefficient to determine the outcome of the variables.

During the application of SEM, the evaluation of Goodness-of-fit of the conceptual model with the data becomes the critical step. According to Shi, Lee & Maydeu-Olivares (2019), the maximum likelihood ratio (LR) statistical test is for assessing the goodness of fit for the model. The asymptotically statistics test follow the central chi-square distribution, assuming that the conceptual model is correctly quantified. Thus, the chi-square test purposely evaluates the fitness of a model by using the null hypothesis significance approach (Shi, Lee & Maydeu-Olivares, 2019). In practice, the conceptual model, which is in consideration, will always become incorrect to some point and, as the result, the chi-square test tool of exact fit often rejects the null hypothesis; particularly in large samples of data, and also when the hypothesised model is insignificant. As such, the use of goodness-of-fit measurements comes in with an attempt to provide additional information about the importance of the hypothesised model when the solution is achievable and gives a comprehensive explanation of data as well.

The above section discussed the structural equation modelling (SEM), and the next section is the discussion of exploratory factor analysis (EFA).

4.8.3 Exploratory Factor Analysis (EFA)

According to Hair, Hult, Ringle and Sarstedt (2017) exploratory factor analysis (EFA) is a statistical technique used to discover the essential structure of a comparatively large set of variables. EFA is a technique within factor analysis whose main goal is to identify the causal interactions among measured variables (Sekaran & Bougie, 2016). EFA is ordinarily employed by researchers when developing a scale and supports to ascertain a set of dormant constructs underlying a set of measured variables. The EFA technique is more accurate when each factor is characterised by numerous measured variables in the analysis (Humble, 2020). EFA is known as a data-driven technique as compared to confirmatory factor analysis (CFA), which is a theory-driven technique. EFA is a classical formal measurement model that is used when both observed and latent variables are assumed to be measured at the interval level. The usage of EFA or CFA should be considered and chosen according to the aim of a study (Humble, 2020). According to Bono, Arnau, Alarcón and Blanca (2020) factors are extracted by the maximum likelihood method and rotated by varimax rotation. The characteristic of EFA is that the observed variables are first standardised (mean of zero and standard deviation of 1). EFA is executed on the correlation matrix between the variable items. Nayak and Narayan (2019) says that, in EFA, a latent variable is known as a factor and the relationship between dormant and experiential variables are known as factor loadings. EFA is regularly used in the multi-dimensional

situation, and factor loadings use standardised regression weights where more than one latent variable is measured at the same time.

Below is the discussion of confirmatory factor analysis.

4.8.4 Confirmatory Factor Analysis (CFA)

CFA is a multivariate statistical practice used for testing how well the measured variables denote the number of constructs (Hair *et al*, 2017). CFA and EFA are similar techniques, however, in EFA, data is explored and provides information about the number of factors required to represent the data. In EFA, all the variables that are measured are associated with each and every latent variable. In CFA, researchers can postulate the required number of factors in a data set where a measured variable is linked to which latent variable. Similarly, CFA confirms or rejects the measurement theory (Hair *et al*, (2017). CFA is the step of SEM that deals with the measurement of models indicating the relationships between observed measures or indicators and latent variables or constructs (Sekaran & Bougie, 2016). In this study, in chapter five the results and interpretation, shows the confirmatory factor loadings of items of variables namely: family and friends, price, social, culture, brand name, product feature, motivation, perception, attitude, and reference group that were used to express influence of purchase intention.

4.8.5 Variance Explained

Mishra and Alok (2017) indicated that variance explained is a good indicator of the quality or explanatory power of the theory used in the study. It demonstrates how much influence the independent variables have on the dependent variables. In variance explained, a higher percentage shows that there exists a stronger relationship. Furthermore, the researcher can make better estimations and predictions. However, variance explained does not expound on the relationship that was significant.

R-squared (R^2) is a statistical measure that signifies the amount of the variance for a dependent variable that is described by an independent variable or variables in a regression model (Hair *et al*, 2017). R-squared defines to what degree the variance of one variable is to another variance of the variable. So, if the R^2 of a model is 0.50 for example, then approximately half of the observed variation can be described by the model's responses. According to Humble (2020), the variance explained is

assessed through regression of the original, and weighted least square known as R- Square (R^2). The latter is a statistic that explains the amount of variance accounted for in the relationship between 2 or more variables. Sometime R^2 is called the coefficient of determination, and it is given as the square of a correlation coefficient. The R-squared value above or equal to 0.5 is generally considered a moderate effect size, and above 0.7 is considered a strong effect size (Mishra & Alok, 2017).

4.8.6 Goodness-of-Fit Indices

The goodness-of-fit of a statistical model describes how well it fits a set of observations (Hair *et al*, 2020). Measures of goodness-of-fit typically summarise the discrepancy between observed values and the values expected under the model in question. Such measures can be used in statistical hypothesis testing, e.g. to test for normality of residuals, to test whether two samples are drawn from identical or whether outcome frequencies follow a specified distribution. In the analysis of variance, one of the components into which the variance is partitioned may be a lack-of-fit sum of squares.

In reference to model fit, researchers use numerous goodness-of-fit indicators to assess a model. Some common fit indices are the Normed Fit Index (NFI), Non-Normed Fit Index (NNFI), also known as (TLI), and Incremental Fit Index (IFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA) (Humble, 2020). The wellness of different indices with different sample sizes, types of data, and ranges of acceptable scores are the major factors to decide whether a good fit exists. Starting with CMIN/DF, also called normal chi-square, normed chi-square, or simply chi-square to df ratio, is the chi-square fit index divided by degrees of freedom. This norming is an attempt to make model chi-square less dependent on sample size.

The Comparative Fit Index, CFI, also known as the Bentler Comparative Fit Index, compares the existing model fit with a null model which assumes the indicator variables (and hence also the latent variables) in the model are uncorrelated (the "independence model"). CFI varies from 0 to 1. CFI close to 1 indicates a very good fit. By convention, CFI should be equal to or greater than 0.90 to accept the model, indicating that 90% of the covariation in the data can be reproduced by the given model. Normed Fit Index (NFI) was developed as an alternative to CFI, but one which did not require making chi-square assumptions. "Normed" means it varies from 0 to 1, with 1 = perfect fit. NFI reflects the proportion by which the researcher's model improves fit compared to the null model (uncorrelated measured variables). Tucker-Lewis Index (TLI) or Non-Normed Fit Index, is similar to NFI, but

penalises for model complexity. Saunders, Lewis and Thornhill, (2019)) found TLI to be relatively independent of sample size. TLI close to 1 indicates a good fit. Rarely, some authors have used the cut-off as low as 0.80 since TLI tends to run lower than GFI. However, more recently, Hair *et al*. (2020) have suggested TLI >= 0.90 as the cut-off for a good model fit and this is widely accepted as the cut-off. TLI values below 0.90 indicate a need to specify the model. Root Mean Square Error of Approximation (RMSEA) is a popular measure of fit, partly because it does not require comparison with a null model. It is one of the fit indexes less affected by sample size, though for smaller sample sizes it overestimates goodness-of-fit. By convention (Hair *et al*., 2019) there is good model fit if RMSEA is less than or equal to 0.05, there is acceptable fit if RMSEA is between 0.06 – 1. Since GFI tests can yield meaningless negative values, it is not any more preferred indices of goodness-of fit and no more reported in many studies. However, its cut-off is > 0.90.

In order to assess the maximum correctness, and accuracy in terms of legibility, comprehensiveness, consistence and clarity or ambiguity, first the researcher conducted the following quantitative tests, summarised in Table 4.4 below.

Table 4.4: Summary of statistical analysis tools

STATISTICAL TECHNIQUE / TOOL	MAIN USES	PURPOSE
• Descriptive statistics	To measure the mean and standard deviation of responses on items.	Assesses if data can be subjected to Structural Equation Modelling (SEM)
• Exploratory Factor Analysis (EFA)	To test the validity of the instrument and assess the level of random errors.	
• Confirmatory Factor Analysis (CFA) / Measurement model	To deal with the measurement models – measures the relationships between observed measures or indicators and latent constructs or variables. To assess how study variables come together to explain the proposed model	
• Cronbach Alpha, and Composite reliability	To test internal consistency of data - shows reliability of the instrument of the research.	
• Average variance extracted (AVE)	To measure amount of variance assumed by a construct relative to the amount of variance due to measurement error.	
• Structural model	. To assess how constructs relate to each other, approval and disapproval of hypotheses.	For approval or disapprove of the items
• Goodness of fit index (GFI)	To test the fraction of variance that is accounted for by the estimated population covariance	
• Adjusted goodness of fit (AGFI)	To adjust the GIF based on the degree of freedom.	

STATISTICAL TECHNIQUE / TOOL	MAIN USES	PURPOSE
• Tucker-Lewis index (TLI)	Penalises for model complexity and is relatively independent of sample size.	For assessing the fit of the measurement and structural model
• Comparative fit index (CFI)	Is a revised form of the NFI, which takes cognizance of sample size.	
• Root mean square error of approximation (RMSEA)	To test how the model fit the population covariance matrix.	
• Chained multilateral index number (CMIN/DF)	To ensure model analysis is less dependent on sample size.	
• Comparative fit index (CFI)	Is a revised form of the NFI, which takes cognizance of sample size.	

Sources: Hair *et al*., 2019; Saunders *et al*., 2019; Zikmund *et al*., 2016.

Table 4.4 above is the summary of statistical analysis tools, detailed discussion of the statistical tools will be discussed in chapter five of the study. The next discussion is research reliability followed by validity of the study.

4.9 Validity and Reliability

In research study, rigidity is determined by assessing the reliability and validity of the measurement instruments used in the gathering of data from respondents (Schindler, 2019).

4.9.1 Reliability

Reliability in a research study is described as the internal consistency of research constructs (Mishra & Alok, 2017). It is vital that the measurement instrument for data collection is measured to see the reliability of data by using pilot study before main research takes place (Humble, 2020). The purpose is to assess whether the questionnaire contains errors, time of completion and ambiguity of the terms used. The researcher used the Cronbach alpha techniques in order to determine the consistency of the internal scale (Schindler, 2019).The consistency of the questionnaire refers to testing if the questionnaire is trustworthy and that it yields the identical results every time with similar conditions (Maree, 2016). The reliability of the current study uses Cronbach's alpha to determine the level of research constructs. Cronbach's alpha goes up as the inter-correlation among the tested items of the study constructed (Jones, 2016). The increase in value develops when all constructs are measured by the same items that result in maximising the test items. The coefficient values of Cronbach's Alpha

starts from 0 to 1 and the value of 0.7 is higher showing high internal consistency. According to Nayak and Narayan (2019) the rule of thumb of internal consistency is used by Cronbach's Alpha to indicate whether the construct measurement is unacceptable, poor, acceptable, good or excellent as demonstrated in table 4.5 below in Cronbach's alpha.

Table 4.5: Cronbach's Alpha

Cronbach's Alpha	Internal consistency
a<0.5	Unacceptable
0.5≤a<0.6	Poor
0.6≤a<0.7	Acceptable
0.7≤a<0.9	Good
a≥0.9	Excellent

Source: Berg, B.L. & Lune, H., (2017)

4.9.2 Validity

The research validity entails the accuracy of measuring constructs using a scale to a similar given period of time (Berg & Lune, 2017). Validity means the accuracy and correctness of data which is aligned with the research. Validity measures the relationship between the research instrument and constructs that are being measured for particular results (Nayak & Narayan, 2019). Neuman (2016) agrees by saying that the measurement of validity is the degree to which an empirical indicator relates to the conceptual description of the construct intended to measure. The validity of this study aimed at measuring the accuracy of what was supposed to be measured, especially the understanding of the constructs. Additionally, validity also involved the approval of the research questionnaire by using a pilot study before data collection of the main research (Nayak & Narayan, 2019). Furthermore, the questionnaire was screened by research supervisors and Ethical research committee of College of Economic and Management Sciences (CEMS) at the University of South Africa before commencement of the data collection for the main study.

Various common validity techniques are used to access the measurement instrument that include; content, construct followed by criterion validity.
The types of validity are discussed as follows:

- **Content Validity**

Content validity is discussed as the degree to which the total discrepancy or variance of the sample from questionnaire is related to the total discrepancy of the target population at task. The content validity include: face validity, factorial validity and sample validity. Laher (2016), described face validity as the relationship in regards to similarities or the correlation between the description of concepts by the researcher and the categories that are measured. In this current study, the face-to-face validity defines whether the questions are valid; can the respondent complete it (Saunders *et al*., 2016). The sample validity shows the content of the information that is obtained from the questionnaire. Lastly, factorial validity shows the correction between the common factor and the questionnaire used (Laher, 2016). Humble (2020) agrees that there is correlation between common factors and questions which is measured by means of the questionnaire.

- **Construct Validity**

Construct validity produces the relation of assumptions which are supported by theory and the research concept (Hair, Hult, Ringle & Sarstedt, 2017). In order to ensure that construct validity has been used in the current study, the development of the questionnaire items aligned with the theoretical review from various previous related studies on the factors that influence the consumer's behaviour. A pilot study was conducted to test the understanding of the questionnaire; whether it contained ambiguous words, to measure the duration taken when answering the questionnaire and the correction of errors contained in the questionnaire before the main study (Wyse, 2016). The questionnaire development went through a process of screening by the research supervisors, the research ethical committee, and research experts for validation before data collection.

- **Discriminant Validity**

Discriminant validity is the extent to which a latent variable or construct discriminates from other latent variables (Taherdoost, 2016). Discriminant validity analyses data to the extent where varied hidden or dormant variables are excluded (Wyse, 2016). A variable is considered valid when its variance shows a hidden exclusive variable leaving all non-exclusive variables (Zikmund & Babin, 2017). There is a need for comparing AVEs to the collective variance to verify the validity of the discriminant validity (Zikmund & Babin, 2017). The discriminant validity is gauged when the AVEs is more than the common variance (George & Mallery, 2019). Table 5.16 shows the discriminant validity of variables in the

research models. Discriminant validity was assessed by comparing correlations between all pairs of constructs with the square root of AVE of each construct (Malhotra *et al*., 2017). The square root of the AVE is expected to be above the inter-construct correlation coefficients. The inter-correlations that are greater than the square root of AVE is indicative of poor discriminant validity between the constructs involved. The results of discriminant validity are presented in chapter five. See Table 5.21 correlation metric to assess the discriminant validity.

- **Criterion Validity**

Criterion validity measures the correction of other standard measurement of interrelated or similar constructs (Saunders, Lewis & Thornhill, 2019). In this study, there was no other standard measure of similar items available, thus, the researcher did not use criterion validity. Therefore, to ensure that the data which was collected was accurate, the researcher used both reliability and validity in this study (Zikmund & Babin, 2017).

The next section is the discussion of research limitation.

4.10 Limitation of the Study

Several limitations were identified which are discussed below:

- The research focused on 10 factors that were identified: family and friends, price, social factor, product features, brand name, culture, perception, attitude, motivation and reference groups that may influence consumer purchase intention. However, there may be several additional factors that have not been identified that may also influence the consumer.
- The single geographical area of Gauteng, South Africa was chosen to conduct this study as it was expensive to cover wider regions and, as such, choosing a single geographical area may not be representative and accurate enough to generalise for the population.

The next section is ethical consideration that entails the procedures to be followed before and during conducting the survey.

4.11 Ethical Consideration

Research's ethical consideration takes into account the risks, concerns and conflicts that may arise during the research project. It is therefore vital to balance and carefully consider the rights of the participants and the information needed to be obtained (Neuman, 2016). Ethical practices in the research study include transparency and integrity from the researcher, voluntary participation and confidentiality of the respondent's information (Saunders, Lewis & Thornhill, 2019). Therefore, the researcher took careful consideration of all ethical aspects that might have been encountered during the research process.

Below are the ethical considerations that were supported in this research and accounted for:

a) **Informed consent:** The informed consent in a form that was given to the respondents about the study, identifying steps to be considered in order to protect the respondent's confidentiality, its objectives, and benefits of voluntary participation (Silverman, 2015). Before receiving a link to access the online based questionnaire each respondent had to give their permission. Participants were free to stop the survey at any time they wished to.

b) **Authorisation to conduct the study**: Prior to data collection, the researcher was given an official ethical clearance certificate from Research Ethics Review Committee (RERC) in the marketing and retail management department of the College of Economic and Management Sciences (CEMS) at the University of South Africa to ensure that a research study is ethical.

c) **Approval of research instrument:** The University of South Africa's ethical research committee approved the research instrument that includes interview questions used in the study.

d) **Privacy of the respondent's information:** Private information is defined as the individual's right to control their information; to not have it shared with the public or with the next person (Mishra & Alok, 2017). In this study, personal information for all participants will remain anonymous and is only meant to be used for this research study.

e) **Safety from respondent's emotional harm:** According to Berg & Lune (2017), emotional or physical harm as the unfriendly effect on the participant's body or mind that exceeds one's coping

ability. The current study had no emotional or physical harm that the participants were exposed to during the online survey process of data collection.

4.12 Summary

In conclusion, the methodology chapter has been discussed to provide guidance for selecting an effective research methodology that was used to select the research design and methods of collecting both primary and secondary data. The onion research model and its various layers was introduced and discussed. Quantitative research using descriptive design was considered for the study. Non-probability method using the convenience sampling method was chosen to be appropriate for the study. The specific research instrument development and pre-testing, using a questionnaire, was highlighted. The chapter also dealt with reliability and validity, statistical techniques for data analysis that include descriptive analysis, inferential analysis, and scale measurement. The data was collected using a web-based survey questionnaire and was coded into (SPSS) scientific data analysis software. Finally, chapter four provided a discussion of the ethical consideration for the study to make sure that the current study is ethically conducted.

The next chapter is the presentation of the research findings, and the result analysis derived from the web-based questionnaire responses.

CHAPTER FIVE: DATA ANALYSIS AND INTERPRETATION

5.1 Introduction

The previous chapter outlined the research methodology that was used in this study. The chapter provided a discussion regarding the way in which the data was collected, cleaned and edited in preparation for the analysis and interpretation of the results. The focus of the current chapter is the analysis and interpretation of the data that has been collected. The findings of data and analysis obtained from the online questionnaire survey are presented in the current study. Descriptive analysis as well as confirmatory factor analysis with structural equation modelling, validity and reliability that was conducted on the data will be discussed in detail. To get findings and the analysis of data, structural equation modelling (SEM) analysis was conducted using IBM SPSS AMOS version 27. SEM represents a flexible and comprehensive methodology for representing, estimating, and testing a theoretical model with the objective of explaining as much of their variance as possible (Ramlall, 2017). The statistical analysis such as the Goodness-of-fit test was used to test the hypothesis of the study, and the chi-square test measured the relationship of the variables. The purpose of SEM analysis is to evaluate the structural relationships of the variables specified on the conceptual model. Confirmatory factor analysis (CFA), reliability, convergent validity, discriminant validity and the structural model analysis are discussed. The study aimed to determine the factors that influence the purchase intention of smartphones by low-income consumers in Gauteng, South Africa in order to better serve the needs of these consumers.

5.2 Response Rate

The response rate is defined as the percentage of chosen representatives (respondents) who completed the survey questionnaire appropriately (Schindler, 2019). To achieve a high quality of research and results that are representative of the target population, the measurement of the research response rate must be high (Ozturk & Karakaş, 2016; Pew Research Center, 2018). This is supported by Mishra and Alok (2017) that a response rate of 70% and above, on data collecting instruments administered and returned or targeted participants' response, is considered to be satisfactory and acceptable.

The calculation of the response is calculated as follows:

$$\text{Response rate} = \frac{\text{Number of responses}}{\text{Number of questionnaires distributed}}$$

$$= 308 / 315$$

$$= 0.9777$$

$$= 97.8\%$$

A response rate of 97.8% was attained in this study and is both satisfactory and acceptable for further data analysis to take place.

The data set was cleaned before any form of analysis was applied and data screening checks were conducted to ensure data reliability, validity and usability before subjecting it to other statistical tests. The respondent consent cover letter was used before completing the questionnaire to explain the purpose of the study. Furthermore, the questionnaire survey was conducted anonymously, which led to them yielding truthful answers (Ozturk & Karakaş, 2016).

5.3 Overview of Research Objectives

In this study, the research methods that were used to collect and analyse data were selected in line with the aims and the objectives of the current study. The analysis and presentation of results in chapter five is premised on the objectives of the study.

The primary objective of this research study is to determine the factors that influence the purchase intention of smartphones by low-income consumers in Gauteng, South Africa to better serve the needs of these consumers.

The secondary research objectives for the research study are as follows:

- To determine if external factors (family and friends, price, social status, culture, brand name, product features and reference group) influence purchase intention of low-income consumers; and
- To determine if internal factors (motivation, perception, and consumer attitude) influence the purchase intention of low-income consumers.

The next section addresses the descriptive statistics that include the demographical characteristics of the respondents.

5.4 Descriptive Statistics

The descriptive analysis is essentially focused on the summarisation and analysis of the data gathered from the questionnaire survey for the study (Schindler, 2019). This section begins with the discussion of demographic characteristics of respondents of the sample followed by the discussion of the central tendency measurement of constructs (purchase intention, family and friends, price, social, culture, brand name, product features, motivation, perception, attitude, and reference group) of this study. The descriptive analysis measurement was determined across all the scaled items used for the study. Given that the questionnaire used a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree, this suggests that higher mean values are associated with positive factors influencing the purchase intention of smartphones amongst low income consumers.

5.4.1 Demographic Characteristics of Respondents

This section presents the profile of the respondents. Demographic information about the respondents for the study is important for analysis in order to determine the characteristics of the respondents (Ragab & Arisha, 2017). In the field of consumer behaviour knowledge, it is important to understand the population's demographic characteristics since the details institute market segmentation variables (Kotler & Armstrong, 2018). The current study measured demographic variables which are gender, age group, and highest level of education. The demographic results are presented below.

5.4.2 Gender of the Respondents

Section "D" of the web-based questionnaire (Question 4, Appendix "A") focused on collecting demographic information of participants. Respondents were asked in a question (Question 4) to indicate their gender (Table 5.1 portrays respondent's gender). The gender was important as it gives a clear picture of the participants.

Table 5.1: Gender of the respondents

	Frequency (n)	Percentage (%)
Male	108	35,1
Female	193	62,7
Prefer not to say	7	2,3
Total	**308**	**100**

The sample consisted of 308 respondents. The findings for gender in Table 5.1 indicate that the majority, 62,7% (n=193) of the respondents were female while 35,1% (n=108) of the respondents were male, and 2,3% (n=7) preferred not to say what their gender is. The age of participants is discussed in the section below.

5.4.3 Age Group of the Respondents

Respondents were asked to indicate their age group. In accordance with the defined target population, participants are defined as low-income consumers above 18 and below 65 years old. Age was considered to be one of the ethical considerations for the current study. To know age group of the respondents, descriptive statistics were utilised. The purpose was to determine how age influences low-income consumers' purchase intention of smartphones and how this differs across various demographic age groups. Participants below 18 years of age and above 65 were excluded in this study. The age group was important as it gives a clear picture of who the participants are.

Table 5.2: Age group of respondents

	Frequency (n)	Percentage (%)
18 - 20	92	29,9
21 - 30	191	62
31 - 40	25	8,1
41 - 50	0	0
51 - 65	0	0
Total	308	100

The results above (See Table 5.2) show that the majority of respondents were aged between 21-30 years (62%, n=191). The second age groups were between 18-20 years (29,9%, n =92), and 8,1% (n= 25) of the respondents were between 31-40 years. The results indicate that the larger part of respondents were Millennials born between 1980/1982-1995/1996, who are between the ages of 25 and 40 (GFK South Africa (2020). According to Gill,2016), Millennials are individuals born between 1981 and 1996, which means anyone between the ages of 25 and 40 in 2020 entering adulthood during the 21st century, brought up with smartphones and the Internet, evaluated as ‘tech-savvy’, accustomed to using smartphones (Statista, 2019). GFK South Africa (2020) stipulates that Millennials

form the fundamental age group for use of smartphones. They tend to spend the most money yearly on electronic devices as compared to other age groups (Euromonitor, 2020).

The level of education of participants is discussed below.

5.4.4 Highest Level of Education of the Respondents

A higher level of education implies a better appreciation or understanding of business activities, strategies and initiatives (Council of Higher Education, 2020). To determine the level of education descriptive statistics were utilised. The purpose was to determine participant's level of education. In this study participants were asked to indicate their highest level of education (Question 6). Table 5.3, shown below, highlights the finding of the highest level of education of the participants who participated the study.

Table 5.3: Highest level of education of respondents

	Frequency (n)	Percentage (%)
Grade 9 and above	6	1,9
Matric	127	41,2
College Diploma	63	20,5
University Diploma	21	6,8
Bachelor's degree	89	28,9
Post-grad Diploma / Honours	2	0,6
Total	308	100

The results in Table 5.3 illustrate that 41,2% (n=127) of the respondents are Matric certificate holders, 28,9% (n=89) hold a bachelor degree (1st degree holders), 20,5% (n=63) of respondents were college diploma holders while 6,8% (n=21) were university diploma holders and 1,9% (n= 6) were those with only grade 9 and above.

5.5 Central Tendency Measures

Central tendency measures were conducted to assess how centred the distribution of the constructs involved in the study is. Central tendency is important when looking at single values in the dataset, and this allows investigating the distribution of the data (Hair, 2020). The central tendency measure that was conducted in this study focused on the mean, median, standard deviation. By definition the

mean score represents the average score across the dataset based on the responses that were given by the respondents (Hair, Hult, Ringle & Sarstedt, 2017). The median states that if responses were placed in chronological order, the median shows to what proportion does half of the dataset/responses or respondents fall under i.e. it occupies the location at which the middle value is located in a dataset that is ordered in ascending order (Hair, Hult, Ringle & Sarstedt, 2017). The standard deviation is a measure of how far a set of data deviates from its mean (Schindler, 2019).

A five-point Likert scale, where the value 1 corresponds to “Strongly disagree” and the value 5 corresponds to “Strongly agree”, was used to measure the following concepts: Purchase Intention, Family and Friends, Price, Social, Culture, Brand Name, Product Features, Motivation, Perception, Attitude and Reference Group.

The mean point of a five-point Likert scale is 2.5 (5/2); any mean scores below 2.5 indicate that most respondents tend to either strongly disagree or disagree with the statements. While mean scores between 2.5 and 3.4 suggests that most respondents tend to be neutral about the statements, all the mean scores equal or above 3.5 suggest that the majority of respondents tend to either agree or strongly agree with the statements measuring the constructs, respectively.

5.5.1 Descriptive Statistics: Purchase Intention (Dependent Variable) towards Smartphones

The results in Table 5.4 indicates that 48.4% (n=149) strongly agree that they will find more details about smartphones if they intend to purchase one, and 12.3% (n=38) of the respondents indicate that they strongly disagree that they intend to buy a smartphone in the near future. 24.7% (n =76) of the respondents indicate neutral that they intend to use smartphone for e-commerce. The overall mean was 3.72, which is above 3.5, and the standard deviation results indicate that overall the data deviates 1.21 away from the mean.

