



Research Article

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Determinants Affecting Young Consumers' Smartphone Purchase Intention During Covid-19 Pandemic

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Abstract

In the highly competitive and rapidly changing smartphone market, understanding purchase intention has become vital for marketers, especially during the COVID-19 pandemic. To stay competitive, smartphone companies are continuously improving their product features, brand image, pricing strategies, and responding to social influences. This study investigates the impact of product features, brand image, product price, and social influences on the purchase intention of smartphones among young consumers during the COVID-19 pandemic. Data was collected from 305 respondents using a structured questionnaire and convenience sampling. Statistical analysis was carried out using SPSS version 21 integrated with AMOS. Reliability and validity were assessed using Cronbach's alpha, composite reliability, and average variance extracted (AVE). Hypotheses were tested using Structural Equation Modelling (SEM). The study reveals significant effects of product features, brand image, and product price on young consumers' purchase intentions for smartphones. However, social influences were found to have no significant impact on purchase intention. These findings provide valuable insights for smartphone marketers to adapt their strategies in the pandemic and post-pandemic era. The study's practical implications and managerial recommendations are discussed, along with suggestions for future research directions.

Keywords: Young consumers, COVID-19 pandemic, Purchase intention, smartphone

1. Introduction

In an digital era where technology permeates every aspect of daily life, technological devices have evolved to become more user-friendly and compact (Gartner, 2021). People of all ages are deeply intertwined with technological accessories, and one prominent example of this tech-driven change is the ubiquitous smartphone (Zhao & Bacao, 2021). Smartphones have become an integral part of daily existence, with individuals carrying them everywhere they go (Tanveer, Kaur, Thomas, Mahmood, Paruthi & Yu, 2021). As of July 2022, South Africa had over 89.7 million internet subscribers, the majority of whom owned smartphones (Statista, 2022). The COVID-19 pandemic further accelerated

smartphone usage, and this trend is expected to persist (Statista, 2022).

A smartphone, characterized by its advanced computing capabilities and connectivity, has essentially supplanted basic feature phones (Gartner, 2021). Various mobile operating systems, including Android, iOS, Windows Phone, Huawei, Nokia, and BlackBerry OS, Samsung for market dominance, with Android leading the charge with a 72.11% market share (Statista, 2022). The consumer demand for smartphones has steadily risen over recent years, overshadowing traditional mobile phones (Zhao & Bacao, 2021). People across different age groups choose smartphones based on personal preferences, making them indispensable due to their advanced technology and portability (Serra, Lo Scalzo, Giuffre, Ferrara & Corsello, 2021; Gartner, 2021).

Smartphones have transformed from luxury items to daily necessities, reshaping users' behaviours, lifestyles, and social statuses (Statista, 2022). They function as multitasking devices for calling, texting, gaming, socializing, and downloading a plethora of essential applications. During the COVID-19 pandemic, smartphones played a vital role as a gateway to government services, healthcare, education, and financial services, earning them the moniker of 'a new weapon against coronavirus' (Statista, 2021). Educational institutions worldwide had to resort to online classes, prompting governments, like in South Africa, to offer interest-free loans for smartphone purchases to financially challenged students (Stats SA, 2021).

Global smartphone sales to end users witnessed a 10.8% growth in the second quarter of 2022, reaching 328.8 million units (Statcounter, 2022). In 2021, global smartphone shipments reached a staggering 1.29 billion units (Gartner, 2021). Smartphone marketers continually grapple with the challenges of introducing new features, improving product quality, aesthetics, service quality, and adopting the latest software versions to survive in this dynamic market (Statcounter, 2022). A significant portion of smartphone users employ these devices for internet browsing, social media communication, information retrieval, and gaming (Gartner, 2021).

Research reveals that approximately 35% of the population owns smartphones, with 94% using them for local information searches, 91% for product research, and 42% for making purchases (Stats SA, 2021). Product appearances and packaging significantly influence consumer purchase intentions and brand attitudes during the decision-making process (Islam, Sujana, Tasnim, Mohona, Ferdous, Kamruzzaman, Toma, Sakib, Pinky & Siddique, 2021). However, factors affecting consumer intentions towards smartphones are multifaceted, encompassing product features, convenience, brand image, price, family, psychological factors, electronic word-of-mouth, and social influence.

Despite numerous studies (Stats SA, (2021); Li et al., (2021); Lasso & Kazantzides, (2020); Statcounter, (2022) on smartphone demand among young adults and students, there's a dearth of research on purchase intentions and behaviours of young consumers in South Africa, particularly in the context of the COVID-19 pandemic. Given the proliferation of smartphones in developing economies like South Africa, empirical studies are crucial. This study aims to identify and analyse the factors influencing young consumers' purchase intentions toward smartphone brands in the Gauteng region of South Africa. By exploring this specific product category, the study sheds light on the unique factors at play and provide valuable insights for both academia and industry stakeholders.

2. Objectives of the Study

The study's objectives are outlined as follows:

- The primary objective is to identify the key factors that influence the purchase intentions of young consumers regarding smartphones.
- Another objective is to examine how these factors impact the purchase intentions of the young generation when it comes to buying smartphones, particularly in the context of the COVID-19 pandemic.

3. Literature Review and Hypotheses Development

In the pursuit of understanding the factors influencing young consumers' purchase intentions toward smartphones, this study draws upon various established theories and models in the field of information technology adoption. Notably, the following theories have been widely utilized: Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen in 1975, TRA posits that an individual's intention to perform a behaviour is influenced by their attitude toward that behaviour and subjective norms. Technology Acceptance Model (TAM) introduced by Davis in 1989, TAM posits that an individual's intention to use technology is shaped by their perceived usefulness and perceived ease of use. Theory of Planned Behaviour (TPB) formulated by Ajzen in 1991, TPB extends TRA by adding perceived behavioural control to the model, emphasizing the role of control over behaviour. Unified Theory of Acceptance and Use of Technology (UTAUT) developed by Venkatesh et al. In 2003, UTAUT combines elements from various theories to explain technology adoption, emphasizing factors like performance expectancy, effort expectancy, social influence, and facilitating conditions.

