

-RESEARCH ARTICLE-

MODELLING THE ANTECEDENTS THAT EXPLAIN GENERATION Y STUDENTS' ATTITUDES TOWARD SMARTPHONE BRANDS

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—Abstract—

It is critical to have a firm grasp of the concept "attitude" and the antecedents that explain attitudes toward smartphones. The study's objective was to develop a model of the factors that influence Generation Y students' opinions regarding cellphones. The study addressed the research problem and its aims through the use of quantitative methodologies and analysis. A self-administered questionnaire (sample, N = 275) was used to collect data from two public higher education institutions in South Africa, one in Gauteng province and the other in the Free State state. Confirmatory factor analysis, more precisely structural equation modelling via AMOS, was utilised to validate and model the antecedents of Generation Y attitudes regarding smartphones. The study examined seven characteristics that may have an effect on or impact Generation Y's attitudes regarding smartphones. Four of the seven variables identified as antecedents explaining Generation Y attitudes toward smartphones were statistically significant and are thus deemed antecedents explaining Generation Y attitudes toward smartphones. Businesses that manufacture and market smartphones should therefore pay close attention to these four characteristics as they build goods and marketing strategies aimed at influencing consumer attitudes (in this example, Generation Y) toward smartphone brands.

Keywords: Generation Y, smartphones, attitude, Theory of Planned behaviour, South Africa

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1. INTRODUCTION

It is vital to have a firm grasp of "attitude" and the factors that contribute to its formation. This study is grounded in the theory of planned behaviour (TPB). The TPB is an elaboration of [Fishbein and Ajzen's 1975](#) theory of reasoned action. TPB added a third external variable to the equation: perceived behavioural control. This study does not use the TPB; nonetheless, by basing it on attitude, it considers a variety of variables/factors that influence attitudes about cellphones. According to [Aksom \(2019\)](#), attitude entails forming judgments about like or disliking, approving or disapproving, and favouring or disfavoring. In other words, attitude refers to the extent to which an individual forms a favourable or unfavourable judgement ([Ajzen, 1985](#)). Generation Y students have mixed feelings about smartphone manufacturers. A good attitude toward smartphones is critical for attracting new users and retaining existing customers ([Nekmahmud, Rahman, Huq, & Rahman, 2017](#)), but an unfavourable attitude toward smartphones indicates that existing customers will abandon the device.

Fewer studies have been undertaken on customer perceptions regarding smartphone brands. [Khatun et al. \(2017\)](#) evaluated the socio-economic elements impacting consumer sentiments toward smartphone brands, including gender, age, occupation, education, income, and experience. According to the data, socio-economic considerations have little effect on consumer views toward smartphone companies. [Alauddin, Ahsan, Mowla, Islam, and Hossain \(2019\)](#) examined how consumer perceptions regarding smartphone brands are influenced by brand image, price, and country of origin. According to the data, consumer views about smartphone brands are influenced by brand image, price, and origin.

Similarly, [Jamalova and Constantinovits \(2020\)](#) examined the influence of features and functionality on consumer opinions about smartphone brands. Both aspects are significant for smartphone users and influence customer attitudes toward smartphone brands. The preceding studies examined only a subset of consumer sentiments regarding smartphone brands. Thus, this study fills a vacuum in the literature by incorporating all components discovered in the literature, except socio-economic factors, to model the antecedents that explain Generation Y students' sentiments about smartphone brands in South Africa.