Table 5.4: Descriptive statistics for purchase intention (PI)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
PI1	I intend to buy a smartphone in the near future	3.72	1.377	12.3% (n=38)	6.5% (n=20)	19.2% (n=59)	21.1% (n=65)	40.9% (n=126)	100% 308
PI2	It is very likely that I will purchase a smartphone	3.62	1.396	11.4% (n=35)	12.3% (n=38)	17.5% (n=54)	20.1% (n=62)	38.6% (n=119)	100% 308
PI3	I intend to use smartphone for e-commerce.	3.57	1.281	9.4% (n=29)	10.4% (n=32)	24.7% (n=76)	24.7% (n=76)	30.8% (n=95)	100% 308
PI4	I intend to recommend others to use smartphone	3.80	1.339	9.7% (n=30)	8.4% (n=26)	17.9% (n=55)	20.5% (n=63)	43.5% (n=134)	100% 308
PI5	I will find more details about smartphone if I intend to purchase one	3.89	1.357	10.7% (n=33)	6.5% (n=20)	14% (n=43)	20.5% (n=63)	48.4% (n=149)	100% 308
Mean = 3,72 Std. Dev.= 1,21									

5.5.2 Descriptive Statistics: Family and Friends Influence towards Purchase Intention of Smartphone

As appears in Table 5.5 below, 28.2% (n =87) of the respondents strongly agree that family and friends influence them when choosing a smartphone, however, 16.9% (n=52) strongly disagree that my friends and family influence my intention to purchase a smartphone that is similar in size to a friend's smartphone. Furthermore, 21.8% (n=67) of the respondents have indicated to be neutral to the statement that my friends and family have influence on me when choosing my smartphone.

Based on the results, the overall mean score was 3.17 which is between 2.5 and 3.4, and the standard deviation is 1.28.

Table 5.5: Descriptive statistics for family and friends (FF)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
FF6	My friends and family influence my decision in buying a smartphone	3.18	1.425	15.9% (n=49)	20.1% (n=62)	19.8% (n=61)	18.2% (n=56)	26% (n=80)	100% 308
FF7	My friends and family influence my intention to purchase a smartphone that is similar in size like a friend's smartphone	3.18	1.425	16.9% (n=52)	26.9% (n=83)	16.6% (n=51)	15.6% (n=48)	24% (n=74)	100% 308
FF8	My friends and family have influence on me when choosing my smartphone	3.22	1.403	12.7% (n=39)	23.4% (n=72)	21.8% (n=67)	14% (n=43)	28.2% (n=87)	100% 308
FF9	I would collect smartphone information from family members	3.24	1.438	16.6% (n=51)	16.2% (n=50)	21.4% (n=66)	17.9% (n=55)	27.9% (n=86)	100% 308
Mean = 3.17 Std. Dev. = 1.28									

5.5.3 Descriptive Statistics: Price Influence towards Purchase Intention of Smartphone

Table 5.6 shown below indicates that the overall mean score of 3.56 which is above 3.5 and the standard deviation is 1.06. Furthermore, the results indicate that 45.1% (n =139) of respondents strongly agree that they will buy a smartphone if it is priced reasonably, and 14.3% (n =44) strongly disagree that they are willing to buy a phone even if the price is higher. However, 31.2% (n=96) of respondents indicate to be neutral to the statement that they will only buy a smartphone during a price reduction period.
The overall mean is 3.56 above 3.6, and the standard deviation 1.06.

Below is the Table 5.6 for descriptive statistics for price.

Table 5.6: Descriptive statistics for price (P)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
P10	I will buy a smartphone if it is priced reasonably	3.24	1.438	9.7% (n=30)	4.2% (n=13)	15.6% (n=48)	25.3% (n=78)	45.1% (n=139)	100% 308
P11	I will only buy a smartphone during a price reduction period.	3.38	1.238	8.8% (n=27)	14.3% (n=44)	31.2% (n=96)	21.8% (n=67)	24% (n=74)	100% 308
P12	Price is my main consideration when deciding whether to buy a smartphone.	3.64	1.320	8.8% (n=27)	13% (n=40)	19.5% (n=60)	22.7% (n=70)	36% (n=111)	100% 308
P13	I am willing to buy a smartphone even though the price is higher	3.30	1.408	14.3% (n=44)	16.9% (n=52)	22.1% (n=68)	18.2% (n=56)	28.6% (n=88)	100% 308
Mean = 3.56 Std. Dev. = 1.06									

5.5.4 Descriptive Statistics: Social Influence towards Purchase Intention of Smartphone

Based on the results onTable 5.7 below, 39% (n=121) of the respondents strongly agree that they would purchase a smartphone to stay connected with friends through social networking web sites (WhatsApp, Twitter, Facebook, Myspace, LinkedIn, etc.) with the individual mean 3.82. 21.4% (n=66) of the respondents strongly disagree with the statement that they would buy a smartphone if it will help them to fit in a social group better. However, other respondents recorded to be neutral about the statements measuring Social because the overall mean score of 3.29 is between 2.5 and 3.4. The results indicate that social influence will contribute to the usage of a smartphone but respondents may not purchase a smartphone just to fit in. The overall mean is 3.29 and the standard deviation is 1.21.

Table 5.7: Descriptive statistics for social (S)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
S14	I would buy a smartphone if it will help me to fit in my social group better	2.93	1.604	21.4% (n=66)	27.3% (n=84)	13.3% (n=41)	13% (n=40)	25% (n=77)	100% 308
S15	I would purchase smartphone to stay connected with friends through social networking web sites (WhatsApp, Twitter, Facebook, Myspace, LinkedIn, and etc.)	3.82	1.280	9.4% (n=29)	6.8% (n=21)	15.3% (n=47)	29.2% (n=90)	39.3% (n=121)	100% 308
S16	The pressure from friends is likely to influence the usage rate of smartphone	3.00	1.476	20.8% (n=64)	21.8% (n=67)	18.5% (n=57)	14.3% (n=44)	24.7% (n=76)	100% 308
S17	People around me have encouraged me to use smartphone	3.40	1.372	13.6% (n=42)	13% (n=40)	21.1% (n=65)	24.4% (n=75)	27.9% (n=86)	100% 308
Mean = 3.29 Std. Dev. = 1.21									

5.5.5 Descriptive Statistics: Culture Influence towards Purchase Intention of Smartphone

The results presented in Table 5.8 indicate that 33.8% (n =104) of respondents strongly disagree that the ritual they perform has an influence on their intention to purchase a smartphone. 26% (n=80) strongly agree that their own personal culture guides them and influences the purchase of a smartphone. However, 18.2% (n =56) of respondents indicate to be neutral regarding the statement that the language and symbols used on the package influences their intention to purchase a specific brand of smartphone The overall mean is 2.73 less than 3.5, and the standard deviation is 1.38.

Table 5.8: Descriptive statistics for culture (C)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
C18	The religion to which I belong has a subculture which influences my intention to purchase a specific smartphone	2.60	1.525	32.5% (n=100)	25.6% (n=79)	12.7% (n=39)	8.1% (n=25)	21.1% (n=65)	100% 308
C19	The language and symbols used on the package influences my intention to purchase a specific brand of smartphone.	2.89	1.425	19.5% (n=60)	27.9% (n=86)	18.2% (n=56)	13.3% (n=41)	21.1% (n=65)	100% 308
C20	The ritual which we perform has an influence on my intention to purchase a smartphone.	2.56	1.538	33.8% (n=104)	27.3% (n=84)	10.7% (n=33)	6.6% (n=20)	21.8% (n=67)	100% 308
C21	My own personal culture guides me and influences the purchase of smartphone.	2.88	1.538	25% (n=77)	23.4% (n=72)	15.9% (n=49)	9.7% (n=30)	26% (n=80)	100% 308
Mean = 2.73 Std. Dev. = 1.38									

5.5.6 Descriptive Statistics: Brand Name Influence towards Purchase Intention of Smartphone

The purpose of this section is to assess how the brand name of a smartphone influences purchase intention. According to the results in Table 5.9 more than half of the respondents 55.8% (n =172) strongly agree with the statement that they prefer to buy a trustworthy brand of smartphone and 9.4% (n=29) of the respondents strongly disagree that they prefer to buy an internationally recognised smartphone brand. 18.8% (n=56) of the respondents indicate to be neutral to the statement that they will only buy their favourite brand of smartphone. The overall mean for the factor brand name is above 3.90 and the standard deviation is 1.15.

Table 5.9: Descriptive statistics for brand name (BN)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
BN22	I prefer to buy a trustworthy brand of smartphone	4.09	1.270	7.5% (n=23)	7.1% (n=22)	10.1% (n=31)	19.5% (n=60)	55.8% (n=172)	100% 308
BN23	I prefer to buy an internationally recognized smartphone brands	3.75	1.292	9.4% (n=29)	8.1% (n=25)	18.2% (n=56)	26.9% (n=83)	37.3% (n=115)	100% 308
BN24	I will only buy my favourite brand of smartphone.	3.92	1.242	6.5% (n=20)	8.1% (n=25)	18.2% (n=56)	21.8% (n=67)	45.5% (n=140)	100% 308
. BN25	Brand name is a major factor that influences my decision towards buying a smartphone	3.84	1.309	7.5% (n=23)	10.4% (n=32)	18.8% (n=58)	17.5% (n=54)	45.8% (n=141)	100% 308
Mean = 3.90 Std. Dev. = 1.15									

5.5.7 Descriptive Statistics: Product Features Influence towards Purchase Intention of Smartphone

As presented in Table 5.10, the overall mean value is 4.01 and the standard deviation is 1.14. The results further indicate that 54.9% (n =169) of respondents strongly agree to the statement that they will only purchase smartphones that have fast internet access compared to a basic mobile phone. However, 8.4% (n =26) of the respondents shows that they strongly disagree that they will purchase a smartphone that has a good design and 17.2% (n=53) indicate that they are neutral to the same statement.

Table 5.10: Descriptive statistics for product features (PF)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
PF26	I will purchase a Smartphone that has more applications than basic mobile phone	3.98	1.221	7.5% (n=23)	4.5% (n=14)	16.9% (n=52)	24.7% (n=76)	46.4% (n=143)	100% 308
PF27	I will purchase smartphone due to its operation system (Apple, iPhone, Blackberry, Google, Android, Microsoft, or others)	4.02	1.198	6.8% (n=21)	5.8% (n=18)	12.3% (n=38)	28.9% (n=89)	46.1% (n=142)	100% 308
PF28	I will purchase smartphone that has fast internet access compared to a basic mobile phone	4.13	1.229	7.8% (n=24)	4.25% (n=13)	10.4% (n=32)	22.7% (n=70)	54.9% (n=169)	100% 308
PF29	I will purchase a smartphone that has a good design	3.91	1.241	8.4% (n=26)	4.5% (n=14)	17.2% (n=53)	26.95% (n=83)	42.9% (n=132)	100% 308

Mean = 4.01 Std. Dev. = 1.14

5.5.8 Descriptive Statistics: Motivation Influence towards Purchase Intention of Smartphone

The results below (See Table 5.11) show the overall mean is 3.65 and the standard deviation is 1.14. Further results show that 37.7% (n =116) of respondents strongly agree that they intend to buy smartphones because it will inform them of things that happen in everyday life. 11.4% (n=35) of the respondents strongly disagree that they intend to purchase smartphone because it will pass the time, particularly when they are bored. 27.6% (n =85) of the respondents show to be neutral in that they intend to purchase smartphones because it will help pass the time, especially when bored.

Table 5.11: Descriptive statistics for motivation (M)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
M30	I intend to buy smartphone because it will inform me for things that happen in everyday life	3.80	1.229	7.8% (n=24)	6.2% (n=19)	22.1% (n=68)	26.3% (n=81)	37.7% (n=116)	100% 308
M31	I intend to purchase smartphone because it will pass the time away, particularly when I am bored	3.39	1.260	11.4% (n=35)	10.7% (n=33)	27.6% (n=85)	27.9% (n=86)	22.4% (n=69)	100% 308
M32	I intend to purchase smartphone in order to get information about products and services	3.75	1.253	8.1% (n=25)	7.8% (n=24)	21.8% (n=67)	256% (n=79)	36.7% (n=113)	100% 308
Mean = 3.65 Std. Dev. = 1.14									

5.5.9 Descriptive Statistics: Perception Influence towards Purchase Intention of Smartphone

The results illustrated below in Table 5.12 indicate that the overall mean is 3.40 and the standard deviation is 1.14. There are 40.9% (n =126) of respondents that strongly agree that the decision to buy a smartphone is made by them. However, 18.5% (n =57) of the respondents strongly disagree to the statement that the purchase of smartphone is very easy for them. Thus, the overall statements

indicated to be neutral regarding the purchase intention of smartphones. 26.9% (n=83) of the respondents show to be neutral to the statement that the purchase of smartphone is possible for them.

Table 5.12: Descriptive statistics for perception (PER)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
PER33	I myself will decide to buy smartphone	3.86	1.256	8.1% (n=25)	7.5% (n=23)	15.3% (n=47)	26.2% (n=87)	40.9% (n=126)	100% 308
PER34	I have money to buy smartphone	3.12	1.335	13.3% (n=41)	22.7% (n=70)	23.1% (n=71)	20.1% (n=62)	20.8% (n=64)	100% 308
PER35	For me, purchase of smartphone is very easy	3.03	1.427	18.5% (n=57)	21.1% (n=65)	22.7% (n=70)	14.3% (n=44)	23.4% (n=72)	100% 308
PER36	For me, purchase of smartphone is possible	3.60	1.232	8.1% (n=25)	9.4% (n=29)	26.9% (n=83)	25.6% (n=79)	29.9% (n=92)	100% 308
Mean = 3.40 Std. Dev. = 1.14									

5.5.10 Descriptive Statistics: Attitude Influence towards Purchase Intention of Smartphone

According to the results in Table 5.13, most of the respondents agree, overall mean=3.82 and standard deviation is 1.13, with the statements pertaining to attitude being a factor that influences purchase intention. As illustrated below the results show that most respondents, 38.6% (n =119), strongly agree that purchasing a smartphones is beneficial. Furthermore, 8.8% (n =27) of the respondents strongly disagree that they think that purchasing a smartphone is a good idea with an individual mean of 3.87. More so, 22.1% (n =68) of the respondents show a neutral response to the statement that purchasing a smartphone is favourable. Lastly, 33.8% (n =104) of the respondents strongly disagree with the statements of attitude being a factor that influences purchase intention which means that the positive attitude towards smartphone will increase the purchase intention among low-income consumers.

Table 5.13: Descriptive statistics for attitude (ATT)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
ATT37	My attitude towards purchasing smartphone is positive	3.77	1.222	7.8% (n=24)	7.8% (n=24)	18.2% (n=56)	31.8% (n=98)	34.4% (n=106)	100% 308
ATT38	Purchasing smartphone is worthwhile	3.75	1.186	8.8% (n=27)	4.5% (n=14)	19.5% (n=60)	37.3% (n=115)	29.9% (n=92)	100% 308
ATT39	Purchasing smartphone is beneficial	3.92	1.169	6.8% (n=21)	6.2% (n=16)	16.2% (n=50)	33.15% (n=102)	38.6% (n=119)	100% 308
ATT40	I think that purchasing smartphone is favourable	3.78	1.199	8.15% (n=25)	4.9% (n=15)	22.1% (n=68)	31.2% (n=96)	33.8% (n=104)	100% 308
ATT41	I think that purchasing smartphone is a good idea	3.87	1.206	8.8% (n=27)	3.9% (n=12)	15.6% (n=48)	35.1% (n=108)	36.7% (n=113)	100% 308
Mean = 3.82 Std. Dev. = 1.13									

5.5.11 Descriptive statistics: Reference Group Influence towards Purchase Intention of Smartphone

The purpose of this section is to determine whether the respondents' reference group has an influence on purchase intention. Based on the results in Table 5.14, the overall mean score is 3.46 and the standard deviation is 1.50. Additionally, according to the results 25.6% (n =79) of the respondents strongly agree that they like to know what brands of smartphone make a good impression on others. 26% (n =80) of the respondents strongly disagrees with the statement that they want to be like their peers when they want to buy the same smartphone that they bought. 24% (n=74) of the respondents indicate a neutral response that they will ask the opinion of their friends when buying a smartphone.

Table 5.14: Descriptive statistics for reference group (RG)

Variable	Item	Mean value	Std. Dev.	1 (Strongly disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)	Total
RG42	I will ask the opinion from my friends when buying a smartphone	3.27	1.317	12% (n=37)	17.9% (n=55)	24% (n=74)	23.4% (n=72)	22.75% (n=70)	100% 308
RG43	My friends would suggest for me when purchasing a smartphone	2.96	1.332	18.2% (n=56)	21.1% (n=65)	22.4% (n=69)	23.4% (n=72)	14.9% (n=46)	100% 308
RG44	My peers influence me when purchasing my smartphone	2.96	1.404	18.2% (n=56)	24.4% (n=75)	22.1% (n=68)	14% (n=43)	21.4% (n=66)	100% 308
RG45	I want to be like my peers when I want to buy the same smartphone that they buy	2.75	1.451	26% (n=80)	24% (n=74)	18.2% (n=56)	13% (n=40)	18.8% (n=58)	100% 308
RG46	I often identify with other people by purchasing the same smartphone brands they purchase	2.88	1.508	25.3% (n=78)	20.8% (n=64)	17.9% (n=55)	12.7% (n=39)	23.4% (n=72)	100% 308
RG47	I achieve a sense of belonging by purchasing the same smartphone brands that others purchase	2.88	1.475	23.7% (n=73)	22.1% (n=68)	18.2% (n=56)	14.3% (n=44)	21.8% (n=67)	100% 308
RG48	I like to know what brands of smartphone make good impressions on others	3.04	1.479	20.1% (n=62)	21.1% (n=65)	19.2% (n=59)	14% (n=43)	25.6% (79)	100% 308
Mean = 3.46 Std. Dev. = 1.50									

The above section provided a discussion on the central tendency measurement of constructs (Purchase intention, Family and friends, Price, Social, Culture, Brand name, Product features, Motivation, Perception, Attitude, and Reference group) of this study. As discussed earlier in this section, any mean scores below 2.5 indicate that most respondents tend to either strongly disagree or disagree with the statements while mean scores between 2.5 and 3.4 suggests that most respondents tend to be neutral about the statements. If all the mean scores equal or are above 3.5 it suggests that the majority of respondents tend to either agree or strongly agree with the statements measuring the constructs.

The normality of the data in terms of skewedness and kurtosis will be discussed in the following section.

5.6 Normality Assessment

Normality assessment refers to a specific statistical distribution known as normal distribution or a bell shaped curve that is supplementary to a graphical assessment (Hair, Hult, Ringle & Sarstedt, 2017). A normal distribution or a bell curve occurs when variables plotted on a graph fall into regular distribution around a single mean (Mishra, Pandey, Singh, Gupta, Sahu & Keshri, 2019). Before examining the model fit indices, a normality test is conducted to confirm whether the model can be estimated using the maximum likelihood method (Mishra, Pandey, Singh, Gupta, Sahu & Keshri, 2019). The Skewness value indicates whether or not the distribution is symmetric.

Kurtosis, on the other hand, gives information on the distribution's 'peakedness'. If the distribution is entirely normal, the skewness and kurtosis values will both be 0. Positive skewness values imply that the data is skewed to the right (scores clustered to the left at the low values). A concentration of scores at the high end is indicated by a negative skewness number (right-hand side of a graph). Positive kurtosis values suggest a peaked distribution with long thin tails. Kurtosis values less than 0 imply a relatively flat (too much) distribution. Based on the skewed distribution being less than 0, a left-skewed distribution is present, as more responses are to the right of the mean, which leans towards agree on the Likert scale. The kurtosis is a -0.450 value of the data, which is a flatter peak than that of normal distribution, indicating a wider spread around the mean.

Table 5.15 illustrates the Skewness and Kurtosis coefficients of all the constructs appearing in the model. As recommended by Hair, Hult, Ringle and Sarstedt (2017), the indicators' skewness and kurtosis values should be below ±3 and ±10, respectively.

Table 5.15: Normality assessment

	SKEWNESS	KURTOSIS
	Statistic	Statistic
Purchase intention	-0,802	-0,450
Family and friends	0,069	-1,258
Price	-0,607	-0,237
Social	-0,101	-1,134
Culture	0,529	-1,115
Brand name	-1,016	-0,047
Product features	-1,328	0,840
Motivation	-0,739	-0,269
Perception	-0,192	-0,939
Attitude	-1,023	0,276
Reference group	0,219	-1,218

The results in Table 5.15 indicate that the assumption of univariate normality was met. Normality means that the distribution of the test is normally dispersed with 0 mean, with 1 standard deviation and a symmetric bell shaped curve as shown in Figure 5.1 below. To test the assumption of normality, the Skewness and Kurtosis measures and tests were applied as shown in Table 5.15. The assumption of univariate normality is met when a distribution of scores is symmetrical and when there is an appropriate proportion of distributional height to width. Since the normality is supported, we can confidently use the maximum likelihood method to assess the model fit.

Below is the graph representation of the skewness and kurtosis of each construct as discussed above.

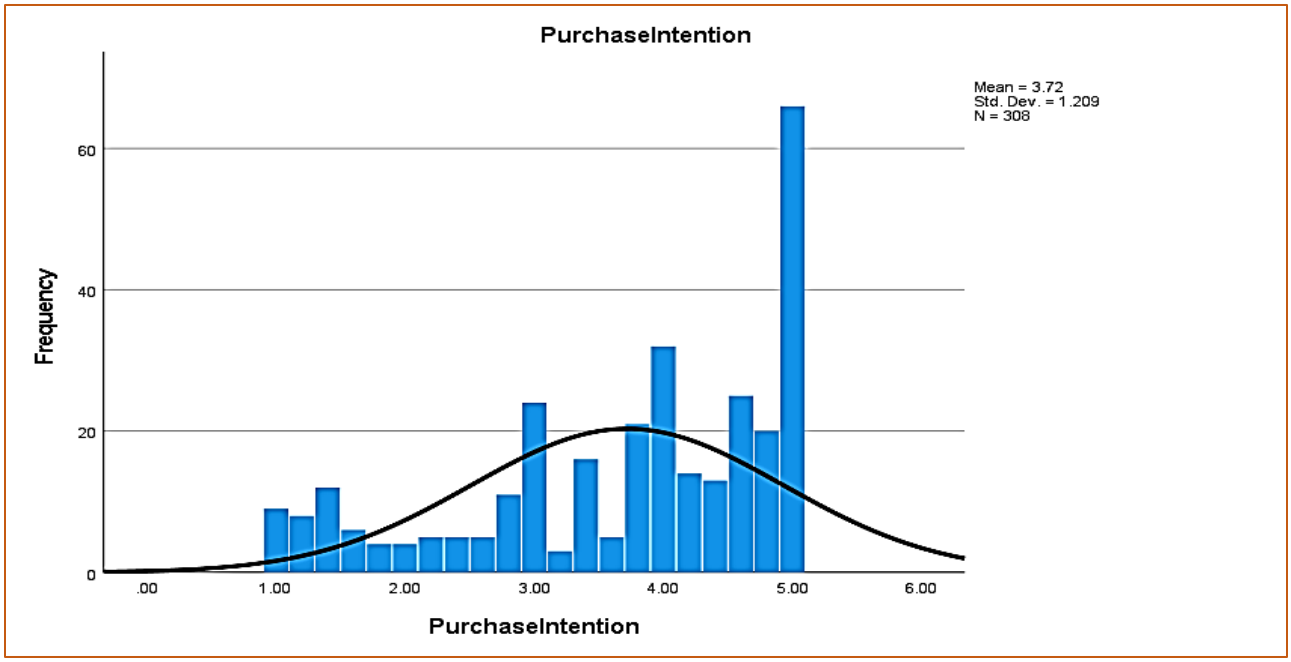

Figure 5.1: Skewness and kurtosis of purchase intention

The graph in Figure 5.1 is the skewness and kurtosis of purchase intention. The mean response is at 3.72, indicating that the average of the responses lean more towards strongly agree. The standard deviation indicates a variation of 1.209 from the mean of the group. The skewness is -0,802 and, being less than 0, a left-skewed distribution is present, as more responses are to the right of the mean, which leans towards agree on the Likert scale. The kurtosis is -0.450 value of the data, which is a flatter peak than that of normal distribution, indicating a wider spread around the mean and a flatter than normal distribution with a wider peak. The probability for extreme values is less than for a normal distribution, and the values are wider spread around the mean. The skewness and kurtosis of purchase intention shows that the responses lean towards the right of the graph, which is towards the ‘agree’ and ‘strongly agree’. And there is a big peak at ‘strongly agree’.

Figure 5.1 indicates the range of answers by the respondents regarding the purchase intention towards smartphones, as strongly agree and agree both show agreement regarding the purchase intention of smartphones.

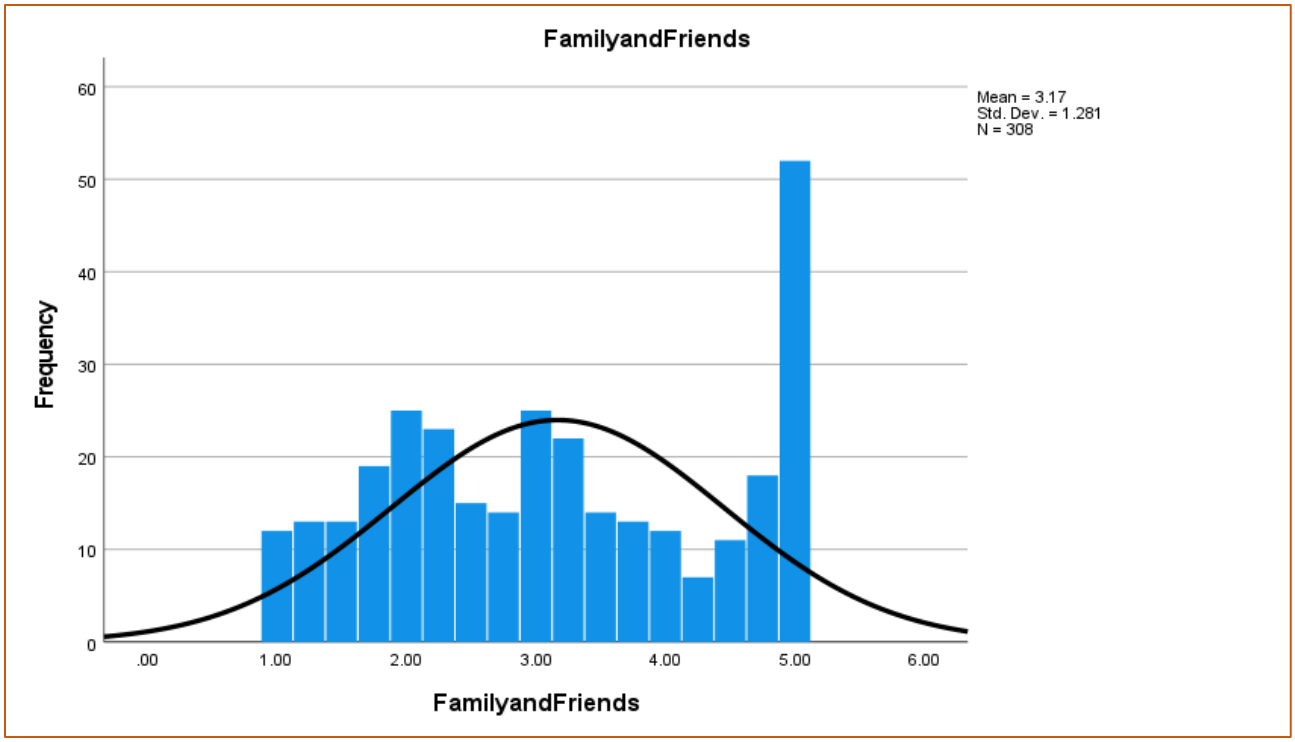

Figure 5.2: Skewness and kurtosis of family and friends

The graph in figure 5.2 is the skewness and kurtosis of family and friends. The skewness is 0,069. Based on the skewed distribution being 0.069, less than 0, a left-skewed distribution is present as more responses are to the right of the mean, the distribution is symmetrical around the mean and leans towards agree on the Likert scale. The kurtosis is -1,258, which is flatter than a normal distribution with a wider peak. The probability for extreme values is less than for a normal distribution, and the values are wider spread around the mean. The skewness and kurtosis of family and friends shows that the responses lean towards the right of the graph; towards ‘agree’ and ‘strongly agree’. And there is a peak at both ‘agree’ and ‘strongly agree’.

