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COMPARATIVE ANALYSIS OF SMARTPHONE PREFERENCE AMONG NIGERIAN UNIVERSITY STUDENTS

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ABSTRACT

The study comparatively analysed university students' preference for smartphone brands based on demographic profiles such as gender, age, and usage experience. The study also established whether a significant difference exists in students' preference for three selected brands of smartphones. The study employed a cross-sectional research design. The study population comprised undergraduate students in a Federal government-owned university in Edo State, Nigeria. The administration and retrieval of the questionnaire used for the study were done electronically via Google Form which was voluntarily filled and submitted by the students. A total of three hundred and ninety (390) responses were received after two weeks of the exercise. Data collected were descriptively analysed using frequency counts and percentages while inferential statistics such as t-test and analysis

of variance (ANOVA) were conducted to establish the influence of the different demographic profiles on the students' preference for smartphone brands. The study found that students' gender, age and usage experience did not significantly influence their preference for a smartphone. It was also found that Apple and Samsung brands were preferred to Tecno by most of the students. The study concluded that demographic profiles such as gender, age and user experience should not serve as the basis for smartphone manufacturers to differentiate their products but they should sustain and possibly improve their products' durability, camera quality, long-lasting battery and impressive aesthetic appearance among others.

Keywords: Brands, preference, smartphones, university students, Nigeria.

INTRODUCTION

Technological innovations have become an integral part of our everyday lives. One of these innovations is the smartphone manufacturing. As described by Igyuve et al. (2018), the smartphone "is a technological innovation of the new media that has defined human progress by creating a new paradigm of modernity and enabling adopters and users to improve on life affairs in terms of connectivity and social interaction with a variety of application and usage freedom" (page 1). These smartphone devices function by running on operating systems such as iOS and Android which have a constant Internet connection.

Smartphones have gone beyond simple mobile phone capabilities and can now offer information in real-time and also provide a wide range of functions such as game playing and social networking (Adekunle & Dimowo, 2021; Alavi & Buttlar, 2019). As observed by Nwachukwu and Onyenankeya (2017), a large number of students of institutions of higher learning possess smartphone. This is because smartphones are increasingly providing platforms for students and researchers on a global scale, to effectively conduct academic activities. Dukic et al. (2015) carried out a study to determine the usefulness of smartphones among Hong Kong and Japan Library and Information Science students. They found that the smartphones are used for communication, entertainment, socialising, sharing and receiving of information for

the fulfillment of academic needs. Dukic et al. (2015) also found that students used smartphones for other purposes such as taking notes, accessing course materials, discussing course assignments with classmates and searching the library for catalogues. A study conducted by Lau et al. (2017) showed that students at both postgraduate and undergraduate levels within the universities of Japan made use of smartphones for more social networking than for academic purposes. Olukotun et al (2013) and Nwachukwu and Onyenankeya (2017) in Nigeria showed that the students used smartphones to keep in touch constantly with relatives, lecturers, friends and fellow students.

The majority of the studies conducted on smartphones in Nigeria paid attention to smartphone adoption (Igyuve et al., 2018), uses of smartphone devices (Nwachukwu & Onyenankeya, 2017), smartphone repurchase intention (Adekunle & Ejechi, 2018), satisfaction of users with smartphone (Adekunle & Okhawere, 2018) among other studies. Regardless of how critical smartphones have become to students particularly those of tertiary institutions, empirical studies in Nigeria are still few in the context of smartphone preference among students and the optimal usage standards for academic activities. Most studies related to the preference for smartphones have been conducted outside Nigeria (Haverila, 2012; Hong et al., 2006; Guleria & Parmar, 2015; Kim et al., 2020) and have also failed to properly link user preference to their demographic attributes. Building on the technology acceptance model (TAM), this study, therefore, examined how the smartphone preferences of the Nigerian university students' were influenced by their demographic profiles. The specific objectives of the study are to determine the university students' preference for three selected brands of smartphones by empirically establishing how gender, age and usage experience influence preference for smartphones and to examine whether a significant difference exists in students' preference for three selected brands of smartphones.