Smartphones have been ingrained in our daily lives and are particularly popular among Generation Y. These smartphones are available from various manufacturers, including Apple, Samsung, Huawei, and Nokia. Technology advancements continue, and the global smartphone user base grows ([San, Chey, & Hock, 2018](#)). Samsung is the most popular smartphone brand in South Africa, followed by Huawei and Apple ([Dea, 2021](#)). South African Generation Y, on the other hand, prefers Apple above Samsung, Huawei, Sony, and Hisense ([BizCommuty, 2021](#)). A smartphone can be characterised as a device that enables the user to make phone calls. It also allows the user to perform some

previously impossible tasks without using a computer or personal digital assistant, such as sending and receiving e-mails or editing an office document (Nekmahmud et al., 2017). Smartphone brands are now considered indispensable because they enable consumers to connect to the internet, take photos, watch television, listen to music, share information, gain knowledge, locate locations, pay bills, and perform a variety of other tasks. In addition to performing routine tasks such as making phone calls, they perform all these tasks (Nekmahmud et al., 2017) Smartphones are utilised worldwide, primarily by Generation Y, for talking, texting, and Web browsing (Yavus, 2016).

Why should businesses that manufacture and promote cellphones place a premium on Generation Y? For smartphone manufacturers and marketers, Generation Y is a critical market segment for various reasons. Given that this generation is the largest in South Africa, most individuals are educated, and many are seeking tertiary qualifications (Crampon & Hodge, 2009), and attaining a tertiary qualification is related to future wage increases (Sithole, Chiliya, Maziriri, & Mapuranga, 2020). According to Prakash and Pathak (2017), Generation Y has the highest discretionary income of any generation, making them an attractive target for marketers. This suggests that Generation Y can afford and will continue to purchase smartphones. Generation Y is the most technologically proficient generation and would perish without the internet and their smartphones (Kane, 2019). Generation Y will always look for cutting-edge smartphones that can meet their wants. As a result, Generation Y has emerged as the most desirable market segment for smartphone manufacturers (Ncube & Koloba, 2020). Generation Y is defined by Lissitsa and Kol (2021) as a group of individuals born between 1986 and 2005. In 2021, these individuals will be between 16 and 35. Additionally, Generation Y is the most educated generation of all (Crampon & Hodge, 2009). This Generation Y cohort is the first born in the age of the internet, cellular (mobile) phones, convergent technologies, and multi-platform media (Sithole et al., 2020). According to Fishback (2019), Generation Y is the first generation to adopt cellphones in a significant way. Similarly, Generation Y is the largest smartphone owner group (San et al., 2018).

This article aims to model the antecedents that explain Generation Y students' views regarding cellphones, and the next part discusses the research that pertains to the components investigated and tested in this study.

2. LITERATURE REVIEW

2.1 Theoretical Framework

The TPB is usually considered as an accurate predictor of human behaviour. TPB was invented in 1985 by Ick Ajzen and is still in use today. TPB is a shortened form of TRA (Fishbein and Ajzen, 1975). TPB included attitude toward the act, subject norms (also referred to as social influence in the literature), behavioural intent, and target behaviour. A person's attitude toward an act is defined in psychology as their subjective assessment of its prestige or the desirability of completing a particular profession. As a result, the

actor performs the act, which may be good or negative depending on the circumstances. In TPB, the subjective norm considers the social pressures exerted on the actor to engage in or abstain from the job. In this scenario, the actor's thoughts are based on the performance of recognised and important members of society who are in a similar situation to the actor. Peer pressure and the public's perception of the performer cause them to perform in the manner others expect. According to the TPB, behavioural purpose is decided by subjective standards and attitudes toward the act and serves as the most immediate motivator of subsequent behaviour and consequences. It conveys the actor's intention to perform or abstain from executing a particular action (Ajzen, 1985). Numerous meta-analyses of studies have repeatedly proven that the hypothesis is predictive and validated. As a result, it is considered more dependable and lasting.