It's important to note that the demand for smartphones isn't determined by a single factor but rather influenced by a complex interplay of multiple variables (Liu & Li, 2019). These variables can vary from person to person, adding to the intricacy of understanding purchase intentions. Factors that have been found to impact young consumers' purchase intentions for smartphones include whether individuals perceive the smartphone as useful for their needs, the degree to which using a smartphone is seen as uncomplicated, social pressures and influences from friends, family, colleagues, and society (Iyengar et al., 2020; Sandars et al., 2020). In addition, specific characteristics and capabilities of the smartphone, reputation and image associated with a particular smartphone brand, and individuals perceive the cost in relation to the value received (Alamgir, 2020). Finally, the impact of social factors, including friends and family, on purchase decisions have been found to impact young consumers' purchase intention (Chow et al., 2012; Le & Yang, 2021; Satriawan & Setiawan, 2020).

This study aims to delve into these complex interactions and empirically examine how these factors collectively influence the purchase intentions of young consumers, especially within the unique circumstances posed by the COVID-19 pandemic. By doing so, it seeks to provide valuable insights into the dynamics of smartphone purchasing behaviour among the young generation in South Africa.

3.1 *The Significance of Smartphones*

A smartphone, in essence, represents a cutting-edge device that combines computation and communication capabilities (Gartner, 2021; Falayi & Adedokun, 2014). It goes beyond the traditional cell phone by functioning as a versatile multitasking tool. Beyond just calls and texts, smartphones open doors to gaming, social interaction, and the seamless downloading of essential applications (David & Roberts, 2021). They seamlessly provide wireless voice services for communication and offer access to the vast realm of the internet, encompassing social networking and email services. A critical differentiating factor between a smartphone and a traditional mobile phone is the inclusion of a mobile operating system. (Shabrin et al., 2017).

The smartphone industry has experienced significant growth since the 1990s, and it is anticipated that this upward trend will persist. (David & Roberts, 2021). With advancements in technology and the telecommunications sector, the number of smartphone users has soared. Recognizable names like Apple, Samsung, Huawei, HTC, Sony, Nokia, and LG have all contributed to this landscape (Saadeh, Al Fayez, Al Refaei, Shewaikani, Khawaldah, Abu-Shanab & Al-Hussaini, 2021). In the first quarter of 2015, Apple, Microsoft, and Samsung led smartphone sales, but Samsung has since emerged as the market leader in terms of unit sales in year 2021 (Gartner, 2021).

The market of smartphone is concentrated, with the top eight brands accounting for two-thirds of the global market share. Projections indicate that smartphone shipments will reach 1.57 billion in

2022 (O’Dea, 2021). Smartphones are akin to handheld computers, offering capabilities that prove particularly beneficial to the youth, especially students, surpassing the utility of tablets or laptops (Timberg, Dwoskin, Harwell & Romm, 2020). The smartphone devices have seamlessly integrated into people’s daily lives due to their functionality when handling correspondences, online bill payments, online banking, multi-modal transport systemin (Timberg, Dwoskin, Harwell & Romm, 2020; David & Roberts, 2021).

The impact of smartphones in educational settings has been notable (Statista, 2021). While mobile learning using devices like personal digital assistants (PDAs), laptops, and wireless mobile phones increased traction in the past decade (Zhang et al., 2014), it’s the young generation that constitutes the largest demographic of smartphone users. Particularly during the COVID-19 pandemic, the use of smartphones among young consumers for educational purposes surged significantly, reaching its zenith (Mella-Norambuena et al., 2021; Saadeh et al., 2021). Smartphones, with their versatility and accessibility, played a pivotal role in facilitating remote learning and bridging the gap during these challenging times.

3.2 Understanding Purchase Intention

Purchase intention serves as a valuable indicator of actual purchase behavior and reflects the predisposition of consumers regarding their purchasing actions (Liu & Li, 2019; Trivedi & Raval, 2016). It’s a measure of consumers’ readiness to acquire a product and is instrumental in gauging the extent of their willingness to make a purchase. Essentially, purchase intention encapsulates the consumers’ intent to buy specific products in the future (Warshaw & Davis, 1985).

Within the realm of purchase intention, individual preferences for product acquisition are delineated, with consumers categorizing the available options (Kotler et al., 2010). A high purchase intention signifies a strong inclination to buy a product or service, translating into a higher likelihood of an actual purchase (Schiffman & Kanuk, 2000). The process leading to a purchase typically unfolds as follows: consumers first recognize the product, proceed to seek information about it, evaluate their options, make the purchase, and eventually provide feedback on their experience (Kotler et al., 2010).

According to Blackwell et al. (2006), What happens in the minds of consumers reflects their intent to make a purchase. In the context of smartphones, various characteristics such as the brand name, quality, price, innovation awareness, and entertainment capabilities can exert significant influence on consumer buying behavior prior to making a purchase (En & Balakrishnan, 2022; Rahim et al., 2016 & Rakib, 2019).

The smartphone market offers an array of brands, models, and designs, which often pose a challenge for consumers when making a selection. When individuals harbor the intention to purchase a smartphone, they typically weigh several factors including the brand reputation, price, functionality, durability, social influence, and relative advantages among others (En & Balakrishnan, 2022). These considerations play a pivotal role in shaping the purchase intentions of consumers and ultimately influence their decision-making process in the dynamic smartphone market.

3.3 The Impact of Product Features on Purchase Intention

Product features encompass the attributes of a product that have the potential to fulfil consumers’ needs and desires when they acquire, use, and apply the product (Chen et al., 2018). These features, along with product quality and functionality, play a pivotal role in shaping the adoption and utilization of a product. (Gu & Wei, 2020). Nevertheless, consumers frequently have different emotional reactions to these product attributes. On occasions, evaluating the quality of a product can pose challenges for consumers, which can result in difficulties in processing information and encountering conflicting reviews about product attributes. (Pan et al., 2017).