LITERATURE REVIEW

Conceptualising Smartphone

Smartphones have practically and substantially replaced other screens. Nowadays, while using their laptops or watching TV, individuals tend to constantly check their smartphones and engage multiple screens at

the same time. Previously, individuals watched screens for work or leisure; which used to be a regularly scheduled activity. The contrary is now the case as a high level of self-discipline is required to create time for other activities and avoid being addicted to the phone screens. Smartphones have everything from personal information, to shopping lists, private conversationsand memories with close friends and family (Sama, 2020). An individual's smartphone possesses almost every detail about the person, possibly more than is known by close friends.

Since smartphones come with various features such as the ability to install various applications, location, camera and the capability to upgrade to newer versions, multiple choices are available to users. Smartphones aid individuals in almost everything such as dating, making friends, finding a route, making video calls, sending greetings, getting one questions answered, sharing picture with others, finding teachers, getting household help, shopping for groceries, cosmetics, clothing and almost every other thing including tracking one's physical activities and fitness plans among others (Fook et al., 2021; Sutisna et al., 2020; Zhai et al., 2020).

Odia and Adekunle (2020) defined smartphones as the mobile phones that perform a number of computer functions such as internet access, possess a touchscreen interface and an operating system with the capability to download and run applications, among other functions. According to BinDhim et al. (2014), "a smartphone is considered a mobile phone handset with advanced hardware and software capabilities that enable it to perform complex functions similar to those of laptop computers" (p. 3). To qualify a mobile phone as a smartphone, the following prerequisites as stated by Kim (2011) must be satisfied; (i) the appliance must be new and must have been produced not for commercial or business use but for personal usage; (ii) the appliance must be Internet-based in an unrestricted manner to help the user in the generation and exchange of data on the go; (iii) the appliance must possess the capability for the installation of a wide range of applications from an external source and; (iv) it should be sizeable and also possess a screen of high resolution and cameras which can take and view high-quality audio and videos.

Igyuve et al. (2018) pointed out the peculiar properties of smartphones including high download and storage capacities, capacity for

application installation, hardware sensors, wireless access, and connectivity, large display screens and resolution. Similarly, Kim et al. (2013) stated that to be a smartphone, the following features must be present: fingerprint sensor, infrared remote control, reasonably high storage space, multiple windows, a good camera, clear display and a battery that lasts long and rapid processing among others. The usage of smartphones in Nigeria can be traced to the adoption of mobile telecommunication in the country in the year 2011. Mobile telecommunication promoted the penetration of the Internet and the use of mobile phones. Odia and Adekunle (2020) and Laidi (2016) stated that the Internet browsing, declining product prices, connectivity, increased accessibility, improved usability and technological innovation are some of the factors in Nigeria which have promoted the adoption of smartphone usage. In the same vein, Igyuve et al. (2018) stated that factors which have promoted the adoption of smartphone usage in Nigeria include convenience, cost efficiency, brand and product features, social influence, educational needs, communication and social needs.

Overview of Smartphone Brands

The three brands of smartphones investigated in this study are briefly discussed as follows:

The history of the Apple iPhone dates back to 2007 when Steve Jobs announced the 3-in-1 device that combines an iPod music player, an Internet communication device and a traditional phone. Apple's iPhones are characterised by the big screen, innovative multi-touch interface and on-screen keyboard. As of September 2019, Apple introduced three new iPhones namely; iPhone 11, iPhone 11 Pro and iPhone 11 Pro Max. These new products of Apple possessed an ultra-wide camera that gives room for users to capture fantastic photos.

Samsung was founded in 1938 with the electronics section of the company commencing operations in 1969. Samsung introduced the SGH-600 into the European market in September 1998 with simple and appealing designs and features. In June 2010, Samsung Galaxy which changed people's minds when it comes to Android devices was released into the market. Samsung is now among the leading players in the smartphone markets globally. Samsung is acknowledged to be

the market leader in the electronic industry in Nigeria as the company is continuously improving the capacities and functionality of its products. The company has recently designed smartphones running Tizen OS as an alternative to its Android-based smartphone. Samsung smartphones are known for quality and fascinating attributes such as faster processors, high-quality cameras, strong batteries, and clean and clear screens among others.