On the other hand, TPB possesses remarkable prediction ability to comprehend the factors that drive behaviour. It is used to develop programmes that aim to increase employee motivation and good attitudes at work and staff and consumer attitudes toward purchase decisions. It has consistently ranked as the most frequently used behavioural model in management literature throughout history, despite being developed only a few years after it was originally published (Ajzen, 2020). In the past, empirical evidence demonstrating the application of TPB in the field of Islamic home and personal financing has been published (Sherwani, Ali, Ali, Hussain, & Zadrán, 2018). As a result, the following are some prominent beliefs that have a major effect on adoption intention. Additionally, it significantly impacts how an individual views something (Soorani & Ahmadvand, 2019) Beliefs are the characteristics, attributes, and life experiences a person has regarding an object or related phrase (Ajzen, 2020). This study does not use the TPB; nonetheless, by basing it on attitude, it considers a variety of variables/factors that influence attitudes about cellphones. Existing research indicates that various variables/factors such as applications, functionality, usability, product design, brand image, customer service, and price may contribute to consumer attitude. Figure 1 depicts the conceptual model explored and evaluated in this study.

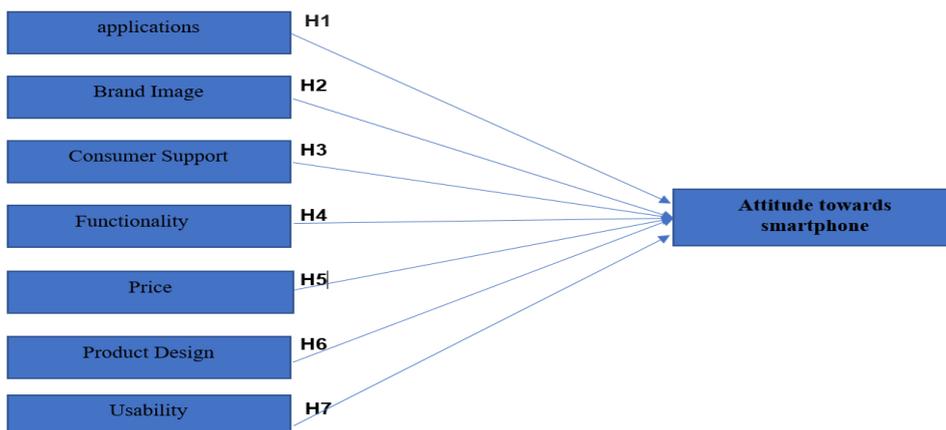


Figure 1: Conceptual Model

2.2 Applications

A typical term for an application is an app. Smartphone applications are software programmes optimised for use on smartphones (Glynn et al., 2018). A smartphone includes applications specific to the operating system (OS) it runs, such as the iPhone OS or Android OS. Apps are downloaded and installed on cellphones following their operating systems. For instance, Blackberry has its well-used BBM application (Blackberry Messenger). BBM was a web-based instant messaging service available exclusively for Blackberry smartphone brands (Techopedia, 2013). Following it, Blackberry's sales began to decline (Appolonia, 2019). Samsung was dominating the market and released BBM for Samsung Galaxy handsets (Samsung, 2018; Tubbs, 2013). Following that, Apple developed its messaging app, I-Message. I-Message is intended for communication between iPhone users exclusively. This programme is significantly faster than sending a standard SMS. Generation Y is characterised by astute consumers (Kane, 2019). These applications are more relevant to Generation Y, who spend more time on their cellphones and prefer instant messaging, texting, and e-mail (Alton, 2017). Manufacturers must create distinctive apps that entice these consumers to choose their brand over competitors, such as Apple's I-message. This will not be achievable until smartphone manufacturers develop distinctive and interesting apps, as Apple did. However, there are alternatives to exclusive apps from other smartphone companies that can be downloaded on cellphones running Android OS. These apps, such as Facebook, WhatsApp, and Twitter, are also heavily utilised by Generation Y. Android OS has benefited the majority of smartphone businesses by enabling Generation Y to have apps that boost their communications according to their preferred approach. The implementation of smartphone brands is a critical factor that can influence consumer perceptions of the product. The following hypothesis is stated in light of this argument:

H1: Applications positively influence consumer attitude towards smartphone brands.