To enhance product functionality, both software and hardware componets are evolving rapidly. Consumers take into account both of these elements when deciding on a purchase. (Osman et al.,

2012). Smartphones are manufactured to align with consumer preferences regarding their different components and peripherals. Numerous small companies are producing computers and smartphones that fulfil the same functions consumers expect (Sandars, Correia, Dankbaar, de Jong, Goh, Hege, Masters, Oh, Patel, Premkumar & Webb, 2020). Considering the diverse range of consumer needs and preferences, individuals can opt for smartphones with various features. Physical attributes like the smartphone's construction, dimensions, mass, and aesthetics are tangible and can be visually inspected, while software components like the operating system (e.g., Android, iOS, Windows) encompass computer programs, processes, and documentation.

Consumers often express strong preferences for specific features when evaluating smartphone brands. These may include design aesthetics, colour options, high – speed internet browsing, gaming capabilities, screen size, internet wireless connectivity, voice activated features, and video calling (Persaud & Azhar, 2012). Among college students, factors such as smartphone size, physical appearance, and menu organization are sought after (Rahim et al., 2016). Technology specifications, operating system versions, and hardware features also wield substantial influence on the choices of young students when purchasing a smartphone. Innovative features, durability, and portability rank high on consumers' lists when selecting smartphone brands (Trivedi & Raval, 2016).

Based on these observations, researchers have put forward the hypothesis that:

H₁: Product features exert a significant positive influence on young consumers' purchase intentions for smartphones.

In other words, the presence and quality of specific features significantly impact the likelihood of a consumer deciding to purchase a particular smartphone brand.

3.4 The Influence of Brand Image on Purchase Intention

Brand image pertains to the perceptions and beliefs held by consumers, encapsulating the associations embedded in their memory (Li et al., 2021). It serves as a representation of how consumers perceive a brand (Aaker, 1996) and plays a pivotal role in their decision-making process when selecting a specific brand from among collecting the information (Li et al., 2021).

Brand image is forged through several channels. Firstly, it results from effective brand communication encompassing elements like the brand's name, logo, symbols, and attributes. Additionally, it emerges from consumers' direct experiences with the brand and their overall perception of it. Lastly, a diverse array of social influences contributes to determining brand image (Riezebos, 2003). In the realm of cutting-edge products like smartphones and tablets, the influence of brand reputation is especially significant. Reputable brands with strong images enjoy substantial advantages compared to lesser-known brands, as they are associated with a sense of psychological assurance (Raj & Roy, 2015).

Product image, on the other hand, reflects how a product is perceived and stored in consumers' memories. It's the sum total of consumers' perceptions of a product and the related associations stemming from their experiences or imagination (Naing & Chaipoopirutana, 2014).

Brand experience applies to various products and services, considering consumers as both emotional and coherent decision-makers during their purchase, repeat purchase, and recommendation behaviours (Li, 2018). It encompasses consumers' internal behavioural and subjective responses at different levels of interaction with brand-related stimuli, whether direct or indirect. This area garners significant attention from marketers because brand preference represents a crucial step in understanding consumer purchase behaviour (Ebrahim et al., 2016).

The brand name exerts a substantial influence on the demand for smartphones among consumers. Brands and brand ambassadors play pivotal roles in the smartphone purchase decisions of consumers (Trivedi & Raval, 2016). Study by Savitri et al. (2022) has also confirmed that a product's brand image significantly impacts consumers' brand evaluation and purchase intentions. Suki's (2013) research in Malaysia validated that the brand name profoundly affects the demand for smartphones among young students.

In sum, brand image is an amalgamation of elements such as the brand name, brand experience, brand communication and promotion, brand perception, and related associations. Together, they shape a robust brand image that significantly influences the purchase intentions of young consumers when it comes to smartphones. Hence, researchers posit the hypothesis that:

H2: Brand image has a significant positive influence on young consumers' purchase intentions for smartphones.

In essence, the perceived image of a brand plays a substantial role in their decision to choose a particular smartphone brand.

3.5 *The Influence of Product Price on Purchase Intention*

Price represents the monetary amount that consumers are obligated to pay for products and services in order to satisfy their needs or desires (Kotler et al., 2010). It signifies the financial outlay required to acquire a product (Swani and Yoo, 2010). Individuals often have varying viewpoints and ideas regarding the value they receive in exchange for the money spent. While some may perceive a product as offering good value for the price, others might hold the opposite viewpoint. This diversity underscores that different people hold different perspectives on the concept of "value for money" (Campbell, 1999). Consequently, alterations in price, such as discounts, can exert a significant impact on consumers' purchase decisions. In many instances, a higher discount rate can boost consumers' intentions to purchase a product, whereas a lower discount rate may dampen their intentions (Lay-Yee et al., 2013).

While price undoubtedly factors into consumers' purchase decisions (Hew et al., 2015), smartphone purchases are somewhat distinctive. Consumers are often willing to invest substantial sums of money in acquiring their desired smartphones, as Suki (2013) observed. The choice to purchase a smartphone is influenced by various factors, including price, brand, features, and properties. Among these factors, price stands out as a particularly influential factor guiding the purchase of smartphones (Rakib, 2019). Chow et al. (2012) argued that price has a profound impact on smartphone demand, while other studies have underscored price as a fundamental issue tied to customer purchase intentions (Tran, 2018).

Price is a crucial factor in shaping the perceived value of a product and influencing customers' buying decisions. (Malviya et al., 2013). The demand for smartphones is on the rise, and the pricing of these devices is a significant factor that influences this demand, especially among young consumers, notably university students. (En & Balakrishnan, 2022). However, it's worth noting that when the convenience provided by a smartphone justifies the cost, consumers may not consider price a primary concern when making a purchase decision. In fact, consumers are often willing to pay slightly more for a smartphone that aligns with their preferences and needs (Malviya et al., 2013).