Figure 5.2 shows a more even spread than the one for intention, except for the last bar, and seem to spear at strongly disagree as well.

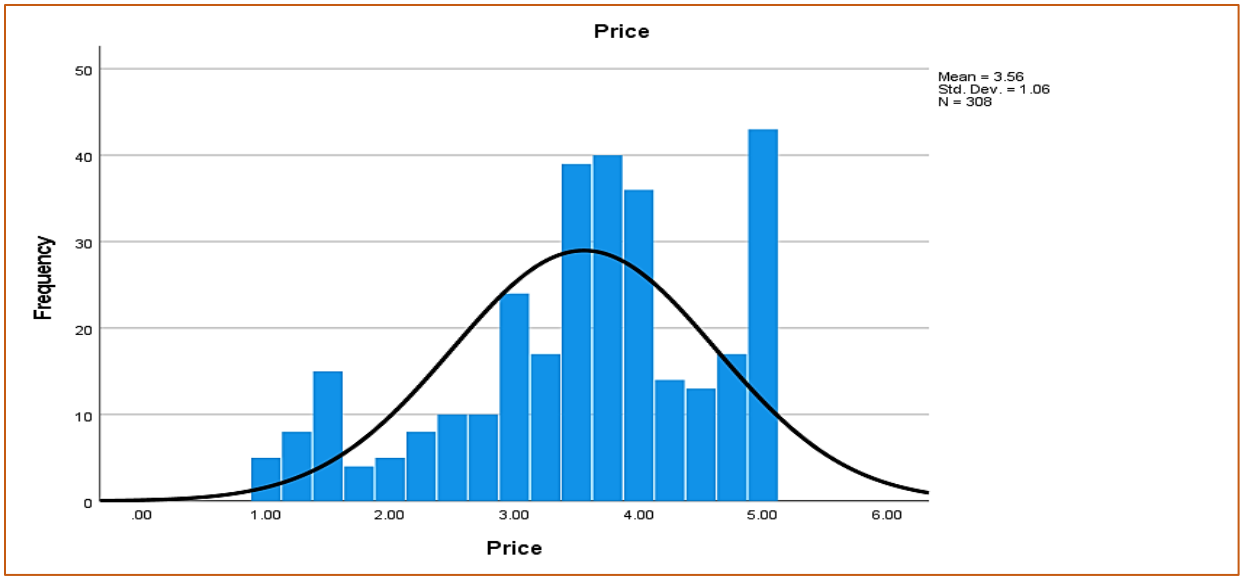

Figure 5.3: Skewness and kurtosis of price

The graph in figure 5.3 indicates the respondents' feelings on price towards the purchase intention which was tested on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The respondents' mean response is at 3.56, indicating that the average of the responses lean more towards agree. The standard deviation indicates a variation of 1.06 from the mean of the group. The skewness is -0,607, a left-skewed distribution, where more responses are to the right of the mean, which leans towards agree on the Likert scale. The kurtosis is -0,237, flatter than a normal distribution with a wider peak. The probability for extreme values is less than for a normal distribution, and the values are wider spread around the mean indicating a greater spread around the mean. The skewness and kurtosis of price shows that the responses lean towards the left of the graph, which is towards 'agree' and 'strongly agree'. The statement regarding price shows as strongly agree and agree; both show agreement regarding purchase intention of smartphones.

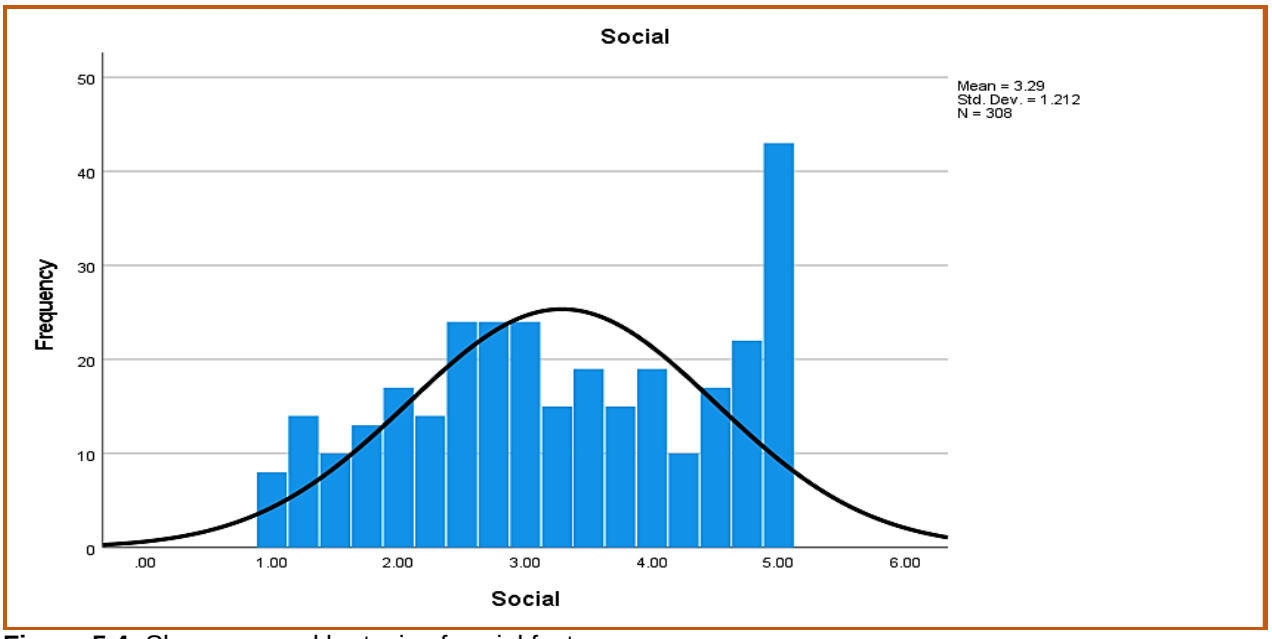

Figure 5.4: Skewness and kurtosis of social factors

The graph in figure 5.4 indicates the skewness and kurtosis of social towards purchase intention of smartphones which was tested on a 5-point Likert scale ranging from 1 = Strongly disagree to 5 = Strongly agree. The respondents' mean response is at 3.29, indicating that the average of the responses lean more towards agree. The standard deviation indicates a variation of 1.212 from the mean of the group. The skewness is -0,101 and this left-skewed distribution is where most values are to the right of the mean. Kurtosis is -1,134, flatter than a normal distribution with a wider peak. The probability for extreme values is less than for a normal distribution, and the values are wider spread around the mean. The skewness and kurtosis of social show that the responses lean toward the centre of the graph, which is neutral. And there is a peak at neutral for social factor which is in line with the discussion of the results on the mean for social.

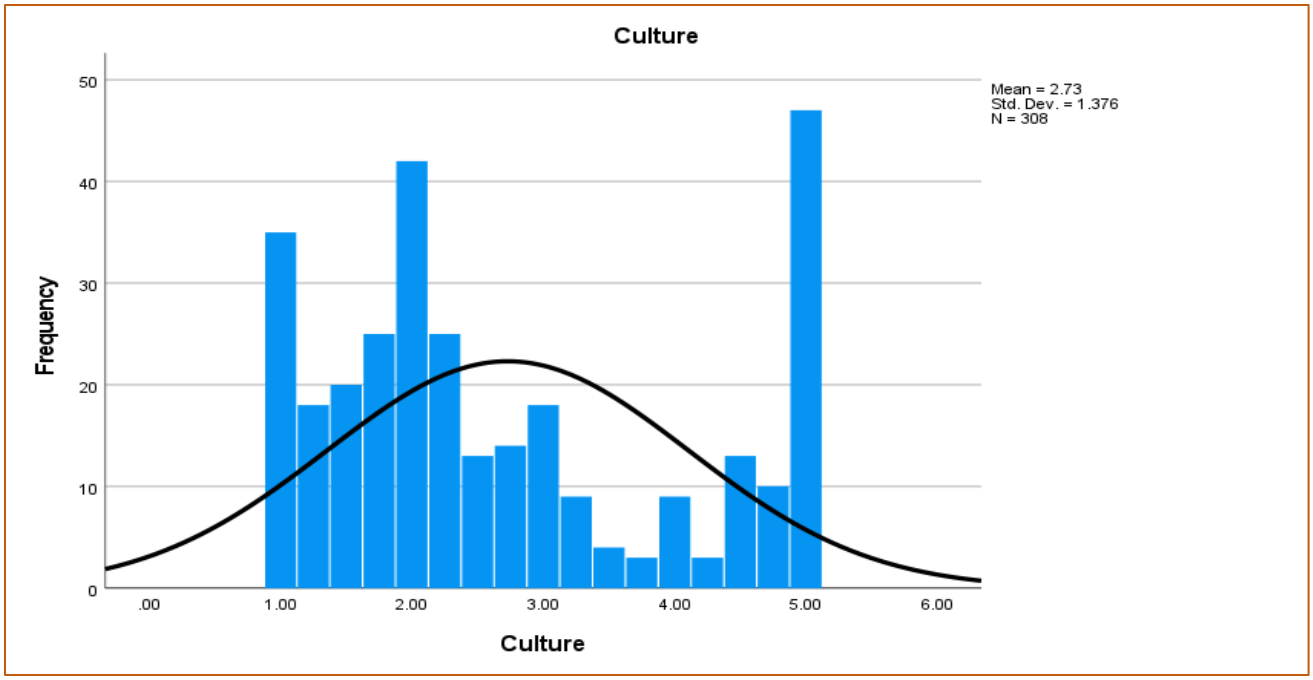

Figure 5.5: Skewness and kurtosis of culture

The graph in figure 5.5 is the skewness and kurtosis of culture. The skewness is 0,529 which means the distribution is symmetrical around the mean. The respondents' mean response is at 2.73, indicating that the responses leans towards disagree. The standard deviation indicates a variation of 1.376 from the mean of the group. Based on the skewed distribution being less than 0, a left-skewed distribution is present, as more responses are to the left of the mean, which leans towards "disagree" on the Likert scale. The kurtosis value of the data is -1,115, flatter than a normal distribution with a wider peak. The probability for extreme values is less than for a normal distribution, and the values are wider spread around the mean. The skewness and kurtosis of culture shows that the responses lean towards the left of the graph, which is towards the 'disagree' and 'strongly disagree'. Culture shows the graph leaning towards 'disagree' and 'strongly disagree' which is also in line with the descriptive statistics discussion.

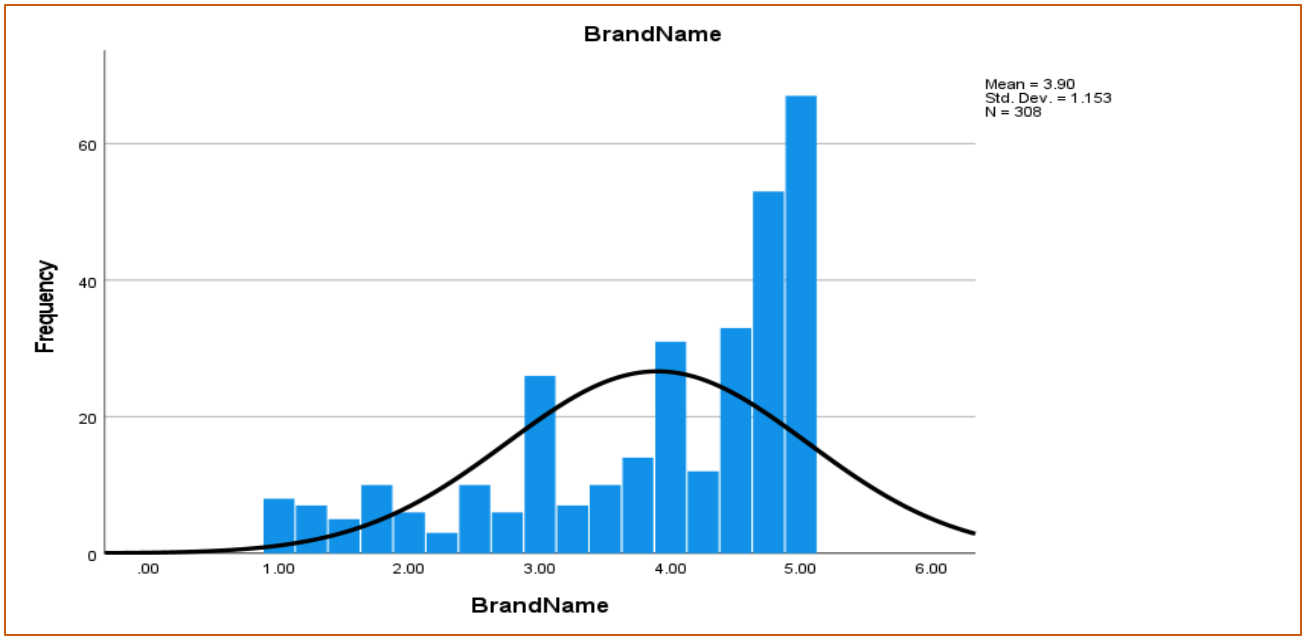

Figure 5.6: Skewness and kurtosis of brand name

The graph in figure 5.6, shows the brand name factor of respondents towards purchase intention of smartphones, which was tested on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The skewness of the brand name graph is -1,016 which indicates the skewed distribution as being less than 0, a left-skewed distribution is shown, as more responses are to the right of the mean, which leans towards agree on the Likert scale. The respondents' mean response is at 3.90, indicating that the responses leans towards agree and strongly agree. The standard deviation indicates a variation of 1.153 from the mean of the group. The kurtosis value of the data is -0,047, which is leaning to the right, indicating a greater spread around the mean. The skewness and kurtosis of brand name shows that the responses lean towards the right of the graph, which is towards the 'agree' and "strongly agree" for brand name.

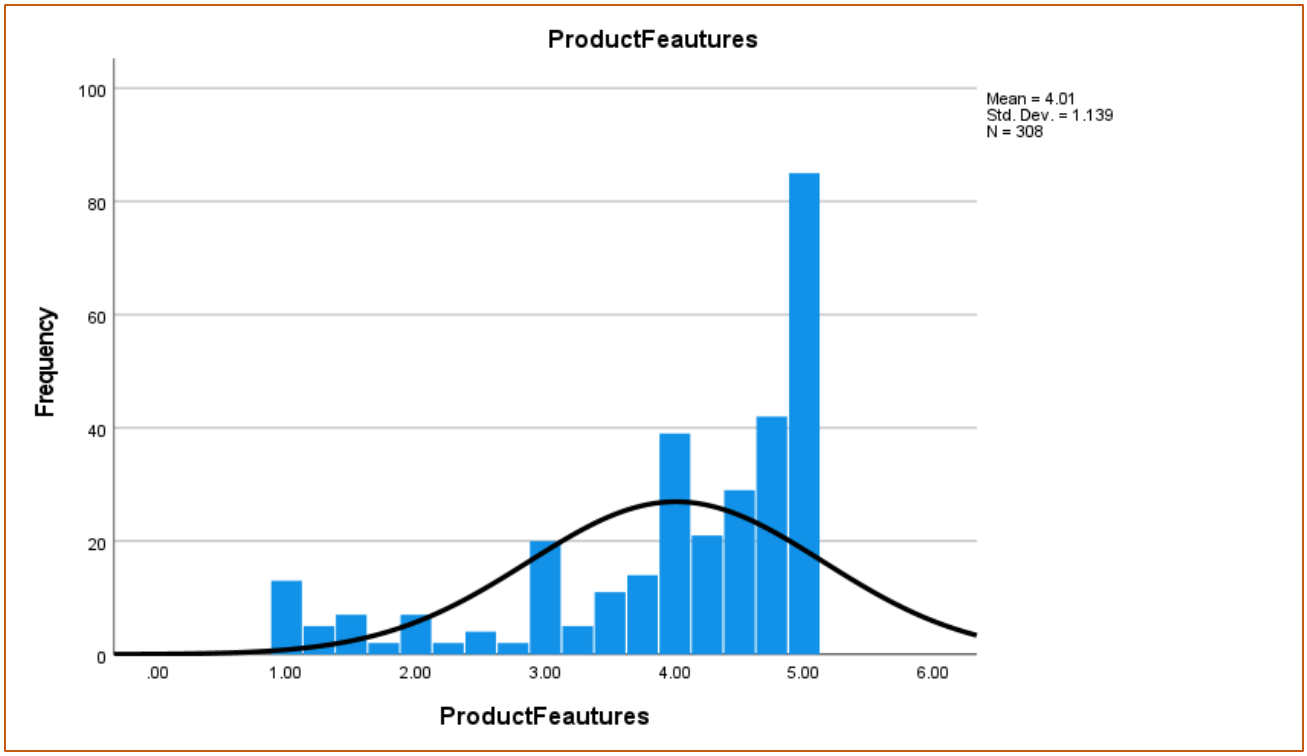

Figure 5.7: Skewness and kurtosis of product features

In figure 5.7 the skewness of the product feature graph is -1,328 indicating the product feature factor of respondents towards purchase intention of smartphone which was tested on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The skewed distribution being less than 0 indicates a left-skewed distribution, as more responses are to the right of the mean, which leans towards agree on the Likert scale. The respondents' mean response is at 4.01, indicating that the responses leans towards agree and strongly agree. The standard deviation indicates a variation of 1.139 from the mean of the group. The kurtosis value of the data is 0,840, which is leaning to the right, indicating a greater spread around the mean. The skewness and kurtosis of product feature shows that the responses lean towards the right of the graph, which is towards "agree" and "strongly agree" as discussed in the findings.

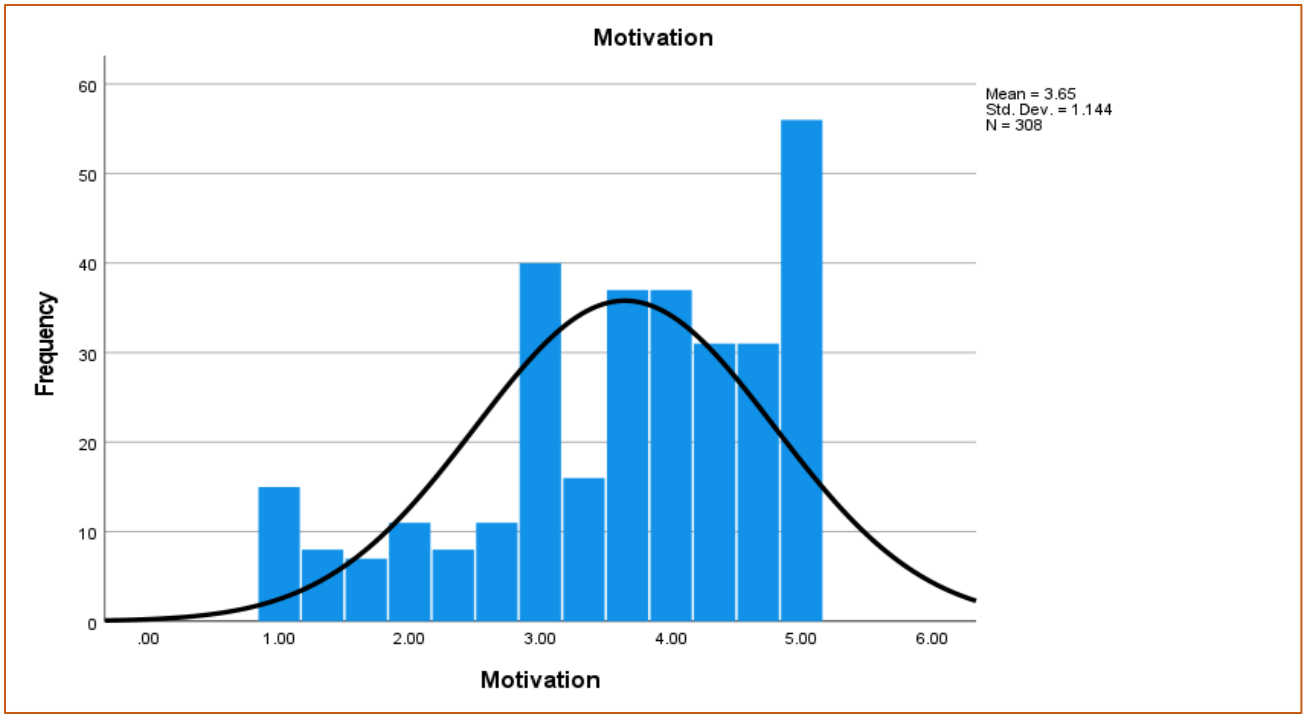

Figure 5.8: Skewness and kurtosis of motivation

The graph in figure 5.8 shows the skewness and kurtosis of motivation. The skewness is -0,739 indicating the motivation factor of respondents towards purchase intention of smartphone which was tested on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The skewed distribution being less than 0, a left-skewed distribution is shown, as more responses are to the right of the mean, which leans towards agree on the Likert scale. The respondents' mean response is at 3.65, indicating that the responses leans towards "agree" and "strongly agree". The standard deviation indicates a variation of 1.144 from the mean of the group. The kurtosis value of the data is -0,269, which is a higher peak than that of normal distribution, indicating a narrow spread around the mean. The skewness and kurtosis of motivation shows that the responses lean towards the right of the graph, which is towards the 'agree' and 'strongly agree'

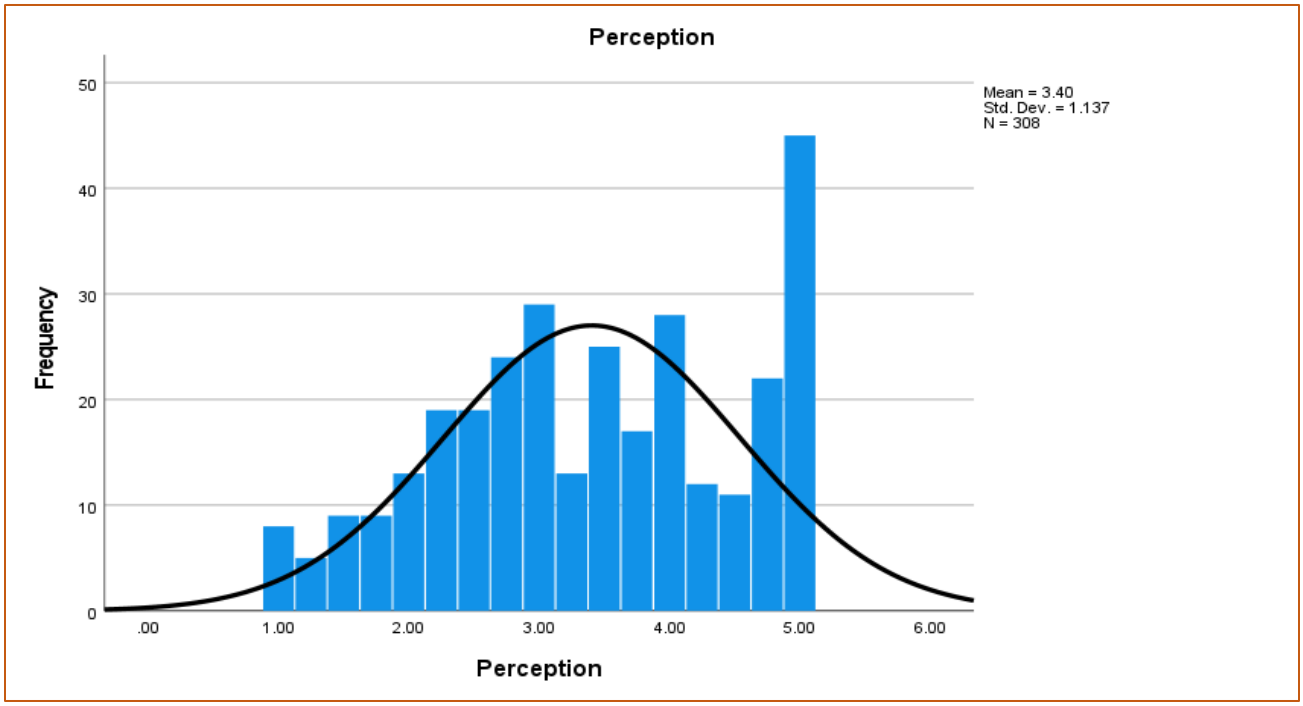

Figure 5.9: Skewness and kurtosis of perception

The graph in figure 5.9 shows the skewness and kurtosis of perception. The skewness is -0,192, indicating the perception of the respondents towards purchase intention of smartphones which was tested on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The skewed distribution being less than 0, a left-skewed distribution is shown, as more responses are to the right of the mean, which leans towards agree on the Likert scale. The respondents' mean response is at 3.40, indicating that the responses leans towards agree and strongly agree. The standard deviation indicates a variation of 1.137 from the mean of the group. The kurtosis value of the data is 0,276, which is a higher peak than that of normal distribution, indicating a narrow spread around the mean. The skewness and kurtosis of perception shows that the responses lean towards the centre of the graph, which is neutral. And there is a high peak at neutral which is in line with the discussions that indicate that mean scores between 2.5 and 3.4 suggests that most respondents tend to be neutral about the statements, all the mean scores equal or above 3.5 suggest that the majority of respondents tend to either agree or strongly agree with the statements measuring the constructs, respectively.