2.3 Brand Image

Brand image is described as "the sum of a customer's views of a brand formed by the synthetic interplay of a customer's cognitive, emotive, and evaluative processes" (Handayani, Widowati, & Nuryakin, 2021). In other words, brand image is the perception of a brand that develops in the consumer's mind due to brand interaction (Sanggor, Pangemanan, & Rumokoy, 2018). According to Sanggor et al. (2018), consumers typically consider the company's brand image and the smartphone's characteristics before purchasing. Brand perception would result in a preference for a particular smartphone brand. For instance, Apple is well-known for its high-quality camera. When developing a brand image, it is critical to emphasise the quality of goods and services (Mao et al., 2020).

Additionally, brand image affects a company's future profit by increasing customers' willingness to pay a premium price, sustaining a competitive edge, and marketing

success (Sanggor et al., 2018). Customers in Generation Y are more informed and brand-conscious than consumers in any previous generation (Cheng, 2019). Smartphone manufacturers must establish and maintain a positive brand image to attract Generation Y consumers. (Yu, Liu, Lee, & Soutar, 2018) emphasise the importance of brand image in influencing brand attitude, especially in negative public exposure. As a result, brand image has a significant beneficial effect on consumers' perceptions of the brand (Elseidi & El-Baz, 2016). As previously said, the brand image of smartphone brands is a critical factor that can influence consumer perceptions of the product. The following hypothesis is stated in light of this argument:

H2: Brand image positively influences consumer attitude towards smartphone brands.

2.4 Customer Support

Customer support is defined as a critical and integral component of the operator's complete service experience with its customers (Alauddin et al., 2019). In other terms, customer support is after-sales assistance, which includes responding to client inquiries and expeditiously addressing consumer requests (Kim, Chang, Park, & Lee, 2015). Most smartphone manufacturers have established customer service channels, such as telephone, e-mail, and fax. Shabrin, Khandaker, Kashem, Hie, and Susila (2017) emphasise that Generation Y consumers are constantly looking for a faster response. As a result, smartphone brand manufacturers are encouraged to respond quickly, preferably within 24 hours, to maintain Generation Y's interest in their brands. Failure to do so will result in Generation Y readily switching to more proactive brands. As a result, customer assistance for smartphone companies is critical because it can influence consumer perceptions of the product. The following hypothesis is stated in light of this argument:

H3: Customer support positively influences consumer attitude towards smartphone brands.

2.5 Functionality

A smartphone's functionality is described as its functions, such as making calls, sending text messages, capturing and displaying images, playing videos, checking and sending e-mails, and accessing the Web (Christensson, 2008). Similarly, smartphones use an operating system similar to that of a minicomputer to access and browse the Web; view, edit, and share documents; download files; download and play music; and shoot images and videos (Lenovo, 2013). Kane (2019) notes that Generation Y customers cannot envisage a future without smartphones and the internet, and their communication is strongly reliant on modern technology such as social media and e-mail. Manufacturers of smartphone brands must guarantee that they stay current and produce devices that are relevant to this segment group (Generation Y). As discussed previously, the functionality of smartphone brands is a critical component that can influence consumer perceptions of the product. The following hypothesis is stated in light of this argument:

-H4: Functionality positively influences consumer attitude towards smartphone brands.

2.6 Price

Price can be described as the amount of money required to acquire ownership of a thing by the consumer (Cant, 2021). Nowadays, the smartphone market is extremely competitive, as all smartphone makers strive to improve continuously to remain relevant and charge a reasonable profit margin. For instance, Nokia included the Android OS to reclaim market share (Tribune, 2017). Additionally, smartphone manufacturers enhance features such as the camera and storage capacity. This enhancement entices people to spend a premium price for specific smartphone brands (Nekmahmud et al., 2017). Smartphone brands vary in price, with Samsung, Apple, LG, and Hawuei being the most popular (Swider, 2013). Generation Y possesses greater purchasing power; they are the most avid users of smartphone brands of any previous generation (Hahn & Kim, 2016). As a result, each smartphone brand maker must offer a competitive smartphone to capitalize on the Generation Y market and maximize profit. As previously said, the pricing of smartphone brands have a significant role in determining how consumers feel about the product. The following hypothesis is stated in light of this argument:

H5: Price positively influences consumer attitude towards smartphone brands.