In light of these observations, researchers have formulated the hypothesis that:

H3: Product price exerts a significant positive influence on young consumers' purchase intentions for smartphones.

In essence, the perceived price of a smartphone significantly impacts a consumer's decision to go ahead with the purchase, particularly among young consumers who place a high value on this technology.

3.6 *The Impact of Social Influences on Purchase Intention*

Social influence encompasses the process by which an individual's thoughts, feelings, attitudes, and behaviours are intentionally or unintentionally changed due to the influence of others within society (Serra, Lo Scalzo, Giuffre, Ferrara & Corsello, 2021). It significantly affects the behavioural intentions of consumers (Lu et al., 2016; Rigopoulou et al., 2017) by virtue of the way in which other people impact one's beliefs, emotions, and actions (Mason et al., 2007). Often, individuals adopt the thoughts, emotions, attitudes, and behaviours of those around them (Chow et al., 2012). In essence,

the people in one's immediate social circle wield considerable influence over consumers' actions (Rigopoulou et al., 2017).

Social influence stems from the interplay of three interconnected social forces on an individual's decision to embrace or reject a new system: subjective norms, voluntariness, and image (Venkatesh et al., 2000). This influence unfolds through interactions among various levels of individuals in society who are acquainted with each other, such as parents, family, peers, friends, and relatives (Rahim et al., 2016). Family members, in particular, can exert a strong influence on consumer behaviour when purchasing any product (Tikkanen, 2009).

Some consumers opt for high-priced smartphones to showcase their social status, highlighting the role of social influences in purchase decisions. Additionally, the internet, and specifically social media communication, plays a dual role in influencing consumers' purchase intentions. Consumers can access information about different brands through online media, where fellow consumers share their experiences and opinions (Cong & Zheng, 2017). Social media platforms like Facebook, Twitter, Instagram, and more enable individuals to find comments and product reviews from users who have either used the smartphone currently or in the past. Media, parents, and peers often wield substantial influence over consumers' purchase intentions for smartphones (Rakib, 2019). The younger generation, especially students, place significant reliance on the recommendations and suggestions of others when purchasing smartphones (Rahim et al., 2016).

During the Covid-19 pandemic, advice and recommendations from credible and influential individuals have gained even more importance in individuals' purchase decision-making processes (Zhao & Bacao, 2021). In light of these observations, researchers have proposed the hypothesis that :

H4: Social influence has a significant positive impact on young consumers' purchase intentions for smartphones.

In essence, the influence of peers, family members, and online communities significantly shapes the decision-making process of young consumers when it comes to selecting a smartphone brand.

3.7 Overview of the Proposed Research Model

Drawing from the comprehensive literature review, the researchers have constructed a theoretical framework for this study. By amalgamating the frameworks from previous studies on students' demand for smartphones (Suki, 2013) and Generation Z consumers' smartphone purchase intentions (Mohammed, 2018), a new conceptual framework emerges for understanding young consumers' purchase intentions regarding smartphone brands during the Covid-19 pandemic.

This conceptual framework serves as a guide to elucidate the effects of various independent variables on the dependent variable, which in this case is the purchase intention of smartphones. The model depicted in Figure 1 aims to establish causal relationships between research variables, shedding light on the influence of product features, brand image, product price, and social influence on the purchase intentions of smartphones among young consumers in the northern region of South Africa, particularly during the challenging context of the Covid-19 pandemic.

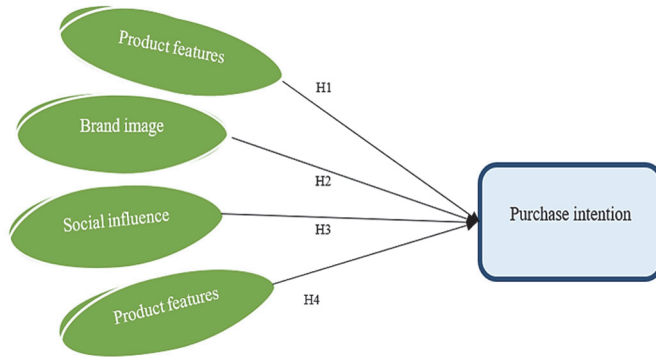


Figure 1: Conceptual research model

The model serves as the basis for current research, showcasing the interplay between the independent variables (product features, brand image, product price, and social influence) and their impact on young consumers' purchase intentions for smartphones.

4. Methodology of the Study

In this study, a combination of qualitative and quantitative research approaches has been employed. Both primary and secondary sources of data have been utilized to gather information.

4.1 Questionnaire Development, Sampling Technique, and Data Collection

The research initiated with a pilot survey, involving 50 participants, to develop an effective questionnaire. Initially, a 28-item questionnaire was created based on previous research. The pilot survey was conducted in the Randburg district, targeting young individuals who have used or currently use smartphones. Following the pilot survey, the questionnaire was refined based on analysis, recommendations from knowledgeable individuals, and an extensive review of secondary sources. The final questionnaire comprised 18 items.

Sampling Convenience sampling was employed for this study. Convenience sampling is a cost-effective and practical approach, often used in research of this nature. The study targeted young respondents aged between 18 to 30 years in various parts of the Gauteng region, South Africa.

Data collection occurred through two main methods. The researchers sent out email questionnaires to students at different universities and colleges. The research associates conducted direct face-to-face interviews with young respondents in different smartphone shops in the Gauteng region of South Africa. Although the Covid 19 prevention measures were already lifted by the government of South Africa, still proper Covid-19 safety protocols were followed during these interactions. Data collection took place between January 2022 and April 2022. This timeframe was selected because it coincided with the reopening of educational institutions, shopping malls, and smartphone shops in South Africa after an extended shutdown due to the Covid-19 pandemic. A total of 350 young respondents were approached. After screening and eliminating incomplete, problematic, erroneous, and unusable questionnaires, 305 usable and completed questionnaires were selected for the final study. The choice of convenience sampling and the sample size of 305 were determined as appropriate for the study's purposes and for conducting structural equation modelling (SEM). This comprehensive methodology blends the strengths of qualitative and quantitative research methods and encompasses both primary and secondary data sources to provide a robust foundation for the study's findings and analysis.