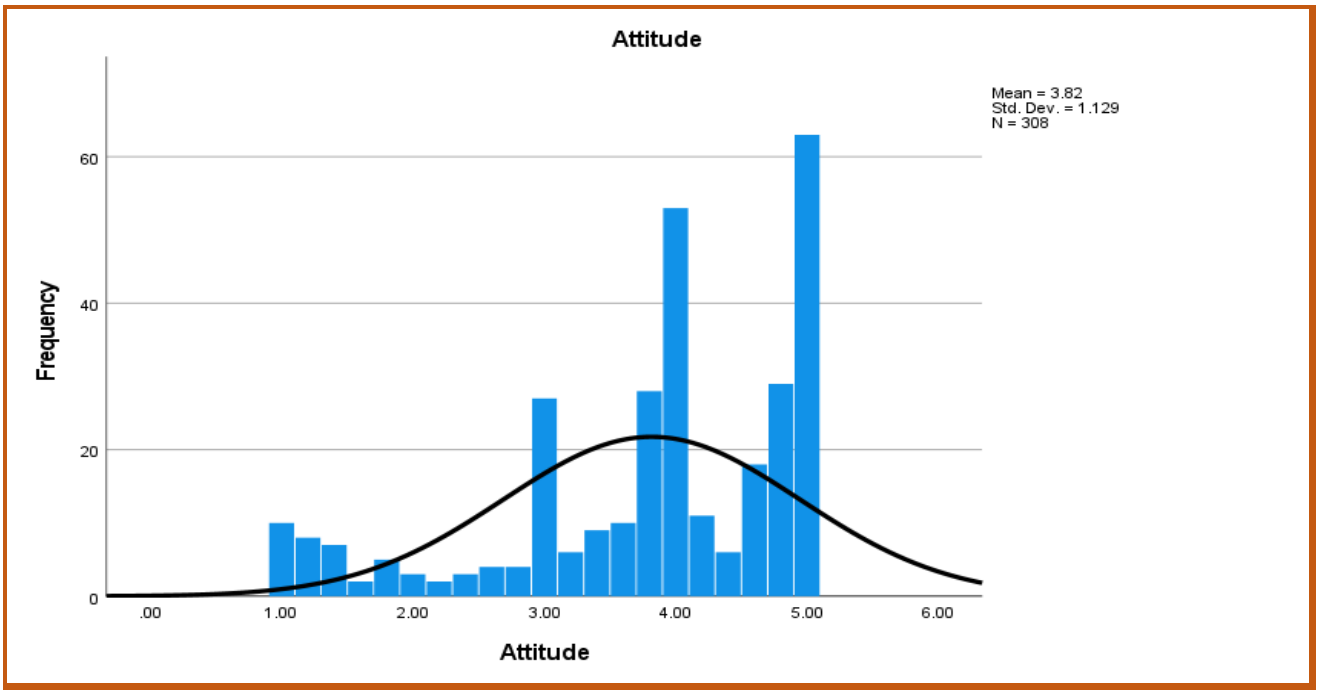

Figure 5.10: Skewness and kurtosis of attitude

The graph in figure 5.10 shows the skewness and kurtosis of attitude. The skewness of attitude is -1,023 indicating the attitude of respondents towards purchase intention of smartphones which was tested on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The skewed distribution being less than 0, a left-skewed distribution is shown, as more responses are to the right of the mean, which leans towards agree on the Likert scale. The respondents' mean response is at 3.82, indicating that the responses lean towards agree and strongly agree. The standard deviation indicates a variation of 1.129 from the mean of the group. The kurtosis is 0,276, which is a flatter than that of normal distribution, indicating a wider spread around the mean. The skewness and kurtosis of attitude shows that the responses lean towards the right of the graph. Thus, it leans towards agree and strongly agree. And there is a flatter peak at agree and strongly agree with a mean value of 3.82

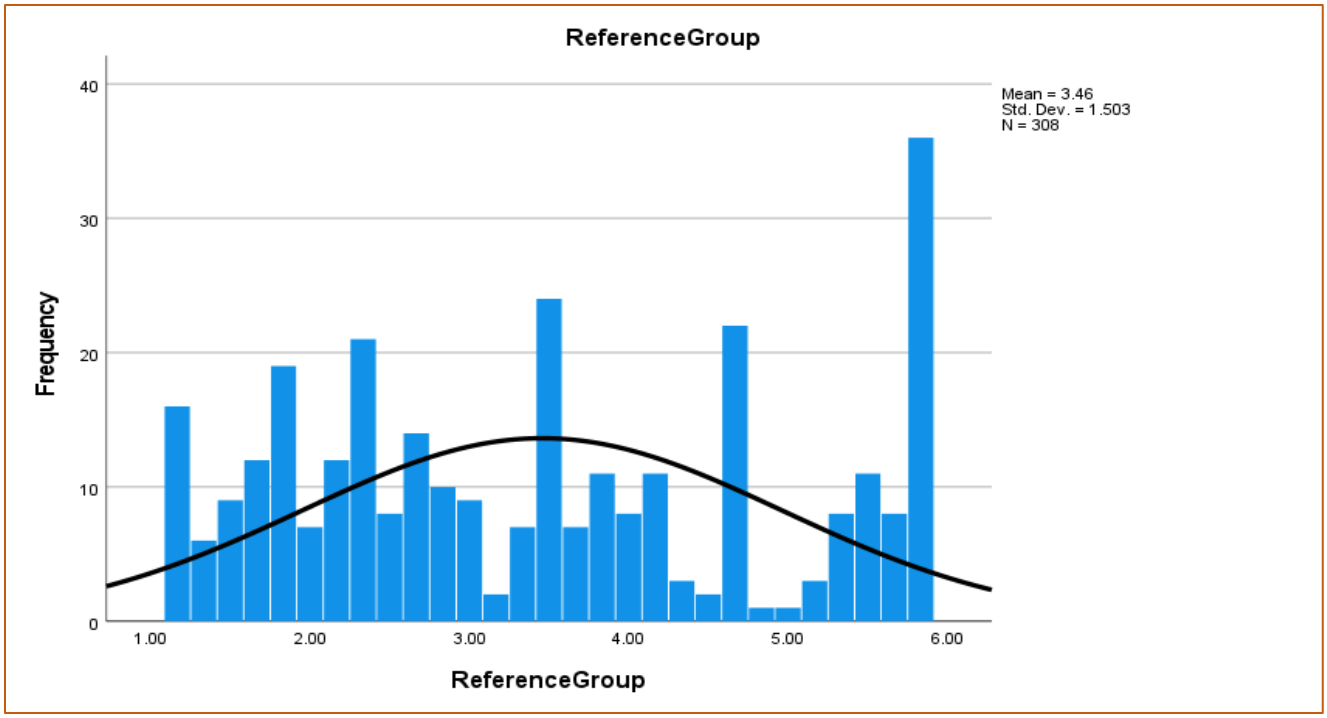

Figure 5.11: Skewness and kurtosis of reference group

With regards to the graph in figure 5.11 of the skewness and kurtosis of reference group, indicating the reference group factor of respondents towards purchase intention of smartphones which was tested on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The skewness is 0,219 that mean that the distribution is symmetrical around the mean. The skewed distribution being less than 0, a left-skewed distribution is shown, as more responses are to the right of the mean, which leans towards agree on the Likert scale. The respondents' mean response is at 3.46, indicating that the responses leans towards agree and strongly agree. The standard deviation indicates a variation of 1.503 from the mean of the group. The kurtosis value of the data is -1,218, flatter than a normal distribution with a wider peak. The probability for extreme values is less than for a normal distribution, and the values are wider spread around the mean. The skewness and kurtosis of reference group shows that the responses lean towards the left of the graph, which is towards disagree and strongly disagree.

The above section is the discussion on skewness and kurtosis of variables for the study, followed by the graphic presentation of each variable. The SEM which was conducted for the study will be discussed in the section that follows.

5.7 Structural Equation Modelling (SEM) Analysis to Evaluate Fit

Structural equation modelling (SEM) is a methodology for demonstrating, estimating, and testing a linear relationship between measured variables and latent constructs (Shi, Lee & Maydeu-Olivares, 2019). The technique is the combination of factor analysis and multiple regressions and it is used to analyse the structural relationship between measured variables and latent constructs (Hair, 2020). SEM is done with Exploratory Factor Analysis (EFA) to identify underlying factors from the data. According to Bono, Arnau, Alarcón and Blanca (2020), Exploratory Factor Analysis is applied to a single set of variables in order to discover which variables in the set form coherent subsets that are relatively independent of one another. The variables are connected to one another but are independent of the subset which is combined into factors. According to Shi, Lee and Maydeu-Olivares (2019), researchers prefer to use this method because it assess the multiple and interconnected dependency in a single analysis. In this model, different constructs (purchase intention, family and friends, price, social, culture, brand name, product feature, reference group, price, motivation, perception, and attitude) and a phenomenon are theorised to be related to one another with structure. In order to use SEM, the first thing you have to do is to examine the Goodness-of-fit (GOF) indices and the second is to evaluate the construct validity and reliability of the specified measurement model. In this study GOF indices are presented first and later the validity and reliability of measurement model is discussed. In reference to model fit, researchers use numerous Goodness-of-fit indicators to assess a model. Some common fit indices are the Normed Fit Index (NFI), Non-Normed Fit Index (NNFI, also known as TLI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). The wellness of different indices with different samples sizes, types of data, and ranges of acceptable scores are the major factors to decide whether a good fit exists (See Table 5.16 below).

5.7.1 Goodness-of-fit Indices for SEM

The Goodness-of-fit indices define the degree to which the structural equation model fits the sample of the data in a research project or how literature fits the reality of the data presentation (Hair *et al*., 2017). According to Hair *et al*. (2017), a number of Goodness-of-fit indices are employed to determine whether variances and covariance's patterns in the presented data are consistent with the structural model. Some common fit indices include: Normed Fit Index (NFI), Non-Normed Fit Index (NNFI, also known as TLI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). The wellness of different indices with different samples sizes, types of data, and ranges of acceptable scores are the major factors to decide whether a good fit exists. Therefore, four Goodness-of-fit indices from various groups have been employed to show varied

standards in this study (Hair *et al*., 2017). Below is the presentation of indices that have been employed in the SEM process to measure Goodness-of-fit for the current study's model.

- **CMIN/DF (Chi-Square/Degree of Freedom)**

The CMIN/DF, also called normal chi-square, normed chi-square, or simply chi-square to df ratio, is the chi-square fit index divided by degrees of freedom (Schindler, 2019). The normed chi-square is an attempt to make the model less dependent on sample size, as suggested by Hair *et al*. (2017). Wow Essays (2019) says a value below 2 is preferred but between 2 and 5 is considered acceptable. Relative chi-square (CMIN/DF) for the measurement model of this study is CMIN/DF = 3.098, which is acceptable. In order to improve the model during the CFA process, 11 measurement items were deleted namely: PI1, PI3, FF9, P13, S15, C19, BN25, PF26, PER35, ATT40, and RG42, and 37 items remained on the measurement mode. The model used for this study improves from 3.098 to 2.388 which is considered to be good (See Table 5.21). The researcher ascertained possible cross-correlations between factors and therefore continued with the attempt to improve the model fit of the indices by identifying cross-correlations between the factors (in the initial measurement model). The SEM results from the improved model show a standard scaled chi-square measure of 2.388. This means that the data presented in the model is adequate .This improvement was done by deleting items that had lower factor loadings. The ratio of the chi-square to the degrees of independence is more useful for interpretation. This term is given in the Goodness-of-fit indices and for the unimproved mode (See Table 5.16) it is 2.388 CMin/DF = 3.098. Therefore, the normed chi-square of the unimproved model is marginally above this in order that the model fit could be better.
Table 5.16 below shows the summary of model fit indices.

Table 5.16: Summary of model fit indices

Fit Indicator	Threshold adapted from Hair *et al*. (2014: 579-580)	Initial measurement model	Final measurement model
CMIN/DF (Chi-square/degree of freedom)	Less than 3 (good) Between [3-5] (acceptable) Above 5 (bad)	3.098	2.388
RMSEA (Root Mean Square Error of Approximation)	Less than .05 (good) Between [.06-.1] (acceptable) Above .1 (bad)	0.083	0. 067
CFI (Comparative Fit Index)	Less than .90 (bad) Above .90 (good)	0.879	0. 940
TLI (Tucker Lewis Index)	Less than .80 (bad) Between [.80-.90] (acceptable) Above .90 (good)	0.867	0.930
NFI (Normed Fit Index)	Less than .80 (bad) Between [.80-.90] (acceptable) Above .90 (good)	0.658	0.804

- **RMSEA (Root Mean Square Error of Approximation)**

Root Mean Square Error of Approximation states that the measure of fit, should be smaller than 0.05. In other words, it is one of the fit indices that is less affected by sample size, though for a smaller sample sizes it overestimates Goodness-of-fit. By convention (Hair *et al*., 2019) there is good model fit if RMSEA is less than or equal to 0.05, but there is acceptable fit if RMSEA is between 0.06 and 1. Reported values for RMSEA (See Table 5.16 above) indicate that the initial measurement model is 0.083 while the final measurement model is 0.067. Therefore, the results supports model fit, as RMSEA is 0.083.

- **CFI (Comparative Fit Index)**

The Comparative Fit Index (CFI), or the Bentler Comparative Fit Index compares the existing model fit with a null model which assumes the indicator variables (and hence also the latent variables) in the model are uncorrelated (the "independence model"). CFI varies from 0 to 1. CFI close to 1 indicates a very good fit. By convention, CFI should be equal to or greater than 0.90 to accept the model, indicating that 90% of the covariation in the data can be reproduced by the given model. However, the CFI of this study model is 0.879 as indicated in Table 5.16 above.

- **TLI (Tucker Lewis Index)**

The Tucker-Lewis Index (TLI) or Non-Normed Fit Index, is similar to NFI, but penalises for model complexity. Marsh *et al*. (1988; 1996) found TLI to be relatively independent of sample size. TLI close to 1 indicates a good fit. Rarely, some authors have used the cut-off as low as 0.80 since TLI tends to run lower than GFI. However, more recently, Hair *et al*. (2019) have suggested TLI >= 0.90 as the cut-off for a good model fit and this is widely accepted as the cut-off. TLI values below 0.90 indicate a need to rectify the model. As shown in Table 5.16 above, TLI of this study model is 0.867.

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- **NFI (Normed Fit Index)**

Normed Fit Index (NFI) was developed as an alternative to CFI, but one which did not require making chi-square assumptions. "Normed" means it varies from 0 to 1, with 1 = perfect fit. NFI reflects the proportion by which the researcher's model improves fit compared to the null model (uncorrelated measured variables). Reported NFI in this study is 0.832. Since GFI tests can yield meaningless negative values, it is not a more preferred indices than Goodness-of-fit and no more reported in many studies. However, its cut-off is > 0.90. The GFI of this study reported by AMOS is 0.658 (as appears in Table 5.16 above).

The proceedings to the structural model [in SEM] are to make sure that the validity of the measurement model is satisfactory (Paswan, 2009). The validity measurement of the model can be done by Confirmatory Factor Analysis (CFA). By using CFA, factor structure on basis of a good theory can be specified. CFA can also provide quantitative measures that assess the validity and reliability of the proposed theoretical model. Basically, two broad approaches are available to assess the measurement model validity by CFA and are discussed below.

5.7.2 Confirmatory Factor Analysis (CFA)

The validation of the conceptual model of the current study employed CFA (Hair *et al*., 2019). The purpose of using CFA is to determine if the measured variables and numbers of factors and loading conform to the required literature evidence (Cooper & Schindler, 2016). For the current study, the basis of research variables was grounded from the review of the literature. According to Hair *et al*. (2017), CFA minimum requirement is the formulation of hypotheses with factors in the proposed model, and indicate which variables will load on which factors. More so, CFA is used in the hypothesis

testing of the study to see whether a certain set of factors influences a response from what was predicted. The web-based questionnaire items used for the study were grouped together into 10 factors (purchase intention, family and friends, social, price, culture, brand name, product feature, motivation, perception attitude, and reference group). The purpose for these groupings was to ascertain if the results of measured constructs conform to what is expected based on the review of literature on purchase intention of smartphones. Hair *et al*. (2017) revealed that with CFA the findings of the items that have high loadings indicate that there is proof of convergent validity. Hair *et al*. (2017) indicate that factor loadings that are higher than 0.30 are taken as meeting the minimum level, approximately 0.40 are more important, whilst, loadings of 0.50 or higher are considered to be significant. Therefore, CFA will be used to validate the conceptual model within the SEM in the current study. All the factor loadings in the measurement model are good as they are all above 0.5 (Malhotra *et al*., 2017) as shown in table 5.17. For instance, the factor loading of the item ATT41 is 0.96, which means that item ATT41 measures the construct Attitude at 96%. Furthermore, the correlation coefficient between Perception and Motivation is 0.82; meaning that when 1 of these 2 variables increases by 1 standard deviation, the other variable also increases by 82% of its own standard deviation. Factor loadings for items used to measure a construct are acceptable at > 0.6. Confirmatory factor loadings for items are used to measure a construct. The factor loadings range between 0 and 1. There is low loading (implying insignificant) when the factor loading is going towards 0 but high factor loading (implying significant) when the factor loading is going towards 1 (Malhotra *et al*., 2017).

Table 5.17 below shows the confirmatory factor loadings of items namely; family and friends, price, social, culture, brand name, product feature, motivation, perception, attitude, and reference group that were used to express influence of purchase intention.

Table 5.17: Confirmatory factor analysis: Factors influencing the purchase intention of smartphones

CONSTRUCTS	CODE	ITEMS	FACTOR LOADINGS
PURCHASE INTENTION	PI1	I intend to buy a smartphone in the near future.	0,832
	PI4	I intend to recommend others to use smartphone.	0,910
	PI5	I will find more details about smartphone if I intend to purchase one.	0,938
FAMILY AND FRIENDS	FF6	My friends and family influence my decision in buying smartphone.	0,879
	FF7	My friends and family influence my intention to purchase a smartphone that is similar in size like a friend's smartphone.	0,902
	FF8	My friends and family have influence on me when choosing my smartphone.	0,904
PRICE	P10	I will buy a smartphone if it is priced reasonably.	0,838

CONSTRUCTS	CODE	ITEMS	FACTOR LOADINGS
	P11	I will only buy a smartphone during a price reduction period.	0,824
	P12	Price is my main consideration when deciding whether to buy a smartphone.	0,828
SOCIAL	S14	I would buy a smartphone if it will help me to fit in my social group better	0,870
	S16	The pressure from friends is likely to influence the usage rate of smartphone.	0,886
	S17	People around me have encouraged me to use smartphone.	0,794
CULTURE	C18	The religion to which I belong has a subculture which influences my intention to purchase a specific smartphone.	0,936
	C20	The ritual which we perform has an influence on my intention to purchase a smartphone.	0,954
	C21	My own personal culture guides me and influences the purchase of smartphone.	0,808
BRAND NAME	BN22	I prefer to buy a trustworthy brand of smartphone.	0,915
	BN23	I prefer to buy an internationally recognized smartphone brands.	0,843
	BN24	I will only buy my favourite brand of smartphone.	0,830
PRODUCT FEATURES	PF26	I will purchase a Smartphone that has more applications than basic mobile phone.	0,898
	PF27	I will purchase smartphone due to its operation system (Apple, iPhone, Blackberry, Google, Android, Microsoft, or others).	0,912
	PF28	I will purchase smartphone that has fast internet access compared to a basic mobile phone.	0,933
	PF29	I will purchase a smartphone that has a good design.	0,889
MOTIVATION	M30	I intend to buy smartphone because it will inform me for things that happen in everyday life.	0,902
	M31	I intend to purchase smartphone because it will pass the time away, particularly when I am bored.	0,815
	M32	I intend to purchase smartphone in order to get information about products and services.	0,909
PERCEPTION	PER33	I myself will decide to buy smartphone.	0,872
	PER34	I have money to buy smartphone.	0,619
	PER36	For me, purchase of smartphone is possible.	0,820
ATTITUDE	ATT37	My attitude towards purchasing smartphone is positive.	0,914
	ATT38	Purchasing smartphone is worthwhile.	0,933
	ATT39	Purchasing smartphone is beneficial.	0,937
	ATT41	I think that purchasing smartphone is a good idea	0,961
REFERENCE GROUP	RG43	My friends would suggest for me when purchasing a smartphone.	0,847
	RG44	My peers influence me when purchasing my smartphone.	0,931
	RG45	I want to be like my peers when I want to buy the same smartphone that they buy.	0,954

CONSTRUCTS	CODE	ITEMS	FACTOR LOADINGS
	RG46	I often identify with other people by purchasing the same smartphone brands they purchase.	0,881
	RG47	I achieve a sense of belonging by purchasing the same smartphone brands that others purchase.	0,849

Table 5.17 indicates the constructs that influence the purchase intention of a smartphone. Items subjected in the measurement model to show accuracy when computing the variables were above the ≥ 0.5 cut-off. This means that the items that were used on the variables were a good measure of the variables they relate to. They were 48 items in total for measurement model. In order to improve the model during the CFA process, 11 measurement items were deleted namely: PI1, PI3, FF9, P13, S15, C19, BN25, PF26, PER35, ATT40, and RG42, and 37 items remained on the measurement model. The scale would consist of less than 48 items and has an almost perfect test-retest-reliability. Deleting "weak" items is standard operation which is encompassed in programs of statistical analysis (SPSS) (Malhotra *et al*., 2017; Wieland, Durach, Kembro & Treiblmaier, 2017). According to Malhotra *et al*., (2017), revealed that if Cronbach alpha for the whole test is lower than alpha for this test without a concrete item, the item should be removed. The contribution of each item to its construct is indicated by the item's factor loadings. All the factor loadings in the measurement model are good as they are all above 0.5 (Malhotra *et al*., 2017). To enhance the model fit in CFA, the correlation between variables should be significant (high) so that only the retained variables are most significant. According to Wieland, Durach, Kembro and Treiblmaier (2017) in factor loading, where the items are below 0.3 or even below 0.5, they are not valued and should be removed. In CFA it is generally accepted that items with factor loadings of less than 0.5 are discarded and the model is filtered (Wieland, Durach, Kembro & Treiblmaier, 2017).

5.8 Reliability and Validity

In this section, instrument validation was provided to test the constructs of the data analysis. It is vital to demonstrate that all the data that have been collected from respondents are valid and comply with research statistical standards for reliability purposes (Anon, 2016). The tools of validating the data start with the adequacy of sampling (Gratton & Jones, 2015). The measurement of constructs was conducted to test the internal consistency reliability of research variables, thus; convergent validity and discriminant validity were used.

Below is the section that addresses the reliability test of the scales for the study.

5.8.1 Reliability of the Scales

Reliability concerns the extent to which the measurement of a phenomenon provides stable and consistent results (Taherdoost, 2016). Cronbach's alpha and Composite Reliability (CR) are generally used to assess the scale's reliability (Taherdoost, 2016). The required cut-off value of both Cronbach's alpha and Composite Reliability is 0.7, although 0.6 is sometimes permissible (Malhothra *et al*., 2017). The overall Cronbach's alpha of all the constructs in this study are above the threshold (>0.7). Results in Table 5.18 show that Cronbach's alpha ranges from 0.851 to 0.966; indicating a good level of internal consistency of all 11 factors considered in the model. These Cronbach's alpha results are further supported by Composite Reliability (CR) coefficients which ranged from 0.819 to 0.966. Based on both Cronbach's alpha and Composite Reliability, all constructs involved in this study are considered reliable.

5.8.2 Validity

The validity of the research shows the relationship between the measurement instruments and the constructs of the study (Mishra & Alok, 2017). According to Brown, Suter and Churchill (2018), the validity also shows the accuracy of the constructs in a scale administered during the same period.

Construct validity produces the relation of assumptions which are supported by theory and the research concept (Smith & Paradino, 2016). Since the constructs attained satisfactory reliability, data was consequently subjected to the construct validity. Convergent validity and discriminant validity were done to test for construct validity. Smith & Paradino, 2016) indicates that, to achieve construct validity, there is a need to use both convergent and discriminant validity. Hair *et al*. (2018) argues that the use of one, either convergent validity or discriminant validity, is not adequate to demonstrate that validity on constructs has been accomplished.

The next section is the discussion of convergent validity followed by discriminant validity.

5.8.2.1 Convergent Validity

Convergent validity is the extent to which a set of items only measure one latent variable in the same direction (Malhotra *et al*., 2017). Creswell (2018) contends that attaining convergent validity implies that items need to be correlated. To determine interconnectedness, data was subjected to the development of the measurement model. According to Malhotra *et al*. (2017), the measurement model fit displays a fundamental organisation of the latent variables and the interrelations among the latent variables in a theoretical model. The measurement model suggests the indicators for each particular construct (latent variable) and weighs the reliability of each factor for approximating the causal relationships (Mishra & Alok, 2017). The measurement model is considered as that part which inspects relations between latent variables and their measures, and the correlations on constructs (Malhotra *et al*., 2017).

The convergent validity of the measurements through Average Variance Extracted (AVEs) estimates as above 0.5. (See Table 5.18) These results reveal that convergent validity is supported (Malhothra *et al*., 2017). The results below in Table 5.18 statistically support the reliability and the convergent validity of the items retained in the final measurement model. In Table 5.18 the final number of items and those in the initials column indicates the initial number of items before the model was improved as well as the final number of items after the model improvement.

Table 5.18: Statistical evidence of reliability and convergent validity

Constructs	Items	(Confirmatory Factor Analysis) Factor Loadings	P-value	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Final number of items after deletion of some items and (initials)
PURCHASE INTENTION	PI1	0,832	***	0,892	0,923	0,800	3(5)
	PI4	0,910	***				
	PI5	0,938	***				
FAMILY AND FRIENDS	FF6	0,879	***	0,923	0,924	0,801	3(4)
	FF7	0,902	***				
	FF8	0,904	***				
PRICE	P10	0,838	***	0,870	0,869	0,689	3(4)
	P11	0,824	***				
	P12	0,828	***				
SOCIAL	S14	0,870	***	0,884	0,887	0,724	3(4)
	S16	0,886	***				
	S17	0,794	***				

Constructs	Items	(Confirmatory Factor Analysis) Factor Loadings	P-value	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Final number of items after deletion of some items and (initials)
CULTURE	C18	0,936	***	0,927	0,928	0,813	3(4)
	C20	0,954	***				
	C21	0,808	***				
BRAND NAME	BN22	0,915	***	0,898	0,898	0,746	3(4)
	BN23	0,843	***				
	BN24	0,830	***				
PRODUCT FEATURES	PF26	0,898	***	0,950	0,950	0,825	4(4)
	PF27	0,912	***				
	PF28	0,933	***				
	PF29	0,889	***				
MOTIVATION	M30	0,902	***	0,906	0,908	0,768	3(4)
	M31	0,815	***				
	M32	0,909	***				
PERCEPTION	PER33	0,872	***	0,851	0,819	0,605	3(4)
	PER34	0,619	***				
	PER36	0,820	***				
ATTITUDE	ATT37	0,914	***	0,966	0,966	0,877	4(5)
	ATT38	0,933	***				
	ATT39	0,937	***				
	ATT41	0,961	***				
REFERENCE GROUP	RG43	0,847	***	0,957	0,952	0,798	5(7)
	RG44	0,931	***				
	RG45	0,954	***				
	RG46	0,881	***				
	RG47	0,849	***				

*Indicates the significance of the factor at 99% confidence interval.

Table 5.19 below shows the correlation analysis. The statistical evidence of discriminant validity is presented and discussed through the matrix of correlations and AVE square root coefficients (See Table 5.19).

5.8.2.2 Discriminant Validity

Discriminant validity is the extent to which a latent variable or construct discriminates from other latent variables (Taherdoost, 2016). Discriminant validity analyses data to the extent where varied hidden or dormant variables are excluded (Malhothra *et al*., 2017). A variable is considered valid when its

variance shows a hidden exclusive variable leaving all non-exclusive variables out (Zikmund & Babin, 2017). The discriminant validity is gauged when the AVEs are more than the common variance (Zikmund & Babin, 2017). The square root of the AVE is expected to be above the inter-construct correlation coefficients. Discriminant validity was assessed by comparing correlations between all pairs of constructs with the square root of AVE of each construct (Malhotra *et al*., 2017). The inter-correlations that are greater than the square root of AVE is indicative of poor discriminant validity between the constructs involved. Discriminant validity is achieved by comparing average variance extracted (AVEs) and squared inter-construct correlations (SICs) (Hair *et al*., 2017).