2.7 Product Design

Product design is described as the process of envisioning and developing goods that satisfy consumers' problems or specific market needs (Productplan, 2021). Similarly, product design creates a valuable offering for consumers (Cant, 2021). Nekmahmud et al. (2017) emphasise that cell phones enable users to do various things, including watching television and listening to music. These smartphones must feature portable displays and high-quality speakers. Additionally, smartphone brands with a larger screen will appeal to Generation Y, who prefer to read e-books (Kinetics, 2020). As a result, smartphone manufacturers must conduct extensive research on the preferences of Generation Y before developing new handsets. As previously said, the product design of smartphone brands is a critical factor that can influence consumer perceptions of the product. The following hypothesis is stated in light of this argument:

H6: Product design positively influences consumer attitude towards smartphone brands.

2.8 Usability

The usability of a smartphone can be described as the ease with which a smartphone brand can be used (Hongu et al., 2015). For instance, taking a photo or capturing a screenshot should be simple. Smartphones are the primary mode of communication for Generation Y customers (Yavus, 2016). Generation Y spends most of its time on social media platforms like Twitter and Facebook and communicates via video calls (Rosyata, 2017; Tutgun-Ünal, 2020). Additionally, WhatsApp is the most widely used application

on a smartphone for various purposes, ranging from social interactions to video and photo sharing, written communication, and audio recorded messaging (Yavus, 2016). Yavus (2016) emphasises how simple it is to utilise apps such as WhatsApp if the devices are equipped with the proper operating system, such as Android. Smartphone manufacturers must implement such operating systems into their handsets to remain relevant to the knowledgeable Generation Y. As discussed previously, usability is an essential characteristic of smartphone brands that can influence user perceptions of the device. To this end, the following theory is advanced:

H7: Usability positively influences consumer attitude towards smartphone brands.

3. RESEARCH METHODOLOGY

The writers used a descriptive research design and a quantitative research method to accomplish the study's research purpose. The questionnaire utilised in this study was divided into two pieces (section A and B). The first section had demographic data about the participants, while the second section contained material in the form of questions to be assessed on a Likert scale (1=strongly disagree – 7=strongly agree). The items used on the study's scale to collect responses from participants were derived from previously validated scales. The antecedent items were adopted from Kim et al. (2015), while the attitude items were adapted from Ajzen (1985), and (Ajzen, 2020). (1985). The questionnaire contained (three) items about applications, (three) items about functionality, (three) items are about usability, (three) items are about product design, (three) items about brand image, (three) items about customer support, and (three) items about price. Four components formed the attitudes construct.

The study's target audience was university-aged Generation Y students. The participants in this study were full-time students enrolled in two South African institutions of higher learning, dubbed a traditional university and a university of technology. During the data gathering process, the convenience sampling approach, a type of non-probability sampling, was used. The participants completed a self-administered questionnaire. The study collected data in Mangaung district, Free State province, and Sedibeng district, Gauteng province (South Africa). There were 275 surveys completed. This sample size is considered enough for the type of analysis performed in this investigation (Blanche, Blanche, Durrheim, & Painter, 2006). The study was conducted with the necessary ethical clearance; participation was voluntary and with consent.

The study analysed data using descriptive statistics, reliability, and correlation. Additionally, confirmatory factors analysis, more precisely structural equation modelling, was employed to validate and model the antecedents of Generation Y attitudes about smartphones. The study was conducted using the Statistical Package for Social Sciences (SPSS) and Analysis of Moment Structures (AMOS), Version 27 for Windows.