Tecno Telecom Limited established Tecno Mobile in 2006. Tecno mobile was successfully launched and highly patronised in the African market. Tecno phones are commonly used by Nigerians because it is relatively cheaper. Camom X and Camon X Pro with Android 8.1 features were launched in Nigeria on the 5th of April, 2018. On the 17th of June 2020, Tecno launched the smartphone called Spark Power 2 phone with 7.00-inch touchscreen and powered by 2GHz Octa-core MediaTek Helio P22 (MT6762) processor. Tecno Spark Power 2 has two Nano dual Sims with wi-fi and the Bluetooth connectivity.

Users' Preference for Smartphone Brands

Users of mobile phones are shifting to the use of smartphones because they are capable of performing similar functions to a personal computer. This observation is supported by the finding of the studies of Pandey and Nakra (2014) and Rahman and Haque (2021) that mobile phones have undergone numerous transformations from being mere voice communication devices between two individuals to becoming devices with innovative features and applications for meeting the information needs of users. It has also been empirically proven that users do not only focus on the hardware features of smartphone but also on the operating system that runs the device (Attri et al., 2017).

Attributes such as quality of the camera, internet browsing, wireless connectivity, quality of image, price, durability, portability, media capacity and post-sales services have been identified as factors that influence the users' preference for smartphones (Adekunle & Ejechi, 2018, Adekunle & Dimowo, 2021). Pandey and Nakra (2014) examined the preference for smartphone brands among consumers using the data collected from three hundred respondents in the Ludhiana region. The study found that Samsung was the most preferred brand of smartphone. The study also identified RAM size,

screen size and price as the most important qualities consumers consider in selecting a smartphone brand. Similarly, Adekunle and Dimowo (2021) found that Samsung, Apple, and Tecno were the three most preferred brands of smartphones in Nigeria. Attri et al. (2017) also found that the determining factors of smartphone preference and purchasing behaviour by customers include hardware specifications; the company's marketing communication, product features, usability features and price. The study also identified the following features (in order of importance); RAM battery backup, camera, processor, internal memory, sound, size, additional features and expandable SD card that the customers looked for in purchasing a smartphone.

Demographic Profile and Students' Preference for Smartphone Brands

Users' Gender and Smartphone Preference

Gender refers to a set of characteristics that differentiates males from females. Although both genders differ in their physical and biological makeup, these are not the only factors that distinguish them. Genders can be distinguished based on actions, traits and attitudes which could potentially influence consumer behaviour (Hoyer & Stokburger-Sauer, 2012). Both females and males had different ways in which they examined, collected, processed and assessed information for decision-making (Kwok et al., 2016; Karatepe, 2011). Karatepe (2011) and Hoyer and Stokburger-Sauer (2012) found that females were attentive to both information of personal relevance and those of relevance to other people. Females were more likely to get involved in a detailed and very in-depth examination of a message and make extended decisions based on the product attributes. Hoyer and Maclnnis (2010) also found that men however focused only on information that relates to them personally and usually processed information based on a few amount of details by using simple heuristics. Kwok et al. (2016) believed female customers considered and evaluated in detail the many aspects of a product and thus emphasised more on the quality, while male customers' evaluation was based on the overall aspect. Customers who were female usually expected more from a product than male customers, which ultimately influenced their product satisfaction level (Juwaheer, 2011).

Shade (2007) found that girls made use of mobile phones for voice calls and texting to maintain connection with friends, while boys used mobile phones for the technology obtainable to them. The study revealed also that ladies' cell phone usage was for communications that were more of an interpersonal nature than men. Haverila et al. (2013) revealed that texting and voice call usage between males and females were not significantly different. Both genders were also found to engage in Internet services with equal frequency levels. Both genders however have different smartphone preference reasons. While males' smartphone usage was directed more towards playing games and information search, females' smartphone usage was directed more towards communication (Rashid et al., 2020).