4.2 Measurement and Scaling Technique

To measure the key constructs in the study, a total of 18 items were drawn from various fields of sociology, psychology, technology, and marketing literature. These items contributed to the development of five main constructs. Here's a breakdown of the measurement and scaling technique for each constructs: product features construct was measured using five items. These items were adapted from previous studies by Trivedi & Raval (2018), Chow et al. (2012), and Kaushal & Kumar (2016). Brand image was assessed using four items. Two of these items were adapted from Trivedi & Raval (2018), and one each from studies by Chow et al. (2012) and Kaushal & Kumar (2016). Product price contained three items were used to measure product price, thus; one item was adapted from Trivedi & Raval (2018), and the other two were from the study by Chow et al. (2012). Furthermore, social influence was evaluated using three items, all of which were adopted from Shabrin et al. (2017). Purchase Intention was assessed with three items, two items were modified from Maduku (2013), and one item was from the study by Warshaw & Davis (1985).

A 5-point Likert scale was employed to gauge the statements in the questionnaire, with a score of 5 indicating "strongly agree" and a score of 1 representing "strongly disagree." Additionally, nominal scales were used to capture demographic data in the second part of the questionnaire.

4.3 Data Analysis Procedure

The data analysis procedure followed a series of steps that include Exploratory Factor Analysis (EFA). EFA was conducted using Principal Components Analysis (PCA) to analyze the data. Prior to EFA, tests were performed to check the sampling adequacy and normality of the data, including the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test. Confirmatory Factor Analysis (CFA) was employed to assess the reliability and validity of the constructs. The proposed theoretical framework, encompassing the five constructs, was tested using path analysis within the framework of Structural Equation Modelling (SEM). The analysis was carried out with the support of SPSS and AMOS software. (Version 21). The aim was to determine the goodness of fit indices of the proposed model and test the hypotheses put forth in the study.

5. Data Analysis and Findings

This rigorous data analysis process ensures that the study's findings are reliable and valid, allowing for a comprehensive examination of the research model and hypotheses.

5.1 The Demographic Profile of Respondents

The demographic information provides insights into the characteristics of the respondents participating in the study. The demographic profile of the respondents is as follows: 71.5% of the respondents are male. Most smartphone users (63.0%) are between the ages of 18-25. Of the total respondents, 67.5% are students, 50.2% of the respondents hold a post-graduation degree. 59.3% of the respondents earn less than ZAR10,000. Below Table 1 demonstrates the demographic profile of the participants.

Table 1: Demographic profile of the participants

Variables of the study	Variable characteristics	Frequency	Percentage (%)
Gender	Female	87	28.8
	Male	218	71.5
Age	18-20 years	192	63.0
	26-30 years	112	36.7

Variables of the study	Variable characteristics	Frequency	Percentage (%)
Education	Secondary	4	1.3
	Higher secondary	28	9.2
	Graduation	153	50.2
	Post-graduations	120	39.3
Monthly income	Less than ZAR10000	181	59.3
	ZAR10001- ZAR20000	36	11.8
	ZAR20001- ZAR30000	21	6.9
	More than ZAR30001	67	22.0
Professional	Student	206	67.8
	Employed by Government	3	1.0
	Employed by private company	52	17.0
	Business	41	13.4
	Other	3	1.0

Source: Researcher from field survey (2022)

5.2 Exploratory Factor Analysis (EFA) with Descriptive Statistics

To identify influential factors and attributes related to consumers' purchase intention, an Exploratory Factor Analysis (EFA) was conducted. EFA is a statistical technique used to extract underlying factors from a set of observed variables. Here are some key findings from the EFA: Principle Component Analysis (PCA) with varimax rotation was used, aiming to maximize the number of items with high loadings on each construct/component. Factors were extracted based on Eigen values greater than or equal to 1, with a minimum absolute coefficient value of 0.20. Reliability within each factor was measured using Cronbach's Alpha (α), with values ranging from 0.725 to 0.919, meeting the standard threshold of 0.70. The Kaiser-Meyer-Olkin (KMO) value, which indicates sampling adequacy, was 0.751, indicating that the sample size was sufficient for factor analysis. The chi-square test was applied, resulting in a significant value of 2973.799 at a 1% significance level. Therefore, the findings from EFA suggest that the study's constructs and factors are reliable and valid for further analysis.

5.3 Confirmatory Factor Analysis (CFA)

CFA was conducted to assess the reliability and validity of the constructs. The study also examined model fit indices, including the Chi-square value, goodness of fit (GFI), and other indices to evaluate the appropriateness of the measurement model. Figure 2 presents the CFA diagram, which helps visualize the relationships between the constructs. These analyses provide a strong foundation for evaluating the study's constructs and their relationships, ensuring the validity and reliability of the measurement model.

5.4 Convergent and Discriminant Validity

Convergent validity and discriminant validity are essential aspects of assessing the measurement model's reliability and validity. The key findings related to convergent and discriminant validity includes *Convergent validity* is established when both the reliability (Alpha value) and composite reliability (CR) of the constructs are greater than 0.70. The study found that the Alpha value and CR value of all the constructs are greater than 0.70, indicating strong convergent validity. The Average Variance Extracted (AVE) for each construct should be greater than 0.50, and this study confirmed that AVEs for all constructs exceed this threshold, further confirming convergent validity. Additionally, the MaxR (H) value, which represents the maximum reliability of a construct, is greater

than 0.80 for all constructs, reinforcing the convergent validity of the measures. *Discriminant validity* is established when the AVEs are greater than the Mean Shared Variance (MSV), and the square root of the AVE is greater than the inter-construct correlation.

The diagonal in Table 3 below, represented by the square root of the AVEs, shows that all constructs meet the discriminant validity conditions.