Below is the Table 5.19 correlation Matric to assess the discriminant validity.

Table 5.19: Correlation matrix to assess the discriminant validity.

	P	FF	PI	S	C	M	ATT	PF	BN	PER	RG
P	**0,830**										
FF	0,621	**0,895**									
PI	0,674	0,581	**0,894**								
S	0,718	0,811	0,549	**0,851**							
C	0,525	0,716	0,382	0,773	**0,902**						
M	0,799	0,658	0,732	0,671	0,494	**0,876**					
ATT	0,692	0,477	0,698	0,527	0,375	0,770	**0,936**				
PF	0,763	0,529	0,715	0,546	0,328	0,864	0,841	**0,908**			
BN	0,771	0,559	0,743	0,550	0,341	0,845	0,804	0,928	**0,863**		
PER	0,763	0,567	0,797	0,643	0,471	0,821	0,847	0,863	0,845	**0,778**	
RG	0,583	0,775	0,409	0,841	0,795	0,560	0,442	0,431	0,432	0,493	**0,893**

*Diagonal figures in bold represent AVEs while the figures below the AVEs represent SIC

Table 5.19 provides the correlation matrix to assess the discriminant validity**.** The abbreviations in table 5.19 are as follows:

Dependent variable: PI= Purchase intention.

Independent variables: P= Price**,** FF= Family and friends, S= Social, C= Culture, M= Motivation, ATT= Attitude, PF=Product feature, BN=Brand name, PER=Perception, and RG=Reference group.

5.9 Initial Measurement Model (Unimproved)

Hair *et al*. (2017) states that before modelling and performing the SEM, the researcher needs the validation of measurement model of all latent constructs for validity and reliability. The steps involve the validation of CFA to show the initial model, order for all constructs, and latent constructs. The measurement model has to achieve the requirements for validity that include convergent validity, discriminant validity, and construct validity. The following is the summary of default model

Result (Default model)

Minimum was achieved
Chi-square = 3175,896
Degrees of freedom = 1025
Probability level = 000

Table 5.20: Model Fit Summary 1

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	151	3175,896	1025	,000	3,098
Saturated model	1176	,000	0		
Independence model	48	18883,291	1128	,000	16,741

Based on figure 5.12 below, the fitness indices have not been met and achieved at the required level. The factor loading item, therefore, needs to be deleted from the model when the fitness indices are not achieved (Hair *et al*. (2017). The initial measurement model is shown below in figure 5.12.

The initial measurement model is shown below in figure 5.12.

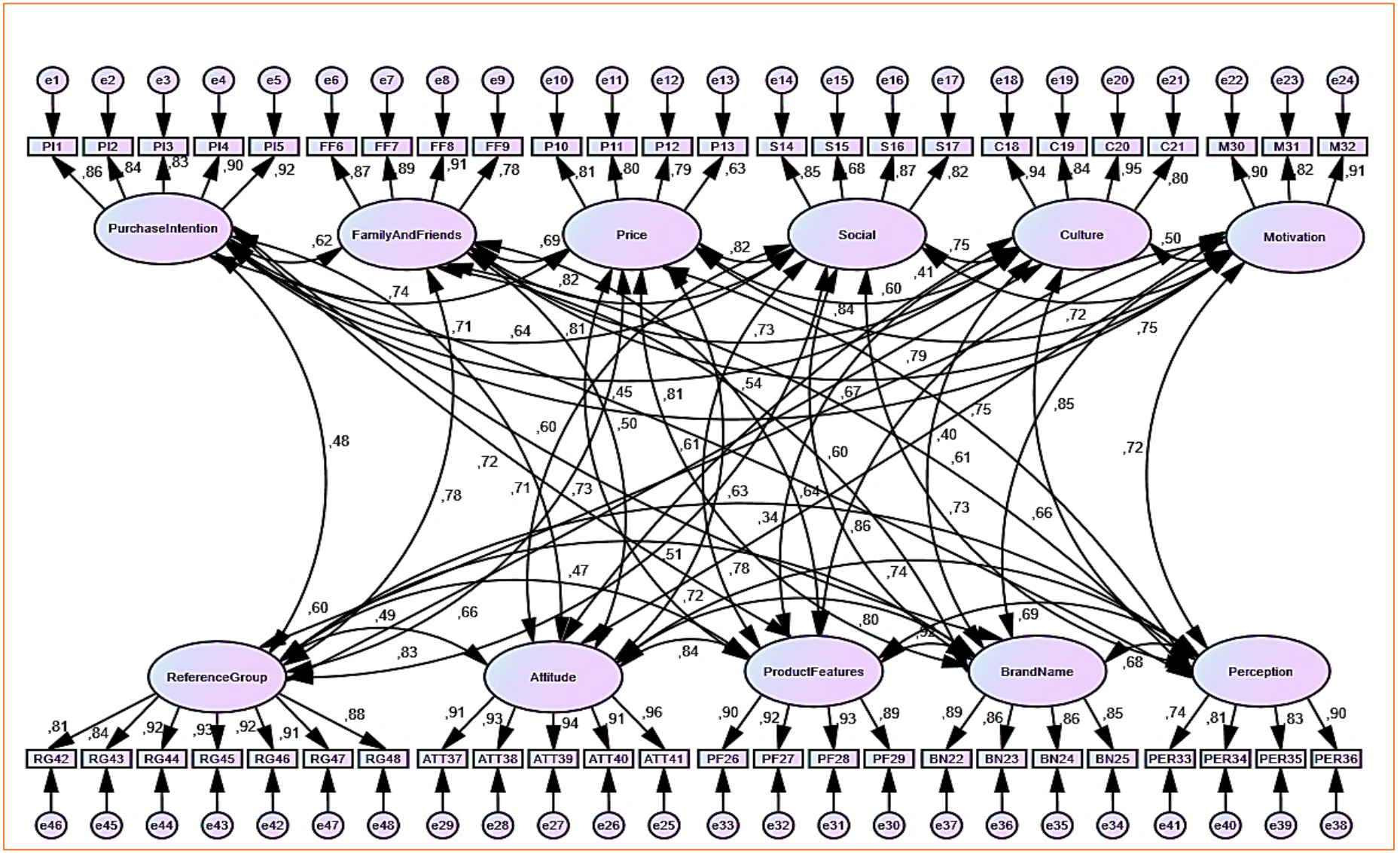

Figure 5.12: Initial measurement model (Unimproved)

In order to improve the model during the CFA process, 11 measurement items were deleted namely; P11, PI3, FF9, P13, S15, C19, BN25, PF26, PER35, ATT40, and RG42, and 37 items remained on the measurement model. The deleted items were removed because their factor loading are lower and have not met and achieved the required level. It is good practice to assess the fit of each construct and its items individually to determine whether there are any items that are particularly weak. Items with low factor loading (less than **.**20) should be removed from the analysis as this is an indication of very high levels of error. Following this, each construct should be modelled in conjunction with every other construct in the model to determine whether discriminant validity has been achieved. The improved model is shown and discussed below.

5.10 Final Measurement Model (Improved)

The SEM goal is to provide the best estimates on how well the model fits; it gives the Goodness-of-fit measures to help the researcher evaluate the model's fit. After inspecting the results, it was found that the model could be adjusted to improve the GFI and CFI model fit indices and try to improve the fit. In order to see the required thresholds, the Chi-Square/df (CMIN/df) should be less than 3 for the model to be acceptable. The improved model yields a Chi-square = 1361.197, degree of freedom (df) = 570 and p. value = 0.000 (Significant). As indicated in Table 5.16, fit indices show an acceptable Goodness-of-fit between the data and the tested model (CMIN/df = 2.388, TLI = 0.930, CFI = 0.940, GFI = 0.804, NFI = 0.902 and RMSEA = 0.067). According to the Goodness-of-fit indices the model is deemed acceptable because RMSEA and GFI are acceptable and could not be improve further. In SEM, the absolute fit relates to the Model fit at its best performance, meaning that all the indices need to be good.

The improved model (final measurement model) is an improvement from the initial measurement model (unimproved model) as there are no more insignificant relationships among factors in this model.

Result (Default model)

Minimum was achieved
Chi-square = 1361,197
Degrees of freedom = 570
Probability level = 000

Table 5.21: Model Fit Summary 2

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	133	1361,197	570	,000	2,388
Saturated model	703	,000	0		
Independence model	37	13914,772	666	,000	20,893

Below is Figure 5.13 presenting the final measurement model (Improved) where. 11 measurement items were deleted namely; P11, PI3, FF9, P13, S15, C19, BN25, PF26, PER35, ATT40, and RG42, and 37 items remained on the measurement model. By deleting indiscriminant items fit is likely to improve the model. The modification is required to obtain a better-fitting model. AMOS allows for the use of modification indices to generate the expected reduction in the overall model fit chi-square for each possible path that can be added to the model. It is good practice to assess the fit of each construct and its items individually to determine whether there are any items that are particularly weak. Items with low factor loading (less than .20) should be removed. Following this, each construct should be modelled in conjunction with every other construct in the model to determine whether discriminant validity has been achieved. One test which is useful to determine whether constructs are significantly different is discriminant validity test. If the value is greater than 1.0 discriminant validity has not been achieved and further inspections of item cross-loadings need to be made. By deleting indiscriminant items fit is likely to improve the model.

Therefore, the model that was adopted in this study fits the data well because it is above 50%.

Figure 5.13 below represents the final measurement model (improved).

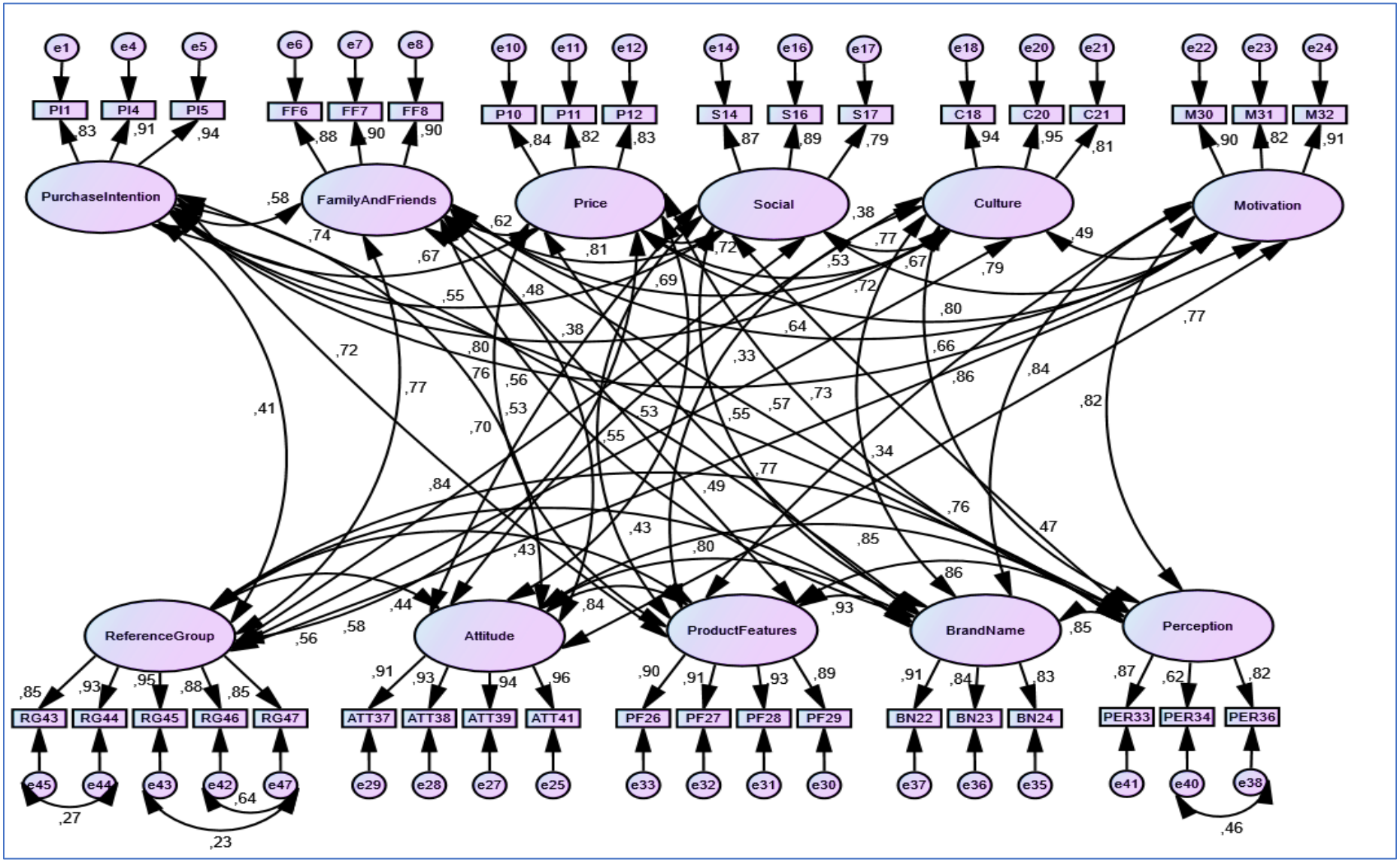

Figure 5.13: Final measurement model (Improved)

The following section is the discussion of the structural model analysis.

5.11 Structural Equation Model of Research Conceptual Model

The structural equation model analysis is based on the proposed conceptual model (See Figure 3.1 in chapter 3) of the current study that was tested. The structural model was tested using the maximum likelihood, performed with IBM SPSS AMOS 27 (Malhothra *et al*., 2017). Following the procedure recommended by Hair *et al*. 2017, the measurement model was first evaluated for its validity and assessed to test the significance of the paths and coefficients to determine the outcome variable. The beta coefficient and P- values were used.

Below is a graphic representation of the structural model.

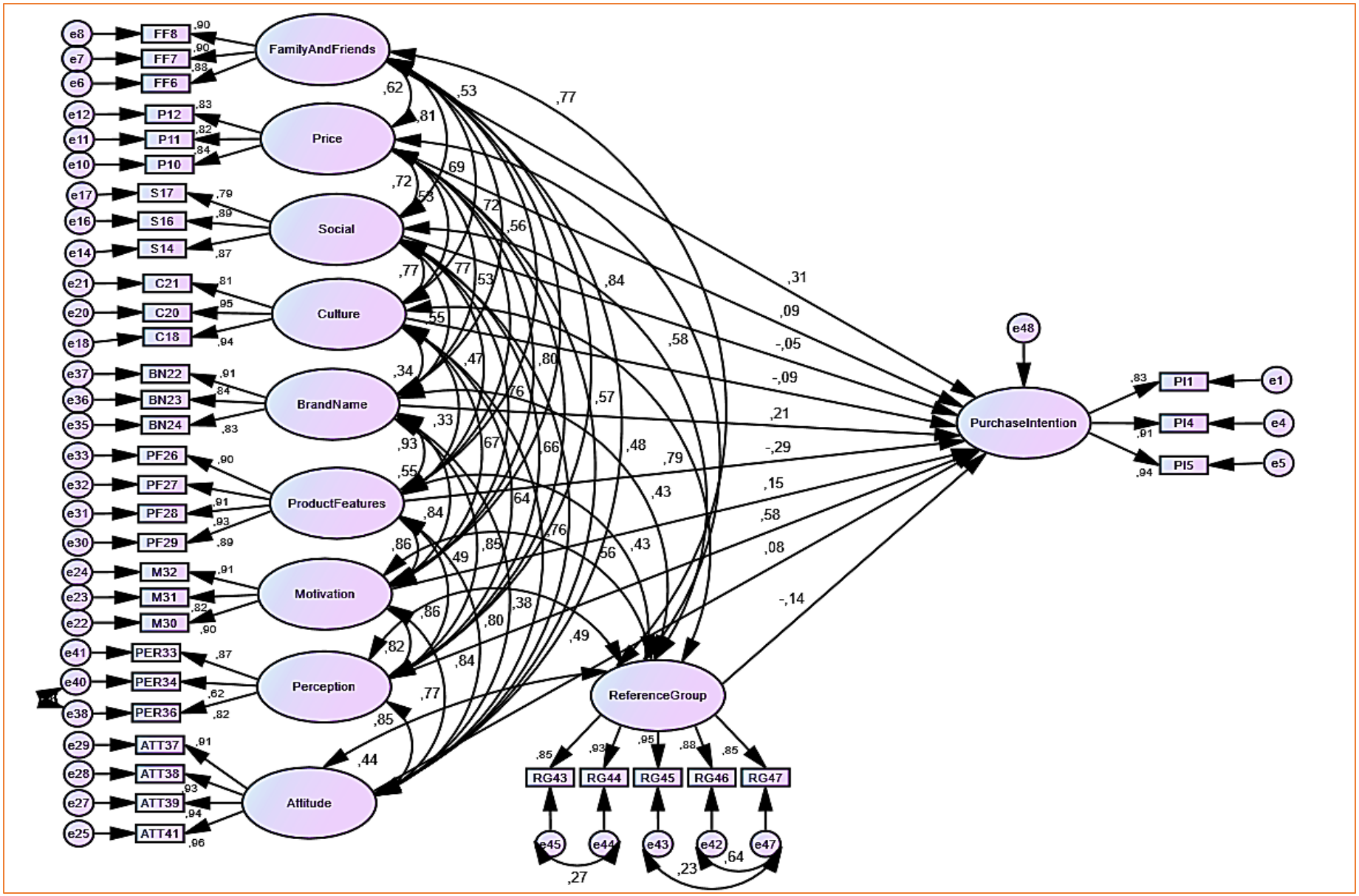

Figure 5.14: Structural model

The beta coefficient is the degree of change in the outcome variable for every 1 unit of change in the predictor variable (Zikmund & Babin, 2017). If the beta coefficient is significant, you should examine the sign of the beta (Hair *et al*. (2017). If the beta coefficient is positive, the interpretation is that for every 1 unit increase in the predictor variable, the outcome variable will increase by the beta coefficient value (Hair, 2018). If the beta coefficient is negative, the interpretation is that for every 1 unit increase in the predictor variable, the outcome variable will decrease by the beta coefficient value. For example, if the beta coefficient is 0.80 and thus significant; then for each 1 unit increase in the predictor variable, the outcome variable will also increase by 0.80 units. Beta weights the yielded information about the extent to which a predictor is receiving credit for predicting the outcome variable in the regression equation, assuming other predictor variables held constant (Saunders, Lewis & Thornhill, 2019).

A p-value (P=0.05) is the degree of probability that an observed difference could have occurred just by random chance. The lower the p-value, the greater the statistical significance of the observed difference (Hair, *et al*, (2017). According Zikmund and Babin (2017), P-value can be used as an alternative to or in addition to pre-selected confidence levels for hypothesis testing.

Based on the Figure 5.14 of the structural model as shown above, the following section discusses the findings on the hypotheses' relationships of the conceptual model.

5.12 The Hypothesised Relationships of a Conceptual Model Results

The structural model above (See Figure 5.14) indicates that the parameters used to evaluate the hypothesis indicate that the null hypothesis should be rejected. The null hypothesis states that no relationship exists between each of the variables namely: family and friends, price, social, culture, brand name, product feature, perception, motivation, attitude, and reference group. The presentation of the parameters used to evaluate the hypotheses relationship is shown in Table 5.20 below.

Table 5.22: Hypotheses testing results

Dependent variables		Independent variables	β values	P-values
Purchase Intention	<---	Family and Friends	0,310	0,000
Purchase Intention	<---	Price	0,092	0,354
Purchase Intention	<---	Social	-0,055	0,683
Purchase Intention	<---	Culture	-0,091	0,275
Purchase Intention	<---	Brand Name	0,207	0,212
Purchase Intention	<---	Product Features	-0,293	0,106
Purchase Intention	<---	Motivation	0,158	0,208
Purchase Intention	<---	Perception	0,581	0,000
Purchase Intention	<---	Attitude	0,082	0,400
Purchase Intention	<---	Reference Group	-0,137	0,174

H1: Family and Friends have Significant Influence on Low-Income Consumers' Purchase Intention of Smartphones.

To test Hypothesis 1, SEM was utilised to find the statistical significance level of P-value =0.05. The purpose was to determine if family and friends have an influence on low-income consumers' purchase intention towards smartphones. Based on the results of the study (See Table 5.22) family and friends have a positive (β=0.310) and significant (P= 0.000) impact on purchase intention as the p-value is lower than 0.05. This means that, when family and friends improves by 1 standard deviation, there is a 99% chance that purchase intention also goes up by 31% of its own standard deviation. This means that family and friends positively predicts the impact of purchase intention at 31%. The Beta (β) was employed to analyse the percentage's answers (Tabassum, Khan & Farhana, 2017). Beta value is an instrument used to assess the strength where each predictor variable impacts the dependent variable, meaning that the closer the value is to ±1, the stronger the relationship (Tabassum, Khan & Farhana, 2017). Since the Beta is positive with a significant p-value, the results could mean that the higher the family and friends, the higher the purchase intention. Purchase intension is highly related to family and friends. Therefore, $H_1$1 is accepted.

H2: Price has Significant Influence on Low-Income Consumers' Purchase Intention for Smartphones.

The results in Table 5.22 indicate that, Hypothesis 2 was tested using SEM to determine the statistical significance level of P-value =0.05. The purpose was to determine if price has an impact on low-income consumers' purchase intention towards smartphones. The results of the study indicate that (See Table 5.20) price has a non-significant impact on purchase intention as the p-value (0,354) is higher than 0.05, meaning that the price will not translate into the improvement of purchase intention. Price has a negative (β=0.092) beta coefficient, the interpretation is that for every 1 unit increase in the predictor variable, the outcome variable will decrease by the beta coefficient value. This means that improving the price will not translate into an improvement of purchase intention. Therefore, $H_1$2 is rejected.

H3: Social factors has Significant Influence on low-income consumers' purchase intention for smartphones.

Hypothesis 3 was tested using SEM to find statistical significance level of P-value =0.05. The purpose was to determine if social factors have an impact on low-income consumers' purchase intention towards smartphone. The results of the study indicate that (See Table 5.22), social has a non-significant impact on purchase intention as the p-value (0,683) is higher than 0.05. Social factors have a negative (β=-0.055) beta coefficient, which means that for every 1unit increase in the predictor variable, the outcome variable will decrease by the beta coefficient value. The results of the study indicate that improving the social factor will not translate into an improvement of purchase intention. $H_1$3 is thus rejected.

H4: Culture has Significant Influence on Low-Income Consumers' Purchase Intention for Smartphones.

To test Hypothesis 4, SEM was utilised to find statistical significance level of P-value =0.05. The purpose was to determine if culture has an influence on low-income consumers' purchase intention towards smartphones. From the findings, it is found that culture has a negative (β=-0.091) beta coefficient, and insignificant effect (p-value = 0.275) on purchase intention (See Table 5.22) below. The beta coefficient is negative, meaning that for every 1 unit increase in the predictor variable, the outcome variable will decrease by the beta coefficient value. Since the Beta is negative with a non-

significant p-value, this could mean that it will not increase the purchase intention. Therefore, $H_1$4 is rejected.

H5: Brand name has Significant Influence on Low-Income Consumers' on Purchase Intention for Smartphones.

To identify if brand name has an influence on low-income consumers' purchase intention, Hypothesis 5 was tested using SEM to find statistical significance level of P-value =0.05. The results of the study indicate that (See Table 5.22) brand name has a non-significant p-value= 0.212 > 0.05 effect on purchase intention. The Beta value (β=0.207) is non-significant, and shows that there is a weak relationship between brand name and purchase intention. The beta coefficient is weak, meaning that for every 1 unit increase in the predictor variable, the outcome variable will remain constant by the beta coefficient value. The results therefore imply that brand name will not translate into purchase intention. Therefore, $H_1$5 is rejected.

H6: Product Features have Significant Influence on Low-Income Consumers on Purchase Intention for Smartphones.

To test Hypothesis 6, SEM was utilised to find statistical significance level of P-value =0.05. The purpose was to determine if product features have an influence on purchase intention towards smartphones among low-income consumers. The research results indicate that (See Table 5.22) product features do not have significant effect on purchase intention as the p-value (0.106) is greater than 0.05. The Beta coefficient is negative (β=-0.293), meaning that for every 1 unit increase in the predictor variable, the outcome variable will decrease by the beta coefficient value. The results indicate that product features will not translate into an improvement of purchase intention. Therefore, $H_1$6 is rejected.

H7: Motivation has Significant Influence on Low-Income Consumers' Purchase Intention for Smartphones.

In this study, Hypothesis H7 was developed to determine if there is a statistical significant between motivation and purchase intention. SEM was utilised to find statistical significance level of P-value =0.05. The results in indicate that (See Table 5.22) motivation does not a have significant effect on purchase intention as its p-value (0.208) is greater than 0.05. The Beta coefficient is positive (β=0.158),

meaning that for every 1 unit increase in the predictor variable, the outcome variable will be zeroed by the beta coefficient value. In other words there is no relationship between motivation and purchase intention. This implies that motivation will not translate into purchase intention. Therefore, $H_1$7 is rejected.

H8: Perception has Significant Influence on Low-Income Consumers' Purchase Intention for Smartphones.

To test Hypothesis 8, SEM was utilised to find statistical significance level of P-value =0.05. The purpose was to determine if perception has an influence on purchase intention towards smartphones among low-income consumers. Based on the results of this study, perception has a positive (β=0.581) beta coefficient and significant (P= 0.000) impact on purchase intention as its p-value is lower than 0.05 (See Table 5.22) below. The results indicate that when perception improves by 1 standard deviation, there is a 99% chance that purchase intention also goes up by 58.1% of its own standard deviation. This means that perception positively predicts the impact on purchase intention at 58.1%. Since the Beta is positive with a significant p-value, this could mean that the higher the perception, the higher the purchase intention. Purchase intension is highly related to perception. Therefore, $H_1$8 is accepted.

H9: Attitude towards Smartphones has Significant Influence on Low-Income Consumers' Purchase Intention to acquire them.

To test Hypothesis 9, P-values were used to test statistical significance of attitude towards purchase intention. SEM was utilised to find statistical significance level. The purpose was to determine if attitude has an influence on purchase intention towards smartphones among low-income consumers. So much of the respondents disagree with the statements of attitude being a factor that influences purchase intention that attitude does not have a significant impact on purchase intention as its p-value (0,400) is greater than 0.05. The Beta coefficient is positive (β=0.158), meaning that for every 1 unit increase in the predictor variable, the outcome variable will be zeroed by the beta coefficient value. In other words motivation will not translate to an improvement of purchase intention. Therefore $H_1$9 is rejected.

H10: Reference Group have Significant Influence on Low-Income Consumers' towards Purchase Intention for Smartphones.

Hypothesis 10 was tested using SEM in order to determine if reference group has an influence on purchase intention towards smartphones. Based on the results below (Table 5.22) reference group has a negative (β=-0,137) beta coefficient and non-significant impact on purchase intention because the p-value (0.174) is higher than 0.05. The negative Beta coefficient means that for every 1 unit increase in the predictor variable, the outcome variable will decrease by the beta coefficient value. Therefore, reference group will not translate into purchase intention and $H_1$10 is rejected.

The hypothesis testing (See Table 5.20) represents if the amount of change in the dependent variable that is attributable to a single standard deviation unit is worth any change in the predictor variable (Hair, *et al.*, 2017). Table 5.22 is the summary of standardised regression weight and the hypothesis conclusion.