Users' Age and Smartphone Preference

The study performed by Rashid et al. (2020) showed the usage pattern of young individuals differed from that of elderly individuals as regards digital instruments. Research conducted by Vaportzis et al. (2017) revealed that young people perceived mobile phones differently from how it was perceived by the elderly people. Vaportzis et al. (2017) stated that elderly individuals' mobile phone usage frequency was limited and they had few reasons for its use, while the usage frequency of young individuals was much higher and they had a huge amount of reasons for its use. The majority of elderly people viewed mobile phones as being devices for providing safety.

Oksman and Turtianen (2004) showed that mobile phones were seen as a source of freedom to young people and so they were more dependent on them than the users of other age groups. One reason for this was the provision of media content through mobile phones; this caused the young user to bond with the mobile phone. Adaptability to new technology is inversely proportional to age showing that as age reduces adaptation of the age group to technology increases. Young users were considered to be the "sweet spot" of the smartphone industry (Lee et al., 2019). This shows that the younger users are the drivers and key stakeholders within the mobile phone industry for the development of new applications and technology. Young users grow, as they do their views on mobile phones change and their usage pattern goes through phases similar to that of human development theory.

Usage Experience and Smartphone Preference

This involves how often and how long the smartphone user engages their device (Kim et al., 2016; Rodgers et al., 2005). It refers to how deep the existing relationship between a customer and a company is (Aurier & N'Goala, 2010). As for usage experience increases, the commitment of the user to that company or product usually increases thereby enhancing relationship depth. Usage experience very likely affects a user's smartphone preference. Norazah (2013) performed a study on the demand students had for smartphones. It was found that from the users' experience, the preferred operating system was Android (53.1%), and it was followed by iPhoneRIM (30.6 %) while the Windows operating system was rarely used (2%). The study also revealed that about half of the respondents (49.4%) used their smartphones for social networking followed by texting (24.7%), playing games (15.3%) and for music among other functions. Norazah (2013) further showed that daily, one-fourth (1/4) of smartphone users usually spent less than two hours on it with thirty per cent spending above six hours.

Theoretical Framework

This study is based on the technology acceptance model (TAM). The theory was propounded by Davis (1986). The theory explains users' acceptance and usage of an information system. The theory also provides a formidable foundation for studies in technology adoption in different contexts. As explained by Koul and Eydgahi (2017), "TAM is a widely utilized theoretical framework for the assessment of how people make decisions regarding new technology adoption" (p. 110). Understanding the customers' preference for adopting smartphone technology is critical for predicting the usage of new information resources. This is because users' adoption or preference for smartphone is a function of perceived usefulness and ease of use of the devices (Marangunic & Granic, 2015). Perceived usefulness in this context refers to the degree to which a user believes that his/her performance will be enhanced by using a particular technology. Smartphones are perceived to be useful to students in different ways. The devices can be used for course registration, accessing educational apps, enhancing social learning and making learning more convenient and comfortable, among others. As argued by Shahjehan et al. (2021),

the behavioural patterns of users have been significantly changed by the rapid rise in the use of smartphone. According to Marangunic and Granic (2015), "perceived ease of use refers to the extent to which users believe that using a particular technology would be free from effort" (p. 83). With the help of appropriate educational apps, smartphones can easily be used to access and gather information for carrying out academic tasks.

METHODOLOGY

This study employed a cross-sectional research design. The population comprised undergraduate students of a Federal government-owned university in Edo State, Nigeria. The administration and retrieval of the questionnaire used for the study were done electronically via Google Form. The link to the Form was sent to the target respondents through their class representatives which were directed to share and encourage other students to voluntarily participate in the study by sincerely filling and submitting the questionnaire online. A total of three hundred and ninety (390) responses were received after two weeks of the exercise.