These findings indicate that the measurement model used in the study is reliable and valid, with both convergent and discriminant validity well-established for the constructs. This ensures the accuracy and robustness of the measurement model.

Table 2: Descriptive statics with composite matrix

Constructs	Mean Score	Std. Deviation	Factor Loadings	Factor Mean	Reliability (Cronbach' α)	Eigen Value	Total Variance Explained	Literature Review
Product Price (PP):								
I am willing to buy branded Smartphone even the price is higher.	3.44	.826	.875	3.44	.725	1.51	10.93%	Chow et al. (2012); Trivedi and Raval (2018)
I prefer buying Smartphone during price deduction period only.	3.77	.833	.799					
I compare prices of other brands before I choose one.	4.03	.853	.722					
Brand Image (BI):								
I consider the brand image when buying a Smartphone.	4.22	.940	.841	4.17	.818	2.96	14.73%	Chow et al. (2012); Kaushal and Kumar (2016); Trivedi and Raval (2018)
I purchase my favorite brand of Smartphone only.	4.26	.850	.834					
I purchase a brand from my past using experience.	3.95	1.034	.765					
I consider the country of origin of the brand.	4.23	.889	.708					
Social Influence (SI):								
I usually consult my friends when buying a Smartphone brand.	3.65	1.119	.919	3.56	.835	2.17	12.90%	Shabrin et al. (2017)
I love to have the same Smartphone as my family members.	3.70	1.078	.899					
My friends always persuade me to buy the same phone as theirs.	3.34	1.367	.771					
Product Features (PF):								
I choose a Smartphone that has a superior camera.	4.73	.458	.922	4.69	.919	4.59	21.25%	Chow et al. (2012); Kaushal and Kumar (2016); Trivedi and Raval (2018)
I consider the speedier internet accessibility of the Smartphone.	4.69	.466	.898					
I choose a Smartphone that has a mature app store.	4.76	.423	.886					
I consider the operating system of the Smartphone.	4.69	.466	.803					
I consider the design of Smartphone when I purchase it.	4.58	.506	.773					
Product Price (PP):								
I am willing to buy branded Smartphone even the price is higher.	3.44	.826	.875	3.44	.725	1.51	10.93%	Chow et al. (2012); Trivedi and Raval (2018)
I prefer buying Smartphone during price deduction period only.	3.77	.833	.799					
I compare prices of other brands before I choose one.	4.03	.853	.722					
Purchase Intention (PI):								
I will use Smartphone regularly in the future.	3.81	.870	.821	3.81	.768	1.62	11.65%	Maduku (2013); Warsaw and Davis (1985)
Purchase intention then make me to final purchase of the brand.	3.50	.843	.818					
I intend to start/continue using Smartphone in the future.	4.12	.789	.769					

Extraction method: Principal Component Analysis.
Rotation method: Varimax with Kaiser Normalization.
* Rotation converged in 5 iterations.

6. Structural Equation Modelling (SEM) and Hypotheses Testing

In this section, SEM was conducted to evaluate the hypotheses formulated at the beginning of the study and to assess the goodness of fit of the hypothesized model. Here are the key findings related to SEM and hypotheses testing:

Measurement Model- The measurement model yielded several fit indices, including a Chi-square value of 329.872 with 126 degrees of freedom. The Cmin/df value, which should be smaller than 3 for a good fit, was found to be 2.618 in this study, indicating a good fit. Model modification was conducted among residual errors within the same construct, and these modifications were justified. The measurement model's goodness of fit indices met the cutoff points for acceptability according to criteria by Byrne (2001) and Hu & Bentler (1999). Below is Figure 2 Confirmatory factor analysis (CFA) diagram.

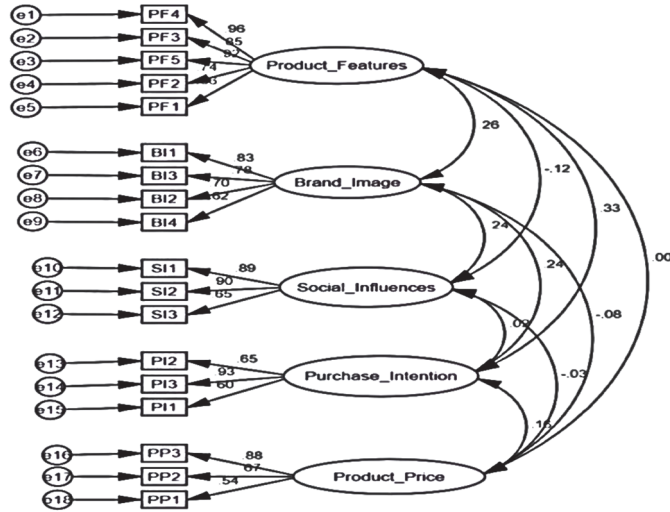


Figure 2. Confirmatory factor analysis (CFA) diagram.

In the CFA analysis minimum Chi-square value was achieved 410.248 and degrees of freedom was 125 whilst probability level was 0.000. The CMIN/DF (Minimum Chi-Square/Degrees of Freedom) was 3.282. The Goodness of Fit Indices were as follows Root Mean Squared Residual (RMR)= 0.040, Goodness of Fit Index (GFI) = .873, Average Goodness of Fit Index (AGFI) =.826, Parsimonious Normed Fit Index (PGFI)= .638, Root Mean Square Error of Approximation (RMSEA) = .087. All the values are consistent with the threshold value (Byrne, 2001).