4. RESULTS AND ANALYSIS

The study analysed a sample of Generation Y university students. The sample was gathered from two higher education institutions in South Africa's Gauteng and Free State provinces. In terms of gender, females accounted for a tiny majority (61.6%), while males accounted for 38.4 percent.

The reliability and correlation analyses in [Table 1](#) are presented. As can be shown, the Cronbach alpha coefficients (α) for all variables investigated in this study were greater than 0.70 ([Black & Babin, 2019](#)), a cutoff point for determining the instrument's internal consistency reliability. Additionally, the coefficients between variables were statistically significant at 10%, implying the instrument's nomological validity ([Raina, Chahal, & Dutta, 2019](#)). The absence of correlation coefficients greater than 0.90 indicates no issues of multicollinearity between the variables evaluated in the study. Additionally, composite reliability similar to Cronbach's alpha yielded values greater than 0.70, while average variance extraction gave values greater than 0.50, indicating that composite reliability and convergent validity are supported ([Black & Babin, 2019](#); [Raina et al., 2019](#)).

Table 1: Correlation and Reliability Analyses

Variables	(α)	1	2	3	4	5	6	7	8
Functionality (F1)	0.867								
Usability (F2)	0.737	.474**							
Product design (F3)	0.876	.548**	.336**						
Applications (F4)	0.759	.492**	.420**	.603**					
Price (F5)	0.805	.264**	.335**	.244**	.326**				
Customer support (F6)	0.880	.377**	.234**	.325**	.404**	.391**			
Brand image (F7)	0.809	.462**	.313**	.494**	.522**	.306**	.658**		
Attitude (F8)	0.878	.355**	.313**	.258**	.395**	.366**	.276**	.384**	

** . Correlation is significant at the 0.01 level (2-tailed)

4.1 Measurement Model and Model Fit Assessment

As indicated in [Figure 1](#), the study employed structural equation modelling (SEM) to model the antecedents that explain Generation Y views toward smartphones. SEM is defined as a "second-generation multivariate analysis approach for determining the extent to which a priori theoretical models are supported by sample data" ([Collier, 2020](#)). SEM principles dictate that the "measurement model was initially developed and identified, and the measured indicator items were allocated to the model's latent variables" ([Black & Babin, 2019](#)). Following that, confirmatory factor analysis was undertaken on eight latent and manifest variables (attitude, applications, functionality, usability, product design, brand image, and customer support). Items with factor loadings less than 0.5 were discarded.

The goodness-of-fit index (GFI) is critical while doing SEM since it provides information about the results' reliability and validity. To ensure the structural model's soundness, commonly used indices such as the Tucker Lewis index (TLI), adjusted goodness-of-fit index (AGFI), incremental fit index (IFI), and comparative fit index (CFI) were computed. According to [Black and Babin \(2019\)](#), index scores closer to one suggest that the proposed model fits perfectly, while index values closer to zero indicate that the model does not fit at all. The goodness of fit of the model is established in [Table 2](#).

4.2 Antecedents That Explain Generation Y Attitudes Toward Smartphones

Following validation of the scales' validity and reliability using correlation analysis and Cronbach's alpha figures, and validation of the structural model via various indices, the next step was to test the study's hypotheses and address the study's research objective (which was to model and determine the antecedents that explain Generation Y attitudes toward smartphones). The defined measurement model employed in this investigation is depicted in [Figure 2](#). The measuring model was described and identified by the procedures given by [Raina et al. \(2019\)](#) and [Black and Babin \(2019\)](#), and the measured indicator items were allocated to latent components. Seven latent elements (independent variables) were used to create 21 items, while consumer attitude (dependent variables) developed four items.