5.13 Summary

In conclusion, the analysis of the demographic information of the respondents that includes: gender, race, age, and educational background, has been discussed and presented. This includes the demographic results of the respondents and other descriptive statistics. Confirmatory factor analysis (CFA), reliability, convergent validity, discriminant validity and the structural model analysis were discussed. The structural equation modelling (SEM) analysis was also presented to estimate and test a theoretical model; with the objective of explaining their variance. The evaluation of the structural relationships of the variables specified on the conceptual model was also discussed and presented. Testing of the hypotheses and the reliability and validity of the scales were assessed. From the measurement model, using a confirmatory factor analysis (CFA) approach, it was indicated that all the constructs are reliable and valid. When testing the hypotheses, the results indicated that 2 have significant relationships and 8 non-significant relationships. According to the results, family and friends and perception have an impact towards low-income consumers' purchase Intention for smartphones. The results further indicate that product features, reference group, culture, social, attitude, motivation, brand name and price do not have an impact on purchase Intention. The significance of the relationship is measured through the p-value below 0.05.

CHAPTER SIX: DISCUSSIONS, CONCLUSION, AND RECOMMENDATIONS

6.1 Introduction

The previous chapter presented the research findings, analysis, and the interpretation. The current chapter will provide a discussion on research findings and conclusions followed by recommendations of the study. This chapter will further address managerial implications and contributions of the study applied to various research stakeholders that include: smartphone manufacturers, retailers, marketers, network providers, academics, researchers, and policymakers. The limitations of the current study followed by suggestions for conducting future studies will also be discussed. The research objectives for the study, discussed in chapter one, have also been listed.

6.2 Research Objectives of the Study

The primary objective for this research study, as presented earlier in chapter one, was to determine the factors that influence the purchase intention of smartphones by low-income consumers in Gauteng, South Africa to better serve the needs of low-income consumers. To achieve this objective, specific secondary objectives were formulated, namely:

- To determine if external factors (family and friends, price, social, culture, brand name, product features, and reference group) influence the purchase intention of low-income consumers.
- To determine if internal factors (motivation, perception, and attitude) influence the purchase intention of low-income consumers.

6.3 Discussions of Main Findings of the Study

The research findings from the current study are linked to the primary objective of the study. The findings are supported by the theory discussed later in this chapter. Marketers of smartphones suggest that it is essential to promote the buyer's intention as this will lead to an actual purchase (Sun, Zheng & Keller, 2016).

Before testing the hypotheses, the reliability and validity of the scales were assessed. From the measurement model, using a confirmatory factor analysis (CFA) approach, it appears that all the constructs were reliable and valid. When testing the hypotheses, the results indicated 2 significant relationships and 8 non-significant relationships.

Table 6.1 illustrates the results of the hypothesis testing.

Table 6.1: Hypotheses testing results

Hypothesis		Significant	Supported / Rejected
H1 :	Family and friends have significant influence on low-income consumers' purchase intention of smartphones.	β value = 0,310 P-value= 0,000	H_11 is supported
H2 :	Price has significant influence on low-income consumers' purchase intention for smartphones.	β value = 0,092 P-value =0,354	H_12 is rejected
H3 :	Social factors have significant influence on low-income consumers' purchase intention for smartphones.	β value = -0,055 P-value = 0,683	H_13 is rejected
H4 :	Culture has significant influence on low-income consumers' purchase intention for smartphones.	β value = -0,091 P-value = 0,275	H_14 is rejected
H5 :	Brand image has significant influence on low-income consumers' purchase intentions for smartphones.	β value = 0,207 P-value = 0,212	H_15 is rejected
H6 :	Product features have significant influence on low-income consumers' purchase intention for smartphones.	β value = -0,293 P-value = 0,106	H_16 is rejected
H7 :	Motivation has significant influence towards low-income consumers' purchase intention for smartphones.	β value = 0,158 P-value = 0,208	H_17 is rejected
H8 :	Perception has significant influence on low-income consumers' purchase intention for smartphones.	β value = 0,581 P-value = 0,000	H_18 is supported
H9 :	Attitude has significant influence on low-income consumers' purchase intention for smartphones.	β value = 0,821 P-value = 0,400	**H_1**9 is rejected
H10 :	The reference group significant influence on low-income consumers' purchase intention for smartphones.	β value = 0,137 P-value = 0,174	H_110 is rejected

From Table 6.1, the relationship between various independent variables (H1: family and friends, H2: price, H3: Social, H4: culture, H5: Brand name, H6: product feature, H7: motivation, H8: perception, H9: attitude, and H10: reference group) towards purchase intention (dependent variable) are presented in the next section.

The above section is the discussion of testing the hypotheses, below is the discussion about of findings, based on the objectives of the study.

6.3.1 Research Objective 1: To Determine if External Factors Influence Purchase Intention of Low-Income Consumers.

There were certain hypotheses formulated under the first objective: to determine if external factors that include; family and friends, price, social, culture, brand name, product features, and reference group influence purchase intention of low-income consumers.
The discussions of the results on each of the hypotheses are presented in the next section.

- **Hypothesis 1: Family and friends and Purchase Intention**

With regard to the research findings, it was shown that there exist a strong relationship between family and friends and purchase intention. The significance level of family and friends was 0.000 which is lower than the p-value of 0.05. This means that when the influence from family and friends towards smartphone improves by 1 standard deviation, there is a 99% chance that purchase intention also goes up by 58.1% of its own standard deviation. Family and friends have a positive influence on the consumer's decision making towards smartphone purchase intention. Therefore, $H_1$1 hypothesis is accepted.

The siblings, parents, and other family members who would want to use a smartphone may give stronger influence to purchase the smartphone (Amanuel & Engidaw, (2020). Lee and Yung (2016) state that the behavioural pattern of parents in the family is also influential in such a way that parents may spoil their children from childhood by providing the best they can to their children. For example, parents may buy luxury products for their children. The influence of children in the buying process depends on the benefit the product and service will offer. Parents also give freedom to their entire family, as a result, children have the opportunity to say something during the decision-making process and parents will judge the option to buy the product (Mandhachitara & Piamphongsant, 2016). Parents are the source of income but children facilitate the buying process (Mandhachitara & Piamphongsant, 2016). Stage 5 of the consumer buying process, according to Kotler and Armstrong (2018) presented in figure 2.3 in chapter two, signifies that the influence of children arises first followed by the evaluation of alternatives, and finally, parents will make the final decision. The findings for this study on the relationship between family and friends are supported by the study conducted by Belch (2015), who found that family members highly influence decision making at the problem recognition stage on durable products and services at home. Lee and Kyung (2016) go on to comment that parents pay more attention to their children hence trying their best to suit the needs of the children. The individual

who stay with the family tends to be a social friend that could either be a colleague or sibling (Lee & Kyung, 2016). Mostly, family friends are part of social groups that exercise common rules in a social society. The influence of friends creates pressure or a need when someone wants to become a member or join the family (Belch, 2015).

- **Hypothesis 2: Price and Purchase Intention**

Table 6.1 above indicates that the second hypothesis (H2) tests the relationship between the price of a smartphone and purchase intention. The non-significance level of the price has p-value= 0,354 greater than 0.05. From the results of the study it can be concluded that price has a non-significant impact on purchase intention of smartphones among low-income consumers.

The results are conversely supported by Merabet (2020) who found that there is a negative impact on foreign priced products toward purchase intention behaviour. Further empirical studies have confirmed consumers' willingness to pay a higher price for the product because of the favourable country image (Buditama & Aksari, 2017). On the other hand, Winit (2016) noted that price and purchase intention varies based on product categories such as foreign products and local products. The consumer's perceived price of a product or service can negatively or positively impact purchase intention (Noel, 2016). Mudondo (2016) supported that some consumers will seek low prices while other consumers feel that when the product has a higher price, it means it has higher quality and value. A study was conducted on purchase intention of dairy products in Thailand by Unahanandh and Assarut in 2017. The outcome supports the findings of the current study that found that price does not affect purchase intention on daily products due to low involvement of price sensitivity of consumer behaviour on the product (Unahanandh & Assarut, 2017). The results indicate that the price of smartphones does not necessarily influence low-income consumers' purchase intention. It was suggested that other retailers/ vendors such as PEP store and spaza shops are offering smartphone products at a cheaper price, many low-income consumers afford buying the products besides the quality and durability. Additionally, the retail stores such as Jet, Mr Price sells smartphone on credit which makes it affordable for consumers. Therefore, the price factor in this study signifies to have no influence on the purchase intention of smartphones by low-income consumers.

- **Hypothesis 3: Social Factors and Purchase Intention**

From the findings in Table 6.1, Hypothesis (H3) indicates that social factor does not influence low-income consumers' purchase intention towards smartphones. The results show that the p-value is 0,683 and β-value is -0,055, which signifies that H3 is fully rejected.

Although the previous studies conducted by other researchers (Chi, Yeh & Tsa , 2011; Jani & Mzalendo, 2015; Uddin, Reaz, & Oheduzzaman, 2015; Jani & Mzalendo, 2015) show that social factor has significantly positive influence on consumers' purchase intention on mobile phones and celebrity endorsers on foreign products, this is not the case in the current study. The current study has shown that social factor does not have an impact on the purchase intention of smartphones among low-income consumers. It is suggested that, due to their income levels, low-income consumer will go and purchase the smartphones with prices that are low and affordable. There are some retail shops in South Africa that sell affordable smartphones which have cheaper prices such as, PEP shops.

- **Hypothesis 4: Culture and Purchase Intention**

From the results in the current study, cultural factors do not have an impact on purchase intention among low-income consumers towards smartphones. The results show that the p-value is 0,275 and β-value is -0,091 which indicates that $H_1$4 is rejected.

Subculture elements may however not influence buying patterns which influences the transmission of marketing messages through a different medium (Ramadania, Gunawan & Rustam, 2015). Moreover, to support the non-relationship between cultural factors and purchase intention, a study was conducted by Filien and Lin (2017) on the cultural factors that influence consumers' buying behaviour in Turkey. The results show that culture does not have an influence towards the buyer's behaviour. Although Pandey and Dixit (2016) states that people from different cultural groups have diverse cultures and value orientations; this leads to a variety of needs for products and services. For low-income consumers in a South African context, culture does not seem to have influence on purchase intention towards smartphones. Similarly, Ramadania, Gunawan & Rustam, (2015) revealed that subculture groups share elements which are unique to the group they belong to; their attitudes, values, and purchase decisions are different from the broader culture group. Therefore, the variation of culture might not differ in the way of how, when, what, and where to buy products and services (Mooij, 2015).

- **Hypothesis 5: Brand name and Purchase Intention**

Table 6.1 shows the hypothesis (H5) brand name has no impact on smartphone purchase intention. The results show that the significant level of the brand name is a P-value of 0,212 and β-value of -0,207. This simply indicates that brand name has no impact on purchase intention of low-income consumers because the p-value is above 0.000, thus $H_1$5 is rejected.

The brand name and purchase intention of a specific product has been positively supported from previous studies, for instance, a survey conducted by Anosh, Nagui and Ghulam (2014); Sharma, Kumar and Borah (2017); and Abdolvand and Kia (2016) on factors that affect generation Y consumers on smartphone purchase intention in Malaysia, found that there is a positive relationship between brand name and smartphone buying intention. A study done by Cazacu (2014) on brand familiarity in India shows that there exists a relationship between brand name and purchase intention. The results show that consumers would rather buy the product when it is well known than the unknown product because they do not want to take risks due to their low income (Euromonitor SA, 2019).

- **Hypothesis 6: Product feature and Purchase Intention**

As shown in table 6.1, hypothesis (H6) shows that product feature has an insignificant effect towards the purchase intention of smartphones among low-income consumers. The insignificant level of product feature is at 0,106, and the β-value at -0,293; indicating that there is no relationship between product feature and purchase intention. This signifies that H6 is fully rejected. This means that this segment of consumers are not luxurious; they would buy advanced smartphone with additional functionalities such as online purchase, online payments, and e-learning but since their income is low they cannot afford to buy such expensive smartphones.

Based on the studies conducted by Son, Jin and George (2016) and Vida and Cosmos (2016) on factors influencing mobile phones in India, it was revealed that product features influence purchase intention of mobile phones. The results revealed that 85% of consumers give recommendations of mobile phone features such as design, network connectivity access, battery power, and widescreen. Another study by Mudondo (2016) showed findings that are contrary to the findings of the current study. The current study found that product features does not have an impact on purchase intention. This could be because low-income consumers earn less money because of their educational background, as supported by Prahalad *et al*. (2015).

According to Mudondo (2016), who found that the hardware of the device; such as camera, colour, and the weight of the device is taken as additional influencing factors of purchase intention. Cherney (2015) argued that a non-complementary product feature has more influence than complementary product features. In their findings, complementary features were recorded as having a lower probability of purchasing the product as compared to non-complementary features. Therefore, it was concluded that product features such as colour influence the purchasing intention behaviour. A study of adult female consumers in Malaysia's concerning smartphone purchases indicated that their consumer purchase intention was highly influenced by product features. Software of the device was recorded at 86%when compared to other factors (Vida & Cosmos, 2016). Interestingly enough, this was not the outcome in this study. This is suggested that this segment of consumers are not luxurious; they would buy advanced smartphones with additional functionalities such as online purchase, online payments, and e-learning but, since their income is low they cannot afford to buy such expensive smartphones (Cherney, 2015),

- **Hypothesis 10: Reference group and Purchase Intention**

The hypothesis (H10) in this study shows that reference group has a negative impact with the smartphone purchase intention of low-income consumers. Table 6.1 indicates that the reference group variable has insignificant p-value (0,174) which is greater than the alpha value of 0.05. This means that the reference group is insignificantly negative to purchase intention.

To support the relationship, previous studies have also indicated that there exists a negative relationship between the reference group and purchase intention. Schiffman and Kanuk (2015) pointed out that reference group affects purchase intention and has a negative influence in determining brand choice, especially to those individuals staying alone. These findings support the current study which shows that reference group does not have impact on smartphone purchase intention. Conversely, Hwang and Chung (2019) explored factors affecting consumers in Malaysia with the concern to buy foreign products and local products. They found that Chinese consumers consider most reference groups as the highest influencing factor for their purchase intention. Similarly, the outcome of a study conducted on reference group through peers by Khan in India in 2008, shows that reference group has influence on purchase intention through celebrity endorsement, and family among youngsters for apparel products. The results found that the reference group, through information seeking, influences members. It was recorded to have a positive relationship with purchase intention among female respondents' responses. However, the current study shows interesting results that disagrees with the

outcomes of these previous studies. It suggested that the studies were conducted in different countries which may have different consumption choices and behaviours. In this study both males and females participated but the focus of the study was on smartphone purchase intention for consumers more than 18 years and below 64 years of age who earn ZAR3000- ZAR6000 per month. Therefore, it is assumed that, because studies are done in different settings, consumers may also differ in the way they behave (Ibrahim & Najjar, 2015).

6.3.2 Research Objective 2: To Determine if Internal Factors Influence the Purchase Intention of Low-Income Consumers

Various hypotheses were formulated in order to achieve research objective 2; to determine if internal factors that include; motivation, perception, and attitude influence the purchase intention of low-income consumers.

- **Hypothesis 7: Motivation and Purchase Intention**

The seventh hypothesis (H7) in Table 6.1 shows that motivation has a insignificant level at 0.208 which is greater than 0.05 and indicates that no relationship between motivation and purchase intention exist. Conversely every consumer has different needs such as social and biological needs in life. The need for a human being becomes a motive when the need is demanding to seek satisfaction (Patel, 2016).

Cozer & Wikner (2018) suggested that originality of the product is also a motivational factor to purchase a product; the desire to buy original or unique products that others do not have or that cannot be found in regular stores. Conversely, the current study found that motivation does not have an impact on purchase intention towards smartphones among low-income consumers.

Motives drive consumers towards goal satisfaction on a specific need (Shiffman & Kanuk, 2015) and this triggers, inspires, stimulates, and expresses the consumer's behaviour towards their purchasing goals on apparel products, and electronic products among the upper consumers' group (Patel, 2016). Interestingly, the current study rejected the hypothesis that motivation has an influence on purchase intention as it is applied to smartphones and to low-income consumers. The findings are supported by Yolanda, Nurismilida and Herwinda (2017) on factors that affect the apparel retail industry on visual merchandising exhibition towards consumers' purchase intention in Tshwane, South Africa. The results found no influence of motivation that affects consumer purchase behaviour. Therefore, the

current study disagrees that there is a positive relationship between motivation factors on consumers' purchase intention of smartphones. It is assumed that the studies were done on different demographic characteristics, different customer income levels, and with different dependent variables.

- **Hypothesis 8: Perception and Purchase Intention**

The eighth hypothesis (H8) of the conceptual model is the consumer perception relationship with purchase intention. The relationship indicates to be significantly positive with a level of 0.000 which is less than the alpha value of 0.05. Perception has impact on purchase intention as its p-value is lower than 0.05. This means that when perception improves by 1 standard deviation, there is a 99% chance that purchase intention also goes up by 58.1% of its own standard deviation. Therefore $H_1$8 is accepted.

The current relationship is widely supported by previous studies. Chiu and Leng (2016) conducted a study on fashion in China and the findings revealed that there exists a positive relationship between consumer perception and purchase intention. When the consumers perceive the high quality of a product, then it will lead to higher purchase intention. Based on the findings, this means that there is a positive perception of low-income consumers towards the purchase intention of smartphones. The relationship is supported by a foreign and local brands study conducted by Asshidin (2016); which explored the relationship between consumer perception on foreign and local products in the United States of America. The results found that perception has a positive relationship with purchase intention. Another study was conducted by Yunus and Rashid (2015), in Japan, to investigate how global brands and perceived quality could be affected by consumer perception. The findings show that perception plays an important role in purchase intention and showed positive influence and significance. Strydom (2017) states that the relationship between purchase intention and perception develops when consumers select things that they can see, and hear and they reject those which are not useful so that they protect themselves from the harmful content. Through advertisements Kotler (2016) adds that consumer's store a message in their memory and that may develop into a positive impact if their thoughts are. Otherwise they just ignore the message. Additionally, to support the results of the relationship, a study was conducted in South Africa among black middle class females on factors that affect global fashion products (Strydom, 2017). The results show that black South African females who are in the middle class are influenced by their perception of global fashion brands. The quality of the product plays a significant role in developing a marketing mix strategy because it creates positive consumer perception towards smartphones (Pakol, 2016).

In conclusion, consumers' perception towards smartphones has a significantly positive influence and influences low-income consumer's purchase intention.

- **Hypothesis 9: Attitude and Purchase Intention**

The ninth hypothesis (H9) in figure 3.1 in chapter three of the conceptual model is consumer attitude towards smartphone purchase intention. From the findings of the study, a significant level is at 0,400 which is greater than P-value of 0.05. This implies that improving attitude will not translate into an improvement of purchase intention. Therefore, there is no relationship between attitude and purchase intention of smartphones.

The results of the current study are in disagreement with the study explored by Hwang and Chung (2019) of females' purchase intention on organic foods. The study used TPB model and found that the relationship between attitude and purchase intention is positive. Additionally, a survey on fashion apparel products was conducted by Islam and Rahman (2014). The results indicate that consumer attitude towards apparel products has a strong influence on purchase intention, meaning that attitude has a strong influence on female buying behaviour of fashion apparel products.

This is not the case with purchase intention of smartphones among low-income consumers. Attitude is mostly discussed as a key variable in consumers' purchase intention and is a reliable forecasting tool for future actual purchases (Panova, Tayana, Carbonell & Xavier, 2018). Thus, the attitude variable cannot be sidelined or ignored as several studies have supported and other have not supported to have a relationship with purchase intention (Balabanis & Siamagka, 2017; Chiu & Leng, 2016) To summarise, consumer attitude towards the purchase intention of smartphones among low-income consumers has shown insignificant negative influence.

6.4 Summary of Main Findings of the Study

This section gives the summation of the main findings of the research through the evaluation of the research objectives and purpose of the study that was discussed earlier. The findings are drawn straight from research goals set for the study. Below is the summation of main research findings.

6.4.1 Summary of Main Findings of Research Objective 1: To Determine if External Factors Influence Purchase Intention among Low-Income Consumers

- **Summary of Main Findings of H1 (Family and Friends and Purchase Intention)**

Family and friends was the first external factor to assess the impact that have on low-income consumers' purchase intention. Based on the results of the study family and friends have a positive significant (P= 0.000) effect on purchase intention as its p-value is lower than 0.05, the results could mean that the higher the family and friends, the higher the purchase intention. Purchase intension is highly related to family and friends by both siblings, parents, and other family members who would want to use a smartphone may give stronger influence to purchase the smartphone. The behavioural pattern of parents in the family is also influential in such a way that parents may spoil their children from childhood by providing the best they can to their children. Parents may also give freedom to their entire family, as a result, children have the opportunity to say something during the decision-making process and parents will judge the option to buy the product.

- **Summary of Main Findings of H2 (Price and Purchase Intention)**

It was found that the price of smartphones does not necessarily influence low-income consumers' purchase intention. The respondents had negative response towards price of smartphone. Therefore, the price factor in this study signifies to have no influence on the purchase intention of smartphones by low-income consumers. The non-significance level of the price has p-value greater value (p-value= 0.354 > 0.05), meaning that the improvement of price will not translate into the improvement of purchase intention

- **Summary of Main Findings of H3 (Social Factors and Purchase Intention)**

The study found that social factors does not have an impact on the purchase intention of smartphones among low-income consumers. Social has a non-significant impact on purchase intention as its p-value (0,683) is higher than 0.05. This means that improving the social factor will not translate into an improvement of purchase intention. Due to the income levels of low-income consumer, they will go and purchase the smartphones with prices that are low and affordable.

- **Summary of Main Findings of H4 (Culture and Purchase Intention)**

It was found that, cultural factors do not have an impact on purchase intention among low-income consumers towards smartphones. The results shows that the p-value is higher than 0.05. Although subculture groups share elements which are unique to the group they belong to; their attitudes, values, and purchase decisions are different from the broader culture group. The variation of culture might not differ in the way of how, when, what, and where to buy products and services. This means that for low-income consumers in a South African context, culture does not seem to have influence on purchase intention towards smartphones.

- **Summary of Main Findings of H5 (Brand Name and Purchase Intention)**

It was found that brand name has no impact on smartphone purchase intention. The results show that the significant level of the brand name is above P-value of 0.5. Culture has a negative (β=-0.091), and insignificant effect (p-value=0.275) on purchase intention. Although, consumer's purchase intention is high when the consumer has gained more information about the product through advertisements on TV, radio, and through other communication channels. The consumer often avoids the risk of buying an unknown product hence they will require more information about the product. The more knowledge the consumer has about the brand name, the higher the purchase intention, and the more likely he is to purchase the product. Therefore, in this study, brand name do not have significant influence on low-income consumers' purchase intention

- **Summary of Main Findings of H6 (Product Features and Purchase Intention)**

The assessment was done to determine if product features have an influence on purchase intention towards smartphones among low-income consumers. Brand name has a non-significant (p-value= 0.212 > 0.05) effect on purchase intention. This therefore implies that, improving brand name will not translate into an improvement of purchase intention. This means that product features will not translate into an improvement of purchase intention. It was suggested that low-income consumers earn less money because of their educational background, as supported by Prahalad *et al*. (2015). . This means that this segment of consumers are not luxurious to buy advanced smartphone with additional functionalities such as online purchase, online payments, and e-learning but since their income is low they cannot afford to buy such expensive smartphones.

- **Summary of Main Findings of H10 (Reference Group and Purchase Intention)**

It was found that reference group has a negative impact with the smartphone purchase intention of low-income consumers. Reference group has non-significant impact on purchase intention because its p-value (0,174) is higher than 0.05. This means that reference group will not translate into a purchase intention. This means that the reference group negative influence in determining brand choice, especially to those individuals staying alone. The negative results of the current study is suggested that the studies were conducted in different countries which may have different consumption choices and behaviours. Both males and females participated but the focus of the study was on smartphone purchase intention for consumers more than 18 years and below 64 years of age who earn ZAR3000- ZAR6000 per month. Therefore, it is assumed that, because studies are done in different settings, consumers may also differ in the way they behave.

6.4.2 Summary of Main Findings of Research Objective 2: To Determine if Internal Factors Influence Purchase Intention among Low-Income Consumers.

- **Summary of Main Findings of H7 (Motivation and Purchase Intention)**

It was found that motivation significant level was greater than P-value and does also not have a significant effect on purchase intention as its p-value (0,208) is greater than 0.05. Every consumer has different needs such as social and biological needs in life. The need for a human being becomes a motive when the need is demanding to seek satisfaction. Motives drive consumers towards goal satisfaction on a specific need and this triggers, inspires, stimulates, and expresses the consumer's behaviour towards their purchasing goals on apparel products, and electronic products among the upper consumers' group. It is assumed that the studies were done on different demographic characteristics, different customer income levels, and with different dependent variables. Therefore, not relationship exist between motivation and purchase intention for the current study.

- **Summary of Main Findings of H8 (Perception and Purchase Intention)**

The results show that perception has significantly positive influence towards consumers' purchase intention with a p-value of 0.000 which is less than the alpha value of 0.05. When the consumers perceive the high quality of a product, then it will lead to higher purchase intention. Based on the findings, this means that there is a positive perception of low-income consumers towards the purchase

intention of smartphones. The relationship between purchase intention and perception develops when consumers select things that they can see, and hear and they reject those which are not useful so that they protect themselves from the harmful content. This can be done through advertisements where consumers store a message in their memory and that may develop into a positive impact if their thoughts are.

- **Summary of Main Findings of H9 (Attitude and Purchase Intention)**

From the findings of the study, it was found that attitude does not have a significant impact on purchase intention as its p-value (0,400) is greater than 0.05. This implies that improving attitude will not translate into an improvement of purchase intention. To summarise, consumer attitude towards the purchase intention of smartphones among low-income consumers has shown insignificant negative influence Therefore, there is no relationship between attitude and purchase intention will not translate into purchase intention of smartphone.

In conclusion, the findings of the current study indicated two variables family and friends (External factor) and perception (Internal factor) have significant relationships and eight variable's non-significant relationships with purchase intention' (Price, social, culture, brand name, product features, reference group (External factor), Attitude and Motivation (Internal factors),

See Figure 6.1 below for the results of the conceptual model of the study.