Three brands of the smartphone were selected for the empirical investigation. These include Apple, Samsung and Tecno. The selection of these three brands was done based on the outcome of a previous study conducted by Adekunle and Dimowo (2021) among university students that revealed that these brands were the most popularly used smartphones among students in Nigeria. The questionnaire used was sectionalised into two parts. Part One contains information on the demographic profile of the respondents such as gender, age and usage experience. Part Two contains seven items on smartphone preference which were adopted from a scale previously used by Nozarah (2013), Adekunle and Ejechi (2018) and Adekunle and Dimowo (2021). The questionnaire was structured using the Likert scale that ranges from *strongly agree* to *strongly disagree*. Data collected were descriptively analysed using the frequency counts and percentages while the inferential statistics such as t-test and analysis of variance (ANOVA) were conducted to establish the influence of the different demographic profiles on the students' preference for smartphone brands. All tests were conducted at a five percent (5%) level of significance using the SPSS software.

RESULTS

The results of the study are presented and discussed in this section.

Respondents' Demographic Profile

The demographic profile of the respondents such as gender, age and user experience across the three brands of smartphones investigated are presented in Table 1.

Table 1

Demographic Profile of Respondents

Demographics	Category	Smartphone Brands							
		Apple		Samsung		Tecno		All	
		Freq	%	Freq	%	Freq	%	Freq	%
Gender	Male	57	40.4	93	58.5	52	57.8	202	51.8
	Female	84	59.6	66	41.5	38	42.2	188	48.2
	Total	141	100.0	159	100.0	90.0	100.0	390	100.0
Age (Year)	Below 19	15	10.6	13	8.2	4	4.4	32	8.2
	19 - 23	96	68.1	66	41.5	43	47.8	205	52.6
	24 - 28	17	12.1	35	22.0	18	20.0	70	17.9
	29 - 33	6	4.3	12	7.5	9	10.0	27	6.9
	34 & Above	7	5.0	33	20.8	16	17.8	56	14.4
	Total	141	100.0	159	100.0	90	100.0	390	100.0
Usage Experience (Years)	Less than 4	29	20.6	22	13.8	20	22.2	71	18.2
	4- 6	25	17.7	36	22.6	23	25.6	84	21.5
	7 & Above	87	61.7	101	63.5	47	52.2	235	60.3
	Total	141	100.0	159	100.0	90	100.0	390	100.0

Gender

Table 1 shows that majority of the respondents that preferred the Apple brand were female, which was 84 accounting for 59.6% of the respondents. Of the male respondents that preferred the Apple brand, 57 represented 40.4 percent. Approximately, 66 (41.5%) and 38 (42.2%) of the female respondents preferred Samsung and Tecno brands respectively while 93 (58.5%) and 52 (57.8%) of the

male respondents preferred Samsung and Tecno brands respectively. The results also showed that majority of the respondents that filled the questionnaire were male (51.8%) while the female respondents accounted for 48.2 percent.

Age of Respondents

The age distribution of the respondents that preferred Apple shows that majority of them (96, 68.1%) were between 19 and 23 years old. This is followed by 24-28 years old (17, 12.1%) and below 19 years (15, 10.6%). The respondents that were 29 years and above jointly accounted for slightly above nine percent (9.3%) of the total respondents. For the respondents that preferred Samsung, the majority of them (66, 41.5%) were between 19 and 23 years old. This is followed by 24-28 years old (35, 22%). 13 (8.2%) of the respondents were below 19 years while the respondents that were 29 years and above jointly accounted for slightly above 28 percent (28.3%) of the total respondents. Similarly, the majority of the respondents that preferred Tecno were 23 years and below which jointly accounted for 55.2 percent. The results also showed that majority of the respondents that filled the questionnaire were 23 years old and below. This category accounted for 60.8 percent while the respondents that were 24 years old and above accounted for slightly above 39 percent (39.2%).

Usage Experience of Respondents

The results showed that the majority of the respondents had been using different brands of smartphones for seven years and above. This category accounted for 60.3 percent (Apple -61.75; Samsung – 63.5% and Tecno – 52.2%). Other respondents that had been using the different smartphones for six years and below joint accounted for 39.7 percent.

Influence of Demographic Attributes on Students' Preference for Smartphone Brands

In this section, the influence of demographic attributes (gender, age and usage experience) on the respondents' preference for smartphone brands wass established using t-test and analysis of variance. T-Test was used for gender because the variable had only two categories (male and female) while analysis of variance wass used for age and

usage experience because the variables had more than two categories. The results are presented in Tables 2 to 4.