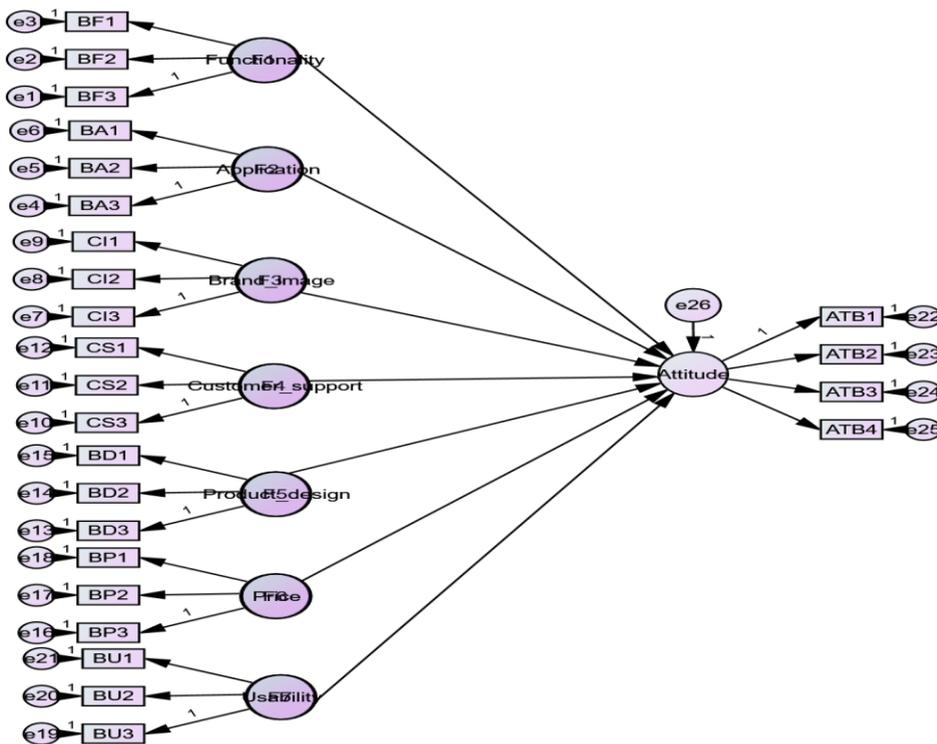


Figure 2: Specified Measurement Model

Table 2: Structural Model Fit Assessment

			Absolute fit indices			Incremental fit indices		
Model fit indices	λ^2/df	GFI	AGFI	RMSEA	NFI	TLI	CFI	IFI
Proposed structural model	2.872	0.943	0.911	0.038	0.932	0.950	0.961	0.925
Acceptable scores (values)	< 3.00	> 0.90	> 0.80	< 0.08	> 0.90	> 0.90	> 0.90	> 0.90

Source: [Black and Babin \(2019\)](#); [\(Raina et al., 2019\)](#)

The path coefficients, T-statistics, and p-values are presented in [Table 3](#) to answer the hypotheses posited at the beginning of the study.

Table 3: Hypotheses Testing

Variables	SMC	Path coeff.	T-value	p-values	Results of hypothesis
<i>H1: Applications positively influence consumer attitude towards smartphone brands.</i>	0.431	0.20	2.90	0.010	Supported
<i>H2: Brand image positively influences consumer attitude towards smartphone brands.</i>		0.22	3.10	0.010	Supported
<i>H3: Customer support positively influences consumer attitude towards smartphone brands.</i>		0.21	1.08	0.281	Not supported
<i>H4: Functionality positively influences consumer attitude towards smartphone brands.</i>		0.15	2.28	0.010	Supported
<i>H5: Price positively influences consumer attitude towards smartphone brands.</i>		0.23	3.85	0.000	Supported
<i>H6: Product design positively influences consumer attitude towards smartphone brands.</i>		0.19	-1.51	0.140	Not supported
<i>H7: Usability positively influences consumer attitude towards smartphone brands.</i>		0.18	1.06	0.283	Not supported

Of the seven variables proposed as antecedents that explain Generation Y 'students' attitudes toward smartphones, four (namely price, brand image, application and functionality) were statistically significant and, therefore, are considered antecedents that explain Generation Y attitudes toward smartphones. The squared multiplication correlation of the model was 0.431, which can be interpreted as that these four antecedents approximately explain 43 percent of the variance in Generation Y 'students' attitudes toward smartphones.