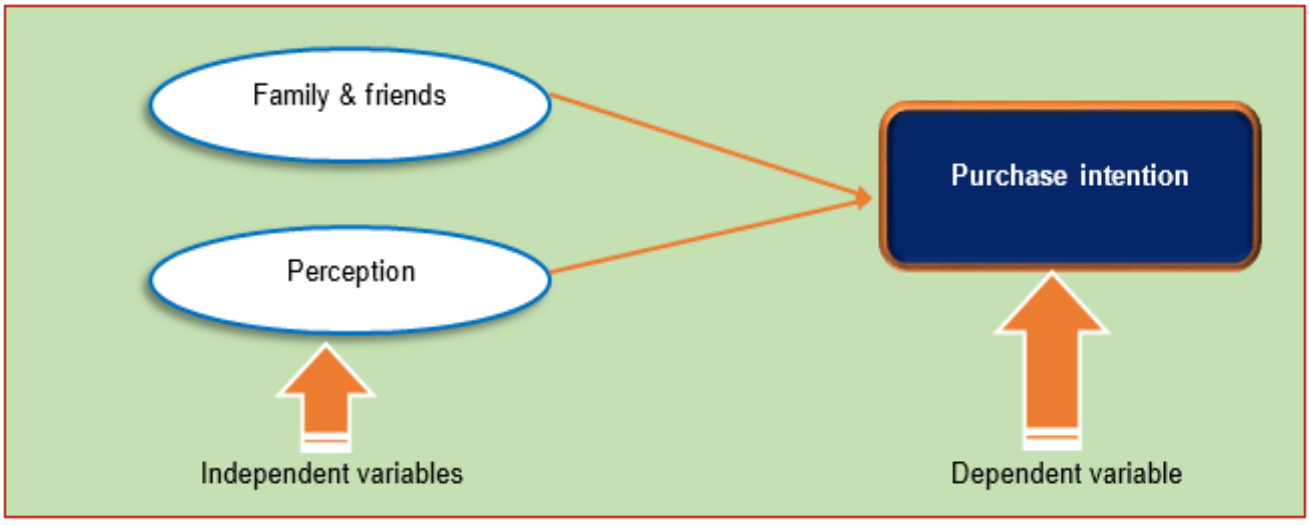

Figure: 6.1: Graphic Presentation of the final model

Figure 6.1 above portrays the two factors that influence the purchase intention of smartphones of among low-income consumers and a summary of final results of the conceptual model.
Family and friends have a positive influence on consumer's decision making towards smartphone purchase intention. The consumer perception relationship with purchase intention indicates to be significantly positive with a level of 0.000 which is less than the alpha value of 0.05.

The above section provides summary discussions of the main findings on the relationship of two variables that influence smartphone purchase intention and eight non-significant and a summary of the final results of the conceptual model. The next section provides the conclusion of the research findings followed by the research contribution of the study.

6.5 Conclusion of Findings

6.5.1 Conclusion on Research Objective 1: To Determine if External Factors Influence Purchase Intention among Low-Income Consumers

In this section, a summation and conclusion have been drawn from the objectives of the study in chapter one which was discussed earlier. The objectives of the study are identified, and conclusions are made from each objective of the study. The current research objectives were twofold, firstly, to determine if external factors (family and friends, price, social, culture, product feature, reference group, and product feature) influence purchase intention among low-income consumers. Secondly, it is to determine if internal factors (motivation, perception, and attitude) influence the purchase intention of low-income consumers.

- **Conclusion of Findings of H1 (Family and Friends and purchase intention)**

The study looked to determine if family and friends influence purchase intention of low-income consumers towards smartphones. Walter, (2015) suggests that users of smartphones will first seek information from family members, particularly those who have used it and have experience. Family members will share viral marketing messages about smartphones available on the marketplace that, in return, will increase the purchase intention. Product information is a vital indicator of purchasing behaviour (Rahman & Mannan, 2018). This means that network providers, and developers should try to improve smartphone working app capabilities, and upgrade software that is user friendly that brings interaction and engagement. This is in line with Lee and Barnes (2016) who found that family and

friends, through information sharing and advice seeking, influence purchase intention of consumer behaviour among low-income consumers towards smartphones.

- **Conclusion of Findings of H2 (Price and Purchase Intention)**

The results of this study revealed that price has no impact on purchase intention (p value= 0,354 > 0.05), meaning that the improvement of price will not convert into the improvement of purchase Intention. Based on the statistical analysis the study shows that price does not influence purchase intention of smartphones. To expand the low-income market share segment and establish attractive potential customers, the smartphone industry should rather consider producing smartphones that are reliable, and have long lasting batteries to induce more customers of this market segment. The results of the survey on money spending conducted by Euromonitor in 2019 revealed that 86% of low-income earners are disposed to spend their income on buying a smartphone, conversely, some consumers will buy a smartphone when they are reasonably priced while other consumers will buy even though the price might be higher because they perceive high quality.

In summary, this current study shows that the price factor has insignificant effect on low-income consumer's purchase intention. The statistics has shown that low-income consumers does not consider price as the main reason for buying a smartphone.

- **Conclusion of Findings of H3 (Social Factor and Purchase Intention)**

As indicated in the findings, social factor has a non-significant impact on purchase intention as its p-value (0,683) is higher than 0.05. This implies that improving social factor will not translate into improving purchase intention. Based on the descriptive statistic results, 39.9% most respondents strongly agree that they would purchase smartphones because they want to stay connected and interact with friends through social media platforms (WhatsApp, YouTube, Facebook, LinkedIn, Twitter, etc.).

- **Conclusion of Findings of H4 (Culture and Purchase Intention)**

With regards to determining if culture influences purchase intention of low-income consumers towards smartphones, culture has a negative (β=-0.091), and insignificant effect (p-value=0.275) on purchase

intention. Meaning that, improving the culture will not translate into an improvement of purchase intention.

From the items identified that determine the influence of culture, it has been indicated that personal culture does not guide them and does not influence the purchase of smartphones. The norms and values that individuals learn from parents such as getting an education, work environment, and community beliefs pass from one generation to the next depending on the ethnic group; which can add value to purchase intention, but not in a South African context. Neither the symbols nor language used on the package influence low-income consumers' purchase intention toward a smartphone in South Africa. Therefore, the analysis of the current study shows that cultural factor has no influence on smartphone purchase intention among low-income consumers. Therefore, marketing and selling of smartphones to low-income consumers should disregard the culture factor because it does not have any impact.

- **Conclusion of Findings of H5 (Brand Name and Purchase Intention)**

From the study which looked at determining if brand name influences purchase intention of low-income consumers towards smartphones, brand name has a non-significant (P-value= 0.212 > 0.05) effect on purchase intention. This therefore implies that, improving brand name will not translate into an improvement of purchase intention**.**

Although family and friends, and perception have significant influence on smartphone purchase intention, the brand name has shown a disagreement to affect the purchase intention of low-income consumers. As stated in the discussion earlier this could be because of the type of consumers that the research investigated (Sharma, Kumar & Borah, 2017). The low-income consumers will not look at the brand of the smartphone due to their level of income. This means marketers and retailers can market and sell any brand of smartphone to low-income consumers disregarding their income levels or the price. This is a clear indication that consumers prefer to buy any brand name available in the marketplace.

To summarise, a literature review from previous studies acknowledges both the positive and negative relationships between brand name and purchase intention to embrace the support of the current research project. Thus, the brand name has no influence towards low-income consumers' purchase intention in Gauteng, South Africa.

- **Conclusion of Findings of H6 (Product Features and Purchase Intention)**

About product features, the research hypothesis looked into determining if product feature influences purchase intention of low-income consumers towards smartphones. The results show that product feature does not have a significant effect on purchase intention as its p-value (0,106) is greater than 0.05.

Product features, as shown in statistical analysis, also form part of a variable that does not influence purchase intention of smartphones; indicated to have an insignificant impact on low-income consumer segments. The statistical results show a disagreement that product feature does not impact smartphone purchase intention, however, product feature plays a vital role in other countries, on other specific income levels, and racial classification might also affect their buying preferences (Mudondo, 2016). Users choose smartphones based on attractiveness, better product quality, built-in applications, speed, accessibility to the internet, and operating systems (Mudondo, 2016).

- **Conclusion of Findings of H10 (Reference Group and Purchase Intention)**

With regards to a conclusion on determining if reference group influence purchase intention of low-income consumers towards smartphones, the results show that reference group has a negative (β=-0,137) and non-significant impact on purchase intention because its p-value (0,174) is higher than 0.05. This means that improving reference group will not translate into an improvement of purchase intention.

Consumers have a tendency to keep up with peer groups and imitate the same buying patterns of their peers (Ibrahim & Najjar, 2015). However, to those who stay alone and do not always engage with other peers frequently, would not imitate others (Haefner, 2016).This means that this depends on the target group of consumers the product is being offered to.

The above section was the discussion of the research conclusion based on the findings. Besides, there exists research limitations in the current project, the study has several recommendations to better understand the drivers that influence low-income consumers towards smartphone purchase intention.

6.5.2 Conclusion of Findings of Research Objective 2: To Determine if Internal Factors Influence Purchase Intention among Low-Income Consumers

In this section, conclusions have been drawn based on research findings of research hypotheses which were formulated in order to obtain the research objective of the study as discussed earlier. The second objective was to determine if internal factors (motivation, perception, and attitude) influence the purchase intention of low-income consumers. Below is the discussion on the conclusion.

- **Conclusion of Findings of H7 (Motivation and Purchase Intention)**

With regards to motivation, it does not influence purchase intention of low-income consumers towards smartphones as its P-value (0,208) is greater than 0.05. Motivation factor does not influence the purchase intention of a smartphone of low-income consumers although motives drive consumers towards goal satisfaction of a specific need (Shiffman & Kanuk, 2015). Consumers' behaviour towards their purchasing goals on apparel products and electronic products was relevant (Patel, 2016), just not to the current study where it disagrees with the statements if applied to smartphone products. From descriptive statistics it was indicated that more respondents intend to purchase a smartphone because it will pass the time when they are alone and bored. Secondly, they are able to get information about products and services through browsing the internet. The overall findings did not agree to have impact on purchase intention hence p-value (0,208) is greater than 0.05. Marketers should focus and look at other variables and implement marketing strategies to target low-income consumers in order to increase their buying intention.

- **Conclusion of Findings of H8 (Perception and Purchase Intention and Purchase Intention)**

Concerning perception, the study looked at determining if perception influences purchase intention of low-income consumers towards smartphones; it has a positive (β=0.581) and significant (P= 0.000) impact on purchase intention as its p-value is lower than 0.05. This means that when perception improves by 1 standard deviation, there is a 99% chance that purchase intention also goes up by 58.1% of its own standard deviation, thus H1(8) is rejected.

The perception was identified to have an influencing effect on purchase intention. Consumer perception towards a product plays a significant role in making the purchase decision and how consumers perceive smartphones determines their level of intention to buy and use it. Successively,

this will lead to actually buying the smartphone. Smartphone companies should increase consumer perception towards smartphones by developing new innovative features, quality, and increase usage functionality to attract more customers. Similarly, studies conducted by Nguyeni (2020) show that Vietnamese consumers buy fashion products that have good quality.

In summary, low-income consumers have a positive perception towards smartphones and have shown a positive relationship with purchase intention which means, a low-income consumer is influenced by perception toward smartphones in South Africa. The low-income earners indicated positively that individuals decide for themselves to buy a smartphone, and purchasing a smartphone is very easy. This means that positive perception towards smartphones increases the purchase intention among low-income consumers.

- **Conclusion of Findings of H9 (Attitude and Purchase Intention)**

The results of the current study of the hypothesis that looked to determine if attitude influences purchase intention of low-income consumers towards smartphones, it seems that attitude does not have a significant impact on purchase intention as its p-value (0,400) is greater than 0.05. This implies that improving attitude will not translate into an improvement of purchase intention

The relationship between attitude and purchase intention of smartphones is not supported in the current study, however, this disagrees with studies conducted on green products by Kumar and Mokhtar (2016); and Yazpandanah and Forouzani (2015) who found that attitude influences the purchasing intention of green products during the decision-making process. Marketers should look for other factors that may influence the purchase intention of smartphones in order to create positive consumer attitude towards smartphones. Consumers with a positive attitude towards green products have a higher purchase intention rate (Haefner, 2016; Yazpandanah & Forouzani, 2015) as compared to attitude of low-income consumers on purchase intention of smartphones as shown in this study. This could be due to the fact that the dependent variable was investigated on different consumers with other income levels. The marketing strategies to be implemented should also be based on the type of marketing segment, and consumer income level for particular products to be positioned in the market place.

6.6 Recommendations of the Study

Based on the research findings and managerial applications, the study draws various recommendations from factors that affect smartphone purchase intention. There are several considerations brought to attention to increase consumers' purchase intention among low-income earners in the South African market segment.

6.6.1 Hypothesis 1: Recommendation Regarding Family and Friends

The first recommendation is based on the findings of hypothesis 1 (H1) where the researcher found family and friends' influence towards smartphone purchase intention. It indicated that low-income consumers strongly agree that family and friends influence them when choosing a phone and that they collect smartphone information from family and friends. It is suggested that retailers, marketers, and manufacturers should pay attention in creating consumer communication messages and campaigns through social media platforms i.e. WhatsApp groups, Twitter, and Facebook that talks about family and friends' view towards smartphones within low-income communities in South Africa. Consumer word of mouth engagements will also be appropriate through shared messages, advertisements, and loyalty programs using television media, radios and digital platforms. Companies should provide products and services which are different from their competitors, moreover, they should engage with consumers via social media platforms through information sharing. Companies should continue to create a good impression and positive mind towards smartphones.

6.6.2 Hypothesis 2: Recommendation Regarding Price

Based on hypothesis 2 (H2) of the study, the researcher found that price had no influence on low-income consumers towards purchase intention. The smartphone brand retailers should consider applying pricing strategies that are different from the other consumers' segment, for instance, prices should be differentiated to targeted consumers to maximize their profits since low-income consumers could afford to buy cheaper smartphones due to their low income levels (Konuk, 2019). It is therefore suggested that manufactures and retailers of smartphones should use standardised market price strategies and adapt their pricing strategically to positively reach the target consumers. This is in line with Son *et al.* (2016) who found that Indian consumers are not price-sensitive towards junk foods. Therefore, marketers and manufactures should focus on market differences and similarities and develop competitive pricing strategies, for instance, other retailers such as PEP stores sell

smartphones at cheaper prices and other retail stores sell them on credit which makes them affordable (Pels & Sheth, 2017). On the other hand, smartphone providers should not focus much on pricing strategy like setting psychological pricing, because the impact is very least. Consequently, the continuous improvement in the product quality can bring high yield for retailers and network providers. Therefore, it is suggested that researchers may do the comparative study between different brands for the present model.

6.6.3 Hypothesis 3: Recommendation Regarding Social factors

Based on the findings on Social (H3) the current research found that social has a negative relationship with smartphone purchase intention among low-income consumers who earn ZAR3000-ZAR6000 per month. Therefore, it is suggested that marketers and retailers should focus on marketing strategies that speaks more positively about smartphones in the low-income segment. For instance, offering discounted prices to other retail shops other than PEP stores, prices that are affordable to low-income consumers to increase the purchase intention of low-income consumers. Retailers must also consider to extend the distribution strategy of the smartphone product, for instance, the cheaper smartphone must also be found in other retail stores such as Shoprite, Jet smart, Pick n Pay, and other retail shops that are found locally and are accessible so that consumers are able to get the smartphone products easily. Furthermore, it is recommended that Smartphone network providers can create more socializing messages with the targeted market to create positive word of mouth among consumers. Even though the current study shows a negative and insignificant effect, but the social influence could really affect one's purchase decision. Thus, better customer service and after sales service should also be provided in order to create customer satisfaction and create positive word of mouth.

6.6.4 Hypothesis 4: Recommendation Regarding Culture

With regards to Hypothesis (4) of the research findings, the researcher has found that culture does not have an influence on purchase intention of smartphones. The smartphone industry must look for other influencing factors to increase the purchase intention of smartphone among low-income consumers. The other factors would be, for example, internet use. Due to the increase in technology advancement, most of the consumers would want to do online shopping nowadays. Therefore, smartphone manufactures should develop smartphone apps that can be used to browse different products online and enable them to do online shopping. The apps should not be too complex to use

and more importantly the apps must offer data free costing considering that the consumer segment has a low-income earning.

6.6.5 Hypothesis 5: Recommendation Regarding Brand Name

Based on the findings of the current study, brand name has insignificant influence on purchase intention among low-income consumers towards smartphones. It is suggested that, through the development of new features for smartphone products, such as a user friendly application that will increase interaction among users, it will lead to an increase of purchase intention. Network operators must also reduce the data prices allowing users to use more smartphone products hence increase purchase intention to those who would want the product. Perhaps, not only the smartphone product itself only could help to build the brand, smartphone provider can consider other methods such as good customer service, social responsibility and many more. It is further suggested that companies and retailers should invest more on its brand name in order to increase customers' brand awareness. Since more and more low-income consumers are using the smartphone, manufacturers of smartphone should attempt to continuously improve the product features and marketing strategies in reaching this segment. Additionally, consideration of smartphone purchase decision is a Brand, it is important for Smartphone providers to build their strong brand name, particularly by innovating something new and be the pioneer in the market, or by its unique selling proposition.

6.6.6 Hypothesis 6: Recommendation Regarding Product Features

Regarding the recommendation of product feature's (Hypothesis 6) influence on smartphone purchase intention, the current study found that product feature does not influence low-income consumers to purchase a smartphone. This means that retailers can target this consumer segment and sell the product (smartphone) successfully. For example PEP retail stores have different brands; some have similar features but are cheaper. Smartphone companies and marketing teams should bring into consideration positioning strategies to suit the targeted consumer market segments, for instance, certain unique features of smartphones, affordability of the brand image, while others can be luxury of the brand image. There is a need for smartphone companies to analyse the market looking at other variables to change the positioning, if necessary, where a need and want arises (Jung, 2016). To improve the product, Smartphone providers can innovate something for users to depend on it. For example alarm, mapping, documentation and contact list to make users dependent on the Smartphone, especially for working class consumers. Documentation somehow can be very important

to them and for drivers, they are much dependent on the map when they are driving on the road. Businesses need to focus more on brand image. It is necessary to devise strategies to strike consumers, especially consumers, who will own a smartphone with a beautiful design, a famous brand, and an affordable price.

6.6.7 Hypothesis 7: Recommendation Regarding Motivation

The current studies determined insignificant influence of motivation (H7) on purchase intention. This means that motivation does not have an impact or influence on the purchase intention towards smartphones. Frank and Watchravesringkan (2016) found a similar negative impact of motivation towards luxury products. Consumers get information from retailers who uses various promotional marketing tools such TV ads and social media. Therefore, businesses should develop marketing strategies that aim at promoting smartphone brands that attract consumer attitudes through media channels.

6.6.8 Hypothesis 8: Recommendation Regarding Perception

Another recommendation is based on hypothesis 8, where the researcher found that perception has a positive relationship with smartphone purchase intention. It is suggested that retailers, marketers, and manufacturers should pay attention in creating favourable consumer perceptions towards smartphones by low-income earners in South Africa. The findings for the current study indicate that consumer perception towards smartphones have positive purchase intention, therefore, retailers should make sure that they develop campaigns and marketing strategies to promote a favourable perception towards smartphone purchases. For example, many customers love to share positive experiences with friends or co-workers about a specific brand of smartphone. They share information through social media about a retail store that sell cheaper smartphones and encourages others to buy there (Kumar, 2017). This can be done through the development of social media advertisements showing how individuals can benefit from using the smartphone apps. Narsajah, Preetham and Shashi, (2019) indicate that the positioning of a brand can be more effective in a specific market segment if the strategies are combined with specific messages. It is recommended that marketers need to measure consumer's perception to ensure that advertisements create self-image congruency that will consequently create a positive perception of smartphones. For instance, companies should

create a social media platform where it will be able to share customers' success stories, and support them when they experience problems.

Abdolvand and Kia (2016) revealed that consumer perception towards a product is influenced by either high quality of a product or high cost of a product. It is suggested that marketers should recognise the importance of gaining knowledge and understanding consumer behaviour when purchasing a smartphone. Through the knowledge, implementation, and customising of marketing mix strategies in the targeted market segment they can influence the purchase intention among low-income consumers that will lead to increased sales volume for smartphones; hence achieving the company's profitability objective.

6.6.9 Hypothesis 9: Recommendation Regarding Attitude

Based on hypothesis 9 (H9) of the study, the researcher found that attitude had no influence on low-income consumers' purchase intention towards smartphones. The smartphone retailers should consider applying strategies that can be implemented to create positive attitudes towards smartphone brands among the low-income consumer segment. For instance, retailers must do the advertisement of smartphone products through various media platforms that can reach a wider audience such as social media platforms including Facebook, and WhatsApp business accounts, to increase consumer interactions. The consumers' interaction would increase positive attitude towards smartphones hence increasing their purchase intention of smartphones. It is further recommended that marketers should adequately raise awareness of smartphone product to consumers such as using a public relationship or activities to educate the products. This will insert a positive attitude toward purchase intention.

6.6.10 Hypothesis 10: Recommendation Regarding Reference Group

The recommendation is based on reference group (H10) which has shown that it does not have a significant impact on purchase intention towards smartphones. Marketers should recognise the importance of gaining knowledge and understanding of consumer behaviour when purchasing a smartphone. In this study, the results can be translated that marketers and retailers of smartphone products should not necessarily invest in spending money on the reference group factor to increase the purchase intention, but rather focus on family and friends, and perception when targeting low-income consumers who earn ZAR3000 – ZAR6000 per month. It is suggested that smartphone companies should market smartphones in such a way that they attract the family and friends of

consumers through different communication channels. This can be done by promoting smartphones where customers seem to be in the company of family and friends such as in suburbs, colleges, schools, teams and workplace premises; this will mean that those customers with families will likely buy the same smartphones as their friends (Ibrahim & Najjar, 2015).

The above section discussed recommendations for the study based on the findings. The next section highlights the suggestions and direction for conducting future studies.

6.7 The Significance of the Study

The findings of the research project will broaden the body of knowledge in better understanding the factors that impact the purchase intention of smartphones among low-income consumers in the South African context. It is through this understanding that the market's needs will be served through the increase of purchase intention of smartphones (Kim, Kankanhalli & Lee, 2016). The study is representative of low-income consumers in the LSM 3 - 5 market segment (consumers earning ZAR3000 – ZAR6000 per month).

The study aimed to determine the factors influencing purchase intention of smartphones among low-income consumers in a South African context. With regards to the findings on research variables that influence purchase intention of the low-income consumer segment in Gauteng, South Africa, various implications have been established by the researcher that may be deemed useful and that will add value to the entire smartphone industry. Business players that include manufactures, retailers, network providers, software developers, and marketers will be able to increase the consumers' demand for smartphones.

Below is the section that provides a discussion about the contribution of the study that includes revised conceptual framework contribution, industry, academics, and policymakers.

6.7.1 Contribution Regarding the Conceptual Model of the Study

Based on the findings of the study, two factors influence purchase intention of smartphones among the low-income consumers group in South Africa. Figure 6.2 illustrates the revised model of the study. The findings of the current study indicated 2 variables that have significant relationships and 8 that have non-significant relationships. According to the hypotheses results, family and friends and

perception have an impact on low-income consumers' purchase intention; while product features, reference group, culture, social, attitude, motivation, brand name and price do not have an impact on purchase intention of low-income consumers towards smartphones.

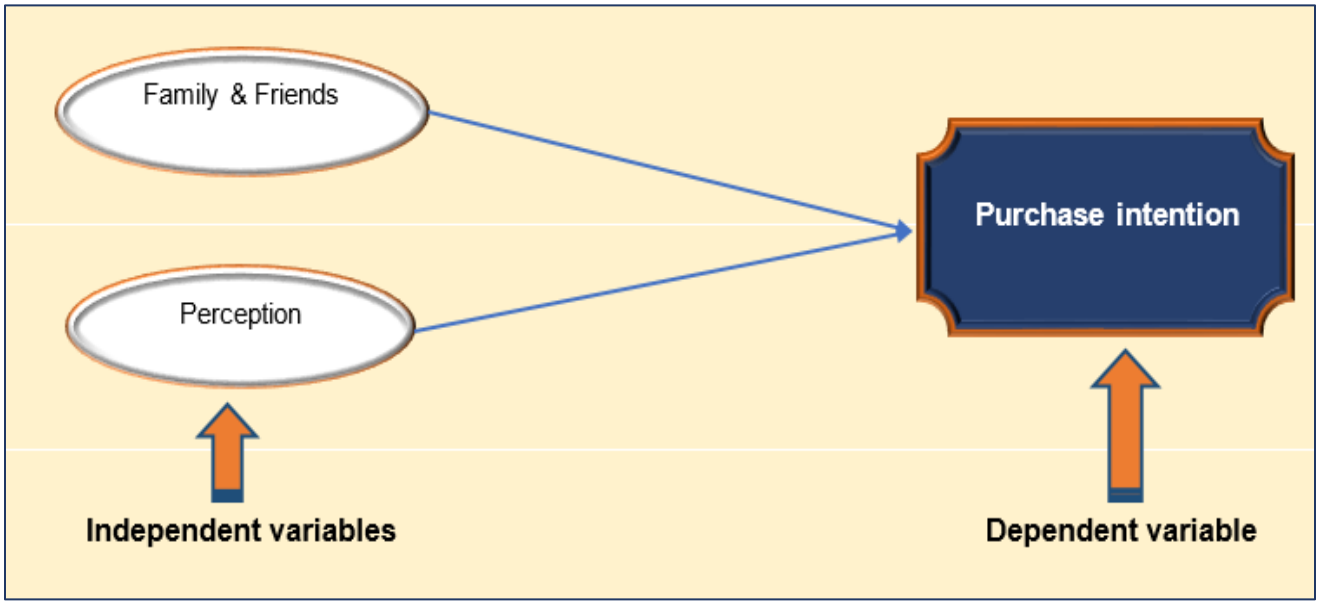

Figure 6.2: Revised model

Based on the information for this study, the study contributes further knowledge to the existing body of knowledge in marketing studies with various means. Previous studies have revealed that the relationship between some dependent and independent variables do exist in conceptual models in other specific settings of consumers' purchase intention, however, the application of the conceptual model shown in figure 3.1 in chapter 3 of this study is relatively new because the results indicate that not all factors have an influence on purchase intention among low-income consumers towards smartphones. Therefore, this research study adds value to the knowledge gap and marketing literature, for instance, the ways on how to engage consumers using smartphones to adopt social media like Facebook, WhatsApp and Twitter to promote business offerings, as these are low-cost online platforms for sharing and gathering information from customer interactions. Social media marketing's interactive platforms are not only for active clients of the enterprise, but also to rapidly respond to questions from the consumer, which greatly promotes the activity and increase purchase intention of consumers. Consumers are easily attracted by this close business, and generate goodwill for the retail/ manufactures of smartphone products, thus greatly enhancing the inner perception.

The model indicates that not all factors influence purchase intention in smartphones among low-income consumers in South Africa. The current survey adds new and deepens knowledge of understanding to the existing literature. Providing a shred of clear evidence that not all external factors that include: family and friends, price, social, culture, reference group, brand name, product feature, and internal factors such as perception, attitude and motivation are considered as predictors of the low-income consumers' purchase intention in a South African context. Due to a lack of sufficient information from previous studies in finding what are the factors that influence low-income consumers towards purchase intention of a smartphone in South Africa, this study offers a confirmed and valid conceptual model that recognises specific factors that do. Additionally, the study will provide future researchers with comprehensive facts to understand consumer behaviour through theoretical information on purchase intention.

The newly developed conceptual model provides a comprehensive picture of how purchase intention is affected by external and internal factors, particularly on the selected consumer segment. The research study addresses the knowledge gap to the existing body of knowledge by investigating which factors will increasingly cause positive purchase intentions towards smartphones in South Africa among low-income consumers. Companies use social media marketing enterprises to create value and, in order to win the consumers, the most effective way is to plan activities. All kinds of activities, such as group-buying, and raffle draw, emerge endlessly. Most smartphone products will be on price incentives, causing consumer interest in forwarding messages, word of mouth, and thus enhance consumer's inherent perception.