Table 3: Model validity measurement

Constructs	Alpha Value	CR	AVE	MSV	MaxR (H)	Product Features	Brand Image	Social Influences	Purchas Intention	Product Price
Product Features	.919	0.916	0.691	0.102	0.967	0.831				
Brand Image	.818	0.824	0.542	0.067	0.842	0.259***	0.736			
Social Influences	.835	0.858	0.672	0.059	0.897	-0.119y	0.243***	0.820		
Purchase Intention	.768	0.777	0.547	0.102	0.877	0.320***	0.238***	0.027	0.740	
Product Price	.725	0.746	0.505	0.024	0.824	-0.001	-0.079	-0.026	0.156*	0.711

Note: CR = Composite Reliability
 AVE = Average Variance Extracted
 MSV = Maximum Shared Variance
 MaxR (H) = Maximum Reliability
 Significance of Correlations: +p < 0.100, *p < 0.050, **p < 0.010, ***p < 0.001.

6.1 Structural Model

The final structural model is shown in Figure 3. The goodness of fit indices for both the measurement model and structural model are presented in Table 4. All fit indices in Table 4 met the cutoff points, indicating a good fit for both models. The GFI (Goodness of Fit Index) value was close to 0.90, which indicates a good fit, while a value greater than 0.80 is considered an acceptable fit. These findings suggest that the structural model developed to test the hypotheses is supported by the data and fits the observed data well. The goodness of fit indices provides evidence that the model is appropriate for testing the hypotheses, and the model modifications were justified.

6.2 Hypotheses Testing

The study conducted hypotheses testing using Structural Equation Modelling (SEM) to examine the causal relationships between the four antecedents thus; product features, brand image, product price, and social influences, and the outcome variable, purchase intention.

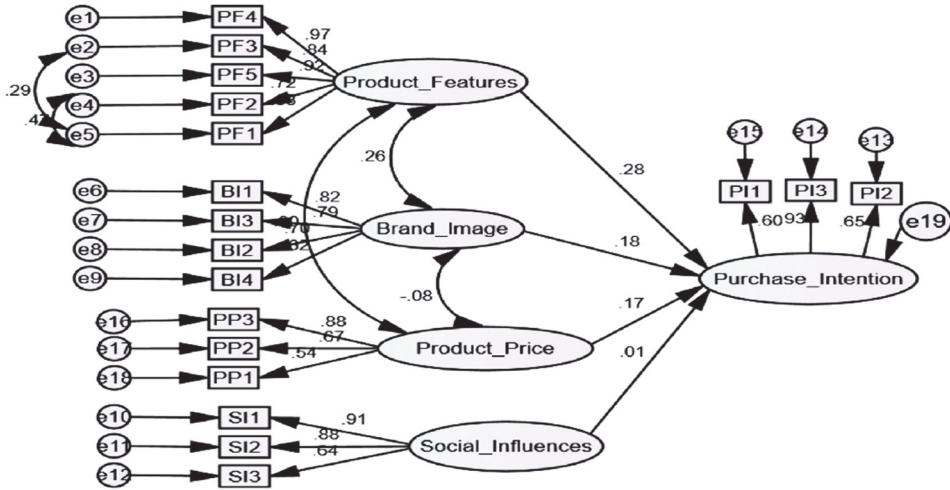


Figure 3. Model of Smartphone purchase intention.

Below is the table of goodness-of-fit indices.

Table 4: Key goodness-of-fit indices

Type of fit	Key index	Acceptable level	In the measurement model	In the structured model
Absolute Fit	Chi-Square (χ^2)	$2df \leq \chi^2 \leq 3df$	410.248	329.872
	Root Mean Square Error of Approximation (RMSEA)	$0.05 \leq RMSEA \leq .08$	.087	.073
	Goodness of Fit Index (GFI)	$0.90 \leq GFI \leq 0.95$	.873	.900
	Average Goodness of Fit Index (AGFI)	$0.90 \leq AGFI \leq 0.95$	.826	.864
	Root Mean Squared Residual (RMR)	$0.05 \leq RMR \leq .10$	0.040	.064
Comparative Fit	Normed Fit Index (NFI)	$0.90 \leq NFI \leq 0.95$	.865	.892
	Relative Fit Index (RFI)	$0.90 \leq RFI \leq 0.95$	.835	.868
	Incremental Fit Index (IFI)	$0.90 \leq IFI \leq 0.95$	.902	.930
	Comparative Fit Index (CFI)	$0.90 \leq CFI \leq 0.95$	.901	.929
Parsimonious Fit	Parsimonious Normed Fit Index (PNFI)	$PNFI > 0.5$	.707	.734
	Parsimonious Goodness-of-Fit Index (PGFI)	$PGFI > 0.5$	.638	.663
	Parsimonious Fit Index (PCFI)	$PCFI > 0.5$	.736	.765

Source: Adapted from Byrne (2001); Hu and Bentler (1999); Kelloway (1998); Kline (2005) and Schermelled-Engel et al (2003).

Here are the findings related to the hypotheses:

Based on product features, the study found a significant positive effect of product features on purchase intention of a smartphone brand, therefore Hypothesis (H1) is accepted because product

features (.000) has significance value less than (0.05). This suggests that young consumers consider product features when making decisions about purchasing a smartphone (Aaker, 1996). In sense of brand image, it was also found to have a significant positive influence on purchase intention. Brand image findings on this study indicate (.009) which has significance value less than (0.05). H₂ is accepted. This implies that the perception and beliefs associated with a brand play a role in shaping young consumers' intentions to purchase a smartphone (Savitri et al., 2022). Similarly, product price revealed to have a significant positive impact of on purchase intention, H₃ is supported because the factor perceived price (.010) has significance value less than (0.05). This signifies that the price of a smartphone is a pertinent factor influencing young consumers' purchase decisions. This is supported by various studies such as En & Balakrishnan (2022), Khan and Rohi (2013), Trivedi & Raval (2016) & Lay-Yee et al. (2013) that affirm that price is influencing factor of purchase intention of smartphone. Interestingly, social influences were found to have no significant impact on young consumers' purchase intention of a smartphone brand. H₄ is rejected in this study because the factor social influence has p value (.830) greater than the cut-off value (0.05). This suggests that factors related to social recommendations or influences from peers and family members may not play a significant role in shaping purchase intentions in this context.