H1 proposed that applications positively influence consumer attitude towards smartphone brands. As illustrated in [Table 3](#), the results of the study indicate a statistically significant relationship ($\beta = 0.20$; $p < 0.05$); H1 is therefore supported. Similarly, H2 proposed as brand image positively influences consumer attitude towards smartphone brands ($\beta = 0.22$; $p < 0.05$), H4 proposed as functionality positively

influences consumer attitude towards smartphone brands ($\beta = 0.15$; $p < 0.05$) and H5 postulated as price positively influences consumer attitude towards smartphone brands ($\beta = 0.23$; $p < 0.05$) are supported. This is in keeping with the theory and empirical evidence of previous studies, which indicates that price (Hahn & Kim, 2016; Nekomahmud et al., 2017; Swider, 2013), brand image (Cheng, 2019; Sanggor et al., 2018; Yu et al., 2018), application (Alton, 2017; Glynn et al., 2018) and functionality (Christensson, 2008; Kane, 2019) do positively influence consumer attitudes toward brands. Based on the findings of this study, as indicated by the beta (β) values, the price was found to be the strongest antecedent, followed by brand image, application, and functionality of smartphone brands.

The other three variables (namely customer support, product design and usability) produced statistically insignificant p-values. They therefore cannot be considered antecedents that explain Generation Y 'students' attitudes toward smartphones based on the results of this study. Accordingly, H3, H6 and H7 are not supported. Further study may need to be conducted either to confirm or to disconfirm the influence of these variables on Generation Y 'students' attitudes toward smartphones.

5. CONCLUSION

Existing research indicate that it is critical to thoroughly understand the notion "attitude" and the antecedents that influence attitudes toward smartphones. This study aimed to bridge a gap in the literature, notably the lack of empirical evidence in the South African setting, by modelling the antecedents that explain Generation Y students' attitudes regarding cellphones. The current study examined seven variables that may affect or influence Generation Y students' opinions regarding smartphones. It was established that four of the seven variables identified as antecedents explaining Generation Y attitudes toward smartphones were statistically significant and are thus deemed antecedents explaining Generation Y attitudes toward smartphones.

6. IMPLICATIONS FOR RESEARCH

The current research adds to the existing body of knowledge by identifying characteristics (in addition to the theory of planned behaviour and the theory of reasoned action) that may contribute to developing a favourable customer attitude toward cellphones in South Africa. The practical implication of this study is that businesses involved in the production and marketing of smartphones should pay close attention to these four variables (price, brand image, application, and functionality). Companies develop products and marketing strategies to influence consumer attitudes (in this case, Generation Y) toward smartphone brands. To compete in the market, the management of a smartphone company should prioritise building a strong brand image by providing affordable smartphones coupled with simple-to-use applications that enhance the product's functionality. The remaining three factors (customer support, product design, and usability) had statistically insignificant p-values and hence cannot be regarded as

antecedents explaining Generation Y students' opinions regarding smartphones. Therefore, additional research is recommended to either support or refute the influence of these qualities on Generation Y students' attitudes toward smartphones.

7. LIMITATIONS OF THE RESEARCH

Apart from its substantial implications for theory and practice, this study has several research constraints. The current study used a cross-sectional research approach, limiting its ability to infer causal relationships. As a result, future studies must do longitudinal or experimental studies. Additionally, the study gathered data from 275 Generation Y smartphone owners in the Mangaung region of the Free State province and the Sedibeng area of the Gauteng province (South Africa). Future research could solve this problem by extending their study to additional provinces and utilising big sample sizes. Finally, the current study conducted a quantitative investigation to validate the conceptual model developed in previous research. It is advised that future research apply qualitative approaches to investigate and find additional aspects by assessing respondents' perceptions of smartphone brands.

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