In the above section, contribution to the conceptual model for this study has been provided. The next section below will discuss the industry's contribution from the study.

6.7.2 Contribution Regarding Smartphone Industry

This research study provides a practical contribution to different stakeholders in the smartphone industry which include manufacturers, retailers, and network providers. This study seeks to contribute to retailers of smartphones by identifying the cause that makes or drives consumers to behave the way they do when buying a smartphone. In the same way, smartphone retailers will be able to combat various challenges that they face when accessing trading opportunities in the particular market segment of low-income consumers. The research will also help to address the importance of having

general knowledge of factors affecting purchase intention and come up with recommended solutions to enable consumers to have higher purchase intentions that, in return, will lead to an actual purchase.

As stated by Euromonitor (2019) South African low-income consumers have more options when selecting the desired smartphone from different retail stores, therefore, the companies must consider making further product improvements to increase the consumer perception towards smartphones and develop different marketing strategies to increase their smartphone sales volume. As indicated earlier in this chapter, family and friends was recorded to have a significant impact as the respondents strongly agree that family and friends influence them when choosing a phone. Therefore, companies should focus on increasing the family and friends purchase intention by providing new innovative ways and platforms; such as launching family and friend campaigns centred on family and friend discussions i.e. family data saver apps, and online scam detector applications. In this case, new designs of smartphones can be developed and customised to suit the needs of the low-income market segment. Additionally, an increase of smartphone products' perception should also be considered by doing a lot of advertising which will increase positive perception towards smartphone products. The improvement of smartphone designs and intensifying smartphone functionality, such as processor upgrades that will facilitate faster and speedy performance when using it.

Additionally, companies can better serve this low-income market segment by increasing battery life span of a new future smartphone because smartphones have more functionality than basic mobile phones, therefore, consumers often use smartphones the whole-day which requires a long battery life span. As earlier indicated in the findings, consumer perception towards smartphones has a positive impact on purchase intention due to perceived quality of the product, therefore, smartphone companies should consider focusing on implementing a reduction in pricing strategy during the year's festive seasons when targeting low-income consumer markets.

The consumer's insights gained from the current research project will help competitors in the smartphone industry to improve their sales techniques, tools, and methods to use when targeting these low-income consumer markets. For example, smartphone manufacturers such as Nokia, Samsung, Mobicell, Huawei, Microsoft, and Apple will benefit from the information by improving and adjusting business strategies by developing favourable applications that will increase the perception of consumers towards smartphone purchases and; more importantly achieve a dominating market position. Another important input from this study is that the information will assist the smartphone

manufacturers and network providers when expanding their market share while encouraging smartphone purchase intention in low-income earners by using different marketing strategies.

From the variables identified in this study, the network providers and retailers will use the information by recruiting the right, friendly sales representatives who would be able to understand the behaviour of low-income consumer groups. The findings indicate that 62% (n=191) of the respondents were aged between 21-30 years as compared to other age group which means more participants were included from the youth group. Therefore, recruiting a similar age group of sales representatives can achieve enriched knowledge of understanding the challenges and specific needs of the consumer group who earns ZAR3000- ZAR6000 per month (LSM 3 - 5). Furthermore, by employing a similar age group of sales representatives than the target consumers group you will enhance the better provision of services and understanding of what low-income consumers wants when buying smartphones; while inspiring them with the benefits of buying a smartphone in society.

6.7.3 Academic Contribution

The study field for this research project is marketing and more specific understanding the consumer behaviour perspective. The knowledge of consumer behaviour incorporates thoughts, feelings of action through motives during the process of purchasing the product and service (Schiffman & Kanuk, 2015).

The fundamental academic contribution for this study project is the development of the theoretical framework of purchase intention as shown in figure 3.1. The framework used components based on Hawkins, Best and Coney's theory from the conceptual framework of the study, which contain a wider knowledge of variables affecting purchase intention. From this research study, the academic contribution will be the use of factors that influence purchase intention of smartphones which have been applied to a particular income group of consumers. The literature of external and internal variables identified in the study can be significantly used for future consumer based studies when determining the factors that influence purchase intention of consumer behaviour. Furthermore, the study will also benefit future studies through the validation of the questionnaire that was developed and used to get the statistical findings of the study. In the future, researchers will be able to adapt and use the questionnaire which is presented in Appendix A.

6.7.4 Contribution Regarding Government and Institutions

The fact that everything is done online such as education, shopping work etc due to covid -19 pandemic since one need a smartphone to do so, the institutions including Government, network and internet providers have to do subsidize the smartphone devices and internet costs. With regard to the law and policymakers in the field of marketing, the study will greatly benefit from information gained by providing guidelines to increase the perception of consumers towards smartphones that include the pricing strategy of smartphone brands, regardless of those consumers whose financial muscle is not adequate and sustainable enough that they can afford to buy expensive smartphones. Furthermore, not only pricing for better quality smartphone devices but also the use of technology, tariffs for on-network data bundles, and the usage rate of smartphones (Makhitha, 2016). Furthermore, this research study could be used as a campaigning tool to raise awareness for the using and owning of a smartphone by looking at benefits they offer in day-to-day life in society. Finally, the information from the survey will be advantageous to policymakers when it comes to developing consumer laws and regulations such as Consumer Protection Act policies in the smartphone industry.

The above sections provide discussions on research contributions that include; conceptual contribution, industry, academics, and policymakers. The next section below is the discussion of the limitations of the study.

6.8 Limitation of the Study

The following study limitations were identified:

- The survey was conducted only in low-income consumer standard measures from the LSM 3 - 5 market segment in South Africa. The findings might not be reliable from this specific customer group because the LSM might use different consumer groups when selecting the consumer class and the findings might not reveal the true reflection for low-income consumers.

- The breadth of the sample size of 308 respondents was not sufficient for the entire population of low-income consumer markets. A larger sample of the study would provide more reliable findings and have greater consumer diversity among the low-income earners through the age group, race classification, and status of respondents.

- In this study, all respondents were based in Gauteng, South Africa, thus the study has a biased regional selection since the research respondents are from only one province. To have a better generalisation of the research findings, the samples could have been selected from all provinces in South Africa, covering a wider geographical area.

- Future studies can also consider qualitative research to have an in-depth understanding of how low-income consumers perceive certain variables that influence their purchase intentions towards smartphones.

- In this study, only 10 variables were investigated and analysed on factors influencing purchase intention behaviour of low-income consumers, however, other variables could also have been used for a broader knowledge when studying consumer purchase intention behaviour.

The discussion on the limitations of the study was provided in the above section, and the next section provides a conclusion of the study.

6.9 Suggestions and Direction for Future Studies

The following section will address the suggestion and direction for conducting future studies:

- With regards to future research suggestions, the researcher recommends that further studies should be conducted on a broader scale with participants from a number of different African countries. This will give a better understanding of low-income consumer segments that have diverse cultural groups and beliefs in their respective countries. The findings from future studies will greatly contribute to retailers, marketers, and manufacturers' knowledge in South African companies as well as international smartphone markets.

- The target sample size for this research was 308 respondents who are from the age range of 18-65 years. The sample size of respondents might be small from the entire province. Therefore, this limits the generalisation of the findings. To improve the generalisation of the findings, future studies can consider, a bigger sample size, other provinces and other countries with a different consumer earning segments.

- The current study employed a quantitative approach for data collection and analysis. It is suggested that future studies can make use of a qualitative method in order to have an in-depth understanding of how consumers perceive certain variables on smartphone purchase intention.

- The participants in this study used a quantitative web-based questionnaire where they could just tick by agreeing or disagree the statements they prefer, it is suggested that there is a need to conduct future studies using a different method such as a qualitative method to get more insights about the impact of product feature, maybe the outcome will be different from the current study.

- Consideration of using other variables in future studies. In this research, only 10 variables (family and friends, price, social, product feature, brand name, culture, reference group, motivation, perception, and attitude) were investigated to determine the influence on consumer's purchase intention. To get a broader knowledge and get a stronger relationship between independent and dependent variables, the researcher suggests that other variables should also be investigated. It is suggested that the more independent variables is used, the better the position to find which variables have a stronger relationship with the dependent variable. It is recommended that future studies should consider various independent variables such as celebrity endorsement, marketing efforts, ethnocentrism, dependability, product value, compatibility, and relative advantage.

- The last suggestion is the inclusion of different consumer income group segments. In the current study, the consumer group who earn ZAR3000 – ZAR6000 per month (LSM 3 - 5) were used with ages of over 18 and below 65 years. The selection of respondents for the study was a consumer group from a specific market segment; therefore the findings cannot be generalised for the entire population. It is recommended that future research studies be conducted from different consumer income segments that include LSM 1 - 4, LSM 6 - 7, LSM 8 - 9, and LSM 10, and different ages of consumer groups such as older than 65 and younger than 18 years irrespective of the high ethical risk in research participation.

6.10 Concluding Remarks

In conclusion, the primary objective of the study was to determine factors that influence the purchase intention of smartphones by low-income consumers in Gauteng, South Africa in order to better serve the needs of low-income consumers. The results indicated two factors have significant relationships and eight have non-significant relationships.

Thus, family and friends, and perception have an impact towards low-income consumers' purchase intention for smartphones. The results further indicate that product features, reference group, culture, social, attitude, motivation, brand name and price do not have an impact on purchase intention of low-income consumers towards smartphones. The introductory chapter one for this research study summarised the entire process that guides the study. In chapter two, a review of literature from previous studies that are relevant to the current study was discussed. Various arguments of consumer models and theories were discussed to support the understanding of low-income consumer's buying behaviour of smartphones in South Africa. To achieve the research objective for the current study, data were collected, using an online-based questionnaire survey, and analysed using a quantitative approach. The research designs and appropriate methodology were adopted and followed to get findings for the study.

Furthermore, chapter six of the study addressed the conclusion, managerial implications, limitations, and recommendations followed by suggestions for conducting futures studies were also presented to assist the smartphone industry stakeholders. This will assist marketers, network providers, manufacturers, researchers, and retailers to understand low-income consumers' needs when buying a smartphone. The study also presented contributions to academics who would conduct future studies to get deeper insights into the knowledge of the low-income consumer market segment.

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APPENDIX I

ETHICS CLEARANCE APPROVAL

UNISA university of south africa

UNISA DEPARTMENT OF MARKETING AND RETAIL MANAGEMENT ETHICS REVIEW COMMITTEE

Date 20 February 2020

Dear Mr Dennis Franscico Chandiona

Decision: Ethics Approval from 2020 - 2023

NHREC Registration # : (if applicable)

ERC Reference # : 2019_MRM_014

Name: Mr Dennis Franscico Chandiona

Student #: 53295161

Staff #: N/A

Researcher(s): Mr D Franscico Chandiona, 073 873 2623, 53295161@mylife.unisa.ac.za

Supervisors(s): Ms SM Kallier-Tar, 012 429 3758, kallism@unisa.ac.za

Prof KM Makhitha, 012 429 8828, makhikm@unisa.ac.za

Working title of research:

Factors Influencing Purchase Intention of Smartphones: A study of Low-Income Consumers in Gauteng South Africa

Qualification: Postgraduate degree

Thank you for the application for research ethics clearance by the Unisa Department of Marketing and Retail Management Ethics Review Committee for the above mentioned research. Ethics approval is granted for 3 years.

*The **low risk application** was **reviewed** by the Department of Marketing and Retail Management Ethics Review Committee on 29 November 2019 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

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1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the Department of Marketing and Retail Management Research Ethics Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data require additional ethics clearance.
7. Minor changes suggested by the committee be amended on the Form 1.

Note:

*The reference number **2019_MRM_014** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Yours sincerely,

Signature

Chair for the Department of

Marketing and Retail Management ERC

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Signature

Executive Dean: College of Economic and

Management Sciences

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APPENDIX II

PARTICIPATION INFORMATION SHEET AND CONSENT TO PARTICIPATE FORM

PARTICIPANT INFORMATION SHEET AND CONSENT TO PARTCIPATE FORM

Title: "**Factors influencing the purchase intention of smartphones: A study of low-income consumers in Gauteng South Africa**

Dear Prospective Participant

My name is Dennis Franscico Chandiona and I am doing research with Mrs Safura Kaliier-Tar, and Professor Makhitha towards MCom in Business Management at the University of South Africa. We are inviting you to participate in a study entitled "*Factors influencing the purchase intention of smartphones: A study of low-income consumers in Gauteng South Africa"*

WHAT IS THE PURPOSE OF THE STUDY?

I am conducting this research to determine the factors influencing the purchase intention of Smartphone; a study of low-income consumers in Gauteng South Africa in order to better serve them. The factors in this context refer to those influencing consumers when they have the intention to purchase smartphones. This study is expected to collect important information that could guide retailers, manufactures marketers in the identification of dynamic capabilities which supports the selling of smartphones to consumers in South Africa.

WHY AM I BEING INVITED TO PARTICIPATE?

You are invited to participate in this study due to your knowledge of smartphones.
Your contact details were obtained because you are a registered member of consumer's database with Osmoz consulting in South Africa and agreed to forward this invitation to you.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study involves online interviews using self-administered questionnaire. If you agree to participate in this study, you will receive an interview protocol to familiarize yourself with the questions that will be asked during the interview. The questions will cover issues surrounding your experience in terms of the smartphones. The interview is expected to last approximately **20 minutes**.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be asked to sign a written consent form (on the last page of this participant information sheet). You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

Your participation will provide valuable insights into the smartphone industry as well to the academic community. The smartphone industry will know better the needs of low-income segment towards the purchase smartphone through the insights collected.

ARE THEIR ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

This study is categorised as low risk, and the only foreseeable risk of harm is the potential inconvenience of the time you have to allocate to participate in the study. This study will not lead to any physical, psychological and social harm. Participation is voluntary and you can withdraw from the study at any time before or during the interview. In addition, any personal identification information will be removed from the data. See the next question for more detail in this regard.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

The identities of all participants will be kept strictly confidential. Only the researcher, the two supervisors, and an independent statistician will have access to the data, however, these parties are legally bound by non-disclosure agreements. In addition, any answer you provide during the interviews will be coded using a pseudonym (e.g. P1). To protect your identity at all times, you will be referred by this pseudonym throughout the data, any publications, or other research reporting methods such as conference proceedings or article.

HOW WILL THE RESEARCHER PROTECT THE SECURITY OF DATA?

A software programme SPSS will be used to analyse the data and all recorded data will be password protected on the researcher's computer. No external party will have access to the SPSS files used to analyse the data. The electronic copies of your answers will be stored in a password-protected folder for a period of five years for future academic purposes, Thereafter it will be permanently deleted from the hard drive of the researcher's computer.

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

Participation is voluntary, you will therefore not receive any payment or incentive for participating in this study.

HAS THE STUDY RECEIVED ETHICS APPROVAL?

This study has received written approval from the Research Ethics Review Committee of Department of Marketing and Retail Management at Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

If you would like to be informed of the final research findings or require any further information, please contact the researcher Dennis Franscico Chandiona telephonically on 073 873 2623 or via email to 53295161@mylife.unisa.ac.za. Alternatively, if you are interested in any published material related to this study, you are welcome to request such documents from the researcher. Should you have concerns about the way in

which the research has been conducted, you may contact the researcher's supervisor Prof. Makhitha telephonically on (012) 429 2381.or via email at makhikm@unisa.ac.za.

Thank you for taking time to read this information sheet.

To agree to partake in the study, kindly scroll to the next page to sign the informed consent form.

Thank you,

Dennis Franscico Chandiona

MCom Researcher
Cell: (+27) 73 873 2623
Email: 53295161@mylife.unisa.ac.za

[PLEASE SCROLL DOWN TO COMPLETE THE INFORMED CONSENT FORM]

INFORMED CONSENT FORM

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has explained to me the nature, procedure, potential benefits and anticipated inconvenience of participation in this study.

I have read and understood the study as explained in the participation information sheet above. I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty.

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential.

I agree to participate the online self-administered questionnaire of the interviews.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname: _____ **Date:** _____

Participant Signature: _____

Researcher's Name & Surname: _____ **Date:** _____

Researcher's signature: _____

APPENDIX III

DATA COLLECTION INSTRUMENT

Informed consent for participation in an academic research study

Department of Marketing and Retail Management

Factors influencing the purchase intention of smartphones: A study of Low-income Consumers in Gauteng South Africa

Dear respondent

My name is Dennis Franscico Chandiona, I am a student doing a Master of Commerce in Business Management degree in the department of Marketing and Retail Management at the University of South Africa. I am conducting a research on **FACTORS INFLUENCING THE PURCHASE INTENTION OF SMARTPHONES: A STUDY OF LOW-INCOME CONSUMERS IN GAUTENG SOUTH AFRICA.** The research is for academic purposes only.

You are invited to participate, by completing the attached questionnaire, in a study being conducted to assess the factors influencing the purchase intention of Smartphone; a study of low-income consumers in Gauteng South Africa. The factors in this context refer to those influencing consumers when they have the intention to purchase smartphones.

- This study involves an anonymous survey. Your name will not appear on the questionnaire and the answers you give will be treated as strictly confidential. You cannot be identified in person based on the answers you give.
- Your participation in this study is very important to us. You may, however, choose not to participate and you may also stop participating at any time without any negative consequences.
- Please answer the questions in the attached questionnaire as completely and honestly as possible. The completion of the questionnaire will take a minimum of 20 minutes.
- The results of the study will be used for academic purposes only and may be published in an academic journal. We will provide you with a summary of our findings on request.

Should you have concerns about the way in which the research has been conducted, you may contact **Prof Makhitha at: makhikm@unisa.ac.za or 012 429 2381**.

Researcher:
Dennis Franscico Chandiona
University of South Africa
Cell: (+27) 738 732 623
Email: 53295161@mylife.unisa.ac.za

Supervisor: Mrs Kallier -Tar
University of South Africa
Dept. of Marketing and Retail
Tel: 012 429 3758
Email: Kallism@unisa.ac.za

Survey: FACTORS INFLUENCING THE PURCHASE INTENTION OF SMARTPHONES: A STUDY OF LOW-INCOME CONSUMERS IN GAUTENG SOUTH AFRICA

Screening Question

SQ. Do you earn your income level of ZAR3000 to ZAR 6000 per month? ☐ **Yes** ☐ **No**

Thank you for your time.

If **'yes'** continue, If not stop.

The rest of the survey consists of four sections. Each section will consist of several questions relating to factors that may influence your purchase intention of Smartphones.

Section "A": Purchase intention

Please indicate the extent to which you agree or disagree with each of the following statements on a scale of 1 to 5 (where: **1= Strongly disagree; 2= Disagree; 3= Neutral; 4= Agree; 5= Strongly agree**), regarding purchase intention.

Variable	Purchase intention	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
PI1	I intend to buy a smartphone in the near future.	1	2	3	4	5
PI2	It is very likely that I will purchase a smartphone.	1	2	3	4	5
PI3	I intend to use smartphone for e-commerce.	1	2	3	4	5
PI4	I intend to recommend others to use smartphone.	1	2	3	4	5
PI5	I will find more details about smartphone if I intend to purchase one.	1	2	3	4	5

Section "B" Factors that influence purchase intention

Please indicate the extent to which you agree or disagree with each of the following statements on a scale of 1 to 5 (where: **1= Strongly Disagree; 2= Disagree; 3= Neutral; 4= Agree; 5 = Strongly Agree),** regarding the factors that influence your intention to purchase a smartphone.

Variable	Factors that influence purchase intention	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Family and friends					
FF6	My friends and family influence my decision in buying smartphone.	1	2	3	4	5

Variable	Factors that influence purchase intention	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
FF7	My friends and family influence my intention to purchase a smartphone that is similar in size like a friend's smartphone.	1	2	3	4	5
FF8	My friends and family have influence on me when choosing my smartphone.	1	2	3	4	5
FF9	I would collect smartphone information from family members.	1	2	3	4	5
	Price					
P10	I will buy a smartphone if it is priced reasonably.	1	2	3	4	5
P11	I will only buy a smartphone during a price reduction period.	1	2	3	4	5
P12	Price is my main consideration when deciding whether to buy a smartphone.	1	2	3	4	5
P13	I am willing to buy a smartphone even though the price is higher.	1	2	3	4	5
	Social					
S14	I would buy a smartphone if it will help me to fit in my social group better.	1	2	3	4	5
S15	I would purchase smartphone to stay connected with friends through social networking web sites (WhatsApp, Twitter, Facebook, Myspace, LinkedIn, and etc.).	1	2	3	4	5
S16	The pressure from friends is likely to influence the usage rate of smartphone.	1	2	3	4	5
S17	People around me have encouraged me to use smartphone.	1	2	3	4	5
	Culture					
C18	The religion to which I belong has a subculture which influences my intention to purchase a specific smartphone.	1	2	3	4	5
C19	The language and symbols used on the package influences my intention to purchase a specific brand of smartphone.	1	2	3	4	5
C20	The ritual which we perform has an influence on my intention to purchase a smartphone.	1	2	3	4	5
C21	My own personal culture guides me and influences the purchase of smartphone.	1	2	3	4	5
	Brand name					
BN22	I prefer to buy a trustworthy brand of smartphone.	1	2	3	4	5
BN23	I prefer to buy an internationally recognized smartphone brands.	1	2	3	4	5
BN24	I will only buy my favourite brand of smartphone.	1	2	3	4	5
BN25	Brand name is a major factor that influences my decision towards buying a smartphone.	1	2	3	4	5
	Product features					
PF26	I will purchase a Smartphone that has more applications than basic mobile phone.	1	2	3	4	5

Variable	Factors that influence purchase intention	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
PF27	I will purchase smartphone due to its operation system (Apple, iPhone, Blackberry, Google, Android, Microsoft, or others).	1	2	3	4	5
PF28	I will purchase smartphone that has fast internet access compared to a basic mobile phone.	1	2	3	4	5
PF29	I will purchase a smartphone that has a good design.	1	2	3	4	5
	Motivation					
M30	I intend to buy smartphone because it will inform me for things that happen in everyday life.	1	2	3	4	5
M31	I intend to purchase smartphone because it will pass the time away, particularly when I am bored.	1	2	3	4	5
M32	I intend to purchase smartphone in order to get information about products and services.	1	2	3	4	5
	Perception					
PER33	I myself will decide to buy smartphone.	1	2	3	4	5
PER34	I have money to buy smartphone.	1	2	3	4	5
PER35	For me, purchase of smartphone is very easy.	1	2	3	4	5
PER36	For me, purchase of smartphone is possible.	1	2	3	4	5
	Attitude					
ATT37	My attitude towards purchasing smartphone is positive.	1	2	3	4	5
ATT38	Purchasing smartphone is worthwhile.	1	2	3	4	5
ATT39	Purchasing smartphone is beneficial.	1	2	3	4	5
ATT40	I think that purchasing smartphone is favourable.	1	2	3	4	5
ATT41	I think that purchasing smartphone is a good idea.	1	2	3	4	5
	Reference group					
RG42	I will ask the opinion from my friends when buying a smartphone.	1	2	3	4	5
RG43	My friends would suggest for me when purchasing a smartphone.	1	2	3	4	5
RG44	My peers influence me when purchasing my smartphone.	1	2	3	4	5
RG45	I want to be like my peers when I want to buy the same smartphone that they buy.	1	2	3	4	5
RG46	I often identify with other people by purchasing the same smartphone brands they purchase.	1	2	3	4	5
RG47	I achieve a sense of belonging by purchasing the same smartphone brands that others purchase.	1	2	3	4	5
RG48	I like to know what brands of smartphone make good impressions on others.	1	2	3	4	5

Section "C" Demographic information

Q4. I prefer not to say indicate your gender.

		Mark (X)
DI49	Male	1
DI50	Female	2

Q5. Please indicate your age group:

		Mark (X)
DI51	18 – 20	1
DI52	21 – 30	2
DI53	31 – 40	3
DI54	41 – 50	4
DI55	51 – 65	5

Q6. Please indicate your highest level of education:

		Mark (X)
DI58	Grade 9 and above	1
DI59	Matric	2
DI60	College Diploma	3
DI61	University Diploma	4
DI62	Bachelor's degree	5
DI63	Post-grad Diploma / Honours	6
DI64	Master's / Doctorate	7

Thank you very much for your participation in this survey.

UNISA university of south africa

APPENDIX IV

LANGUAGE EDITING CERTIFICATE

Proof of edit by

Michelle du Bruyn
Copy Editor/Proofreader

Title:

FACTORS INFLUENCING THE PURCHASE INTENTION OF SMARTPHONES: A STUDY OF LOW-INCOME CONSUMERS IN GAUTENG, SOUTH AFRICA

Author/s:
Dennis Francisco Chandiona

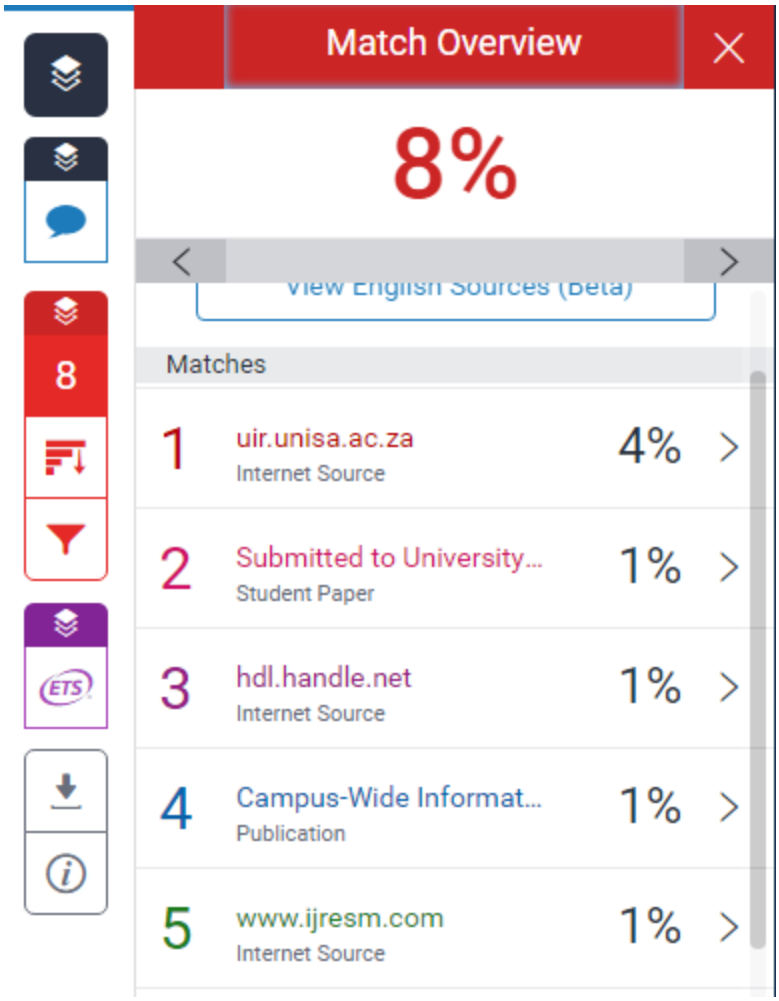
Date:
29/11/2021

Editor's education:
Copy editing course at UCT

Editor's contact details:
michelledubruyn@gmail.com
072 2990 779

APPENDIX V

TURN-IT-IN (SIMILARITY) REPORT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