In summary, the hypotheses testing results indicate that product features, brand image, and perceived price are significant factors influencing young consumers' purchase intention of a smartphone brand. However, social influences were not found to be a significant factor in this study. These findings provide insights into the factors that drive purchase decisions among young consumers in the context of smartphone brands during the COVID-19 pandemic.

7. Discussions on Research Findings

The findings of the study shed light on several important aspects related to young consumers' purchase intention of smartphone brands during the COVID-19 pandemic. Here are some key points for discussion:

The significance of product features in this study confirms that, product features have a significant positive influence on young consumers' purchase intention. This aligns with previous research that highlights the importance of technological attributes, design, and functionality in the smartphone purchase decision-making process. Young consumers are inclined to consider the specific features and capabilities of a smartphone when making their choices. Brand image matters, it plays a crucial role in shaping purchase intentions. This finding underscores the impact of brand perception and reputation on young consumers. A positive brand image can attract and influence young consumers to choose a particular smartphone brand. Regarding price as a decisive factor, the study reaffirms the significance of price in the purchase decision. Young consumers take into account the perceived price of smartphones when making their choices. It suggests that even though smartphones are considered essential, the cost remains a determining factor for this demographic. Interestingly, the study found that social influences had no significant impact on young consumers' purchase intention. This could be attributed to the fact that the respondents were mainly male students from universities. It's possible that this demographic relies more on personal research and assessment rather than external social influences when choosing a smartphone.

Digital Literacy and Independence: The study suggests that young consumers, particularly in the context of a pandemic, are digitally literate and independent in their decision-making. They are more likely to gather information online, critically evaluate product quality, brand image, and pricing, and then make informed purchase decisions. This self-reliance might explain the limited influence of social recommendations. The study indirectly hints at potential gender differences in the impact of social influences on purchase intention. Previous studies that found social influence to be significant were mainly female-dominant. This suggests that the role of social recommendations may vary between male and female consumers.

In conclusion, the findings emphasize the multifaceted nature of young consumers' smartphone

purchase decisions. Product features, brand image, and price are key factors, while social influences may not hold the same sway among digitally savvy and independent young consumers, especially during a pandemic. Understanding these dynamics is crucial for smartphone manufacturers and marketers targeting the youth demographic.

8. Management Implications and Contributions of the Study

The study provides valuable insights and management implications for smartphone marketers and businesses, particularly in South Africa, targeting the young consumer demographic. Herewith are some key implications and contributions:

- *Understanding Purchase Intentions:* The study helps marketers gain a deeper understanding of what influences young consumers' purchase intentions regarding smartphone brands. This knowledge is crucial for tailoring marketing strategies to effectively reach and engage with this demographic.
- *Focus on Product Features:* The findings highlight the importance of product features in driving purchase intentions. Marketers should prioritize offering smartphones with a range of appealing and up-to-date features to attract young consumers. Regularly upgrading existing features and ensuring strong online connectivity can enhance purchase intentions.
- *Building a Positive Brand Image:* Brand image significantly affects purchase intentions. Marketers should invest in building and maintaining a positive brand image. This includes fostering brand recognition, creating positive brand associations, and delivering quality products and after-sales service. Effective brand promotion is essential in shaping young consumers' perceptions.
- *Pricing Strategies:* Price sensitivity among young consumers, especially during economic challenges like the COVID-19 pandemic, necessitates thoughtful pricing strategies. Marketers should consider competitive pricing and provide clear value propositions to appeal to cost-conscious consumers.
- *Social Influence Dynamics:* While this study found limited influence of social recommendations on purchase intentions, it's essential for marketers to recognize that social interactions can still play a role. Friends and family can influence purchase decisions, so fostering positive word-of-mouth and facilitating peer recommendations can be valuable.
- *Digital Presence:* Young consumers are tech-savvy and rely on online sources for information. Marketers should maintain a strong online presence, with comprehensive product information available on websites and catalogues. This ensures that consumers can easily access the information they need to make informed decisions.
- *Target Market Coverage Strategies:* Understanding the preferences and behaviours of South African young consumers is crucial for developing effective target market coverage strategies. Marketers can use these insights to tailor their approaches to attract and engage this demographic successfully.

In sum, this study contributes to the understanding of the factors influencing young consumers' smartphone purchase intentions during the COVID-19 pandemic. The recommendations provided can guide smartphone marketers in South Africa and similar markets in effectively reaching and appealing to this important consumer group.

9. Conclusion

The study delves into the factors influencing young consumers' intentions to purchase smartphones in the northern region of South Africa. Four key factors—product features, brand image, product price, and social influence—were examined for their impact on purchase intentions. While the study provides valuable insights, it also encountered challenges, such as respondents' unwillingness to

respond without explanation and limited awareness of the smartphone market. Key findings indicate that up-to-date product features and attributes significantly influence young consumers' purchase intentions for smartphones. A positive brand image, including recognition, associations, and past experiences, plays a significant role in shaping purchase intentions. Price sensitivity is evident among young consumers, especially during the COVID-19 pandemic. Pricing strategies should consider the economic challenges faced by this demographic. In the sense of social influence, while social recommendations may not have a significant impact, friends and family can still influence purchase decisions.

10. Future Research Directions

The study identifies several areas for future research:

- *Mediating Effects*: Investigate the mediating effects of variables such as brand image and trustworthiness of smartphone brands, cultural factors, convenience, and user dependency on purchase intentions.
- *Sampling Methods*: Explore other sampling methods beyond convenience sampling to gather a more diverse and representative sample.
- *Moderating Variables*: Consider the influence of moderating variables like age, gender, occupation, and income level on purchase intentions to gain a more nuanced understanding.
- *Geographical Scope*: Expand the research to cover more cities and regions within South Africa to generalize the findings.

In conclusion, this study provides valuable insights into the factors affecting young consumers' smartphone purchase intentions in South Africa. While it faced some limitations, future research can build upon these findings to further understand and cater to the needs and preferences of this important consumer demographic.

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