Table 2

Gender and Smartphone Preference

Smartphone Brands	Statistics	Gender			Independent Samples		Decision
		Male	Female	Total	t-statistics	p-value	
Apple	Mean	4.06	3.94	3.99	1.21	0.23	Not Significant
	Std. Dev	0.50	0.59	0.56			
Samsung	Mean	3.90	3.93	3.91	-0.42	0.68	Not Significant
	Std. Dev	0.49	0.58	0.53			
Tecno	Mean	3.69	3.83	3.75	-1.03	0.31	Not Significant
	Std. Dev	0.65	0.63	0.64			

The result shows that more male ($\bar{X} = 4.06$) respondents preferred the Apple brand than their female ($\bar{X} = 3.94$) counterparts. However, the results show that gender does not significantly influence the students' preference for Apple brand ({t = 1.21; p = 0.23} at 5% level of significance). The results also show that the preferences of female respondents for Samsung and Tecno brands are higher than that of the male respondents. However, the results show that gender does not significantly influence students' preference for Samsung {t = -0.42; p = 0.68} and Tecno {t = -1.03; p = 0.31} brands at five percent (5%) level of significance. We, therefore, conclude that students' preference for smartphones is not significantly influenced by gender.

Table 3

Age and Smartphone Preference

Smartphone Brands	Statistics	Respondents' Age (Years)						Independent Samples		Decision
		Below 19	19-23	24-28	29-33	34 & Above	Total	F-statistics	p-value	
Apple	Mean	4.07	3.99	3.99	4.00	3.73	3.99	0.43	0.79	Not Significant
	Std. Dev	0.72	0.57	0.43	0.29	0.51	0.56			
Samsung	Mean	3.77	3.91	3.91	3.83	3.99	3.91	0.49	0.74	Not Significant
	Std. Dev	0.59	0.53	0.61	0.58	0.38	0.53			
Tecno	Mean	3.71	3.87	3.69	3.84	3.44	3.75	1.44	0.23	Not Significant
	Std. Dev	0.67	0.62	3.33	0.63	0.87	0.64			

The result shows that the respondents that were below 19 years old had the highest level of preference ($\bar{X} = 4.07$) for the Apple brand. However, the ANOVA results {F = 0.43; p = 0.79} show that the differences in the preference for Apple brand across the age categories are not statistically significant at five percent (5%) level. For Samsung, the result shows that the respondents that were 34 years old and above had the highest level of preference ($\bar{X} = 3.99$). However, the ANOVA results {F = 0.49; p = 0.74} show that the differences in the preference for Samsung brand across the age categories are not statistically significant at five percent (5%) level. Finally, the result shows that the respondents that were 19 to 23 years old had the highest level of preference ($\bar{X} = 3.87$) for the Tecno brand. However, the ANOVA results {F = 1.44; p = 0.23} show that the differences in the preference for Tecno brand across the age categories are not statistically significant at the five percent (5%) level.

Table 4

Usage Experience and Smartphone Preference

Smartphone Brands	Statistics	Less than 4 Years	4 – 6 Years	7 Years & Above	Total	F-statistics	p-value	Decision
Apple	Mean	3.85	3.99	4.03	3.99	1.16	0.32	Not Significant
	Std. Dev	0.78	0.56	0.47	0.56			
Samsung	Mean	3.71	3.92	3.95	3.91	1.86	0.14	Not Significant
	Std. Dev	0.71	0.54	0.47	0.53			
Tecno	Mean	3.75	3.84	3.70	3.75	0.41	0.66	Not Significant
	Std. Dev	0.59	0.70	0.64	0.64			

The result shows that the respondents who had been using the Apple brand for seven years and above had the highest level of preference ($\bar{X} = 4.03$). The ANOVA results {F = 1.16; p = 0.32} show that the differences in the preference for Apple brand based on user experience are not statistically significant at five percent (5%) level. For Samsung, the result shows that the respondents that had been using the brand for seven years and above had the highest level of preference ($\bar{X} = 3.95$). The ANOVA results {F = 1.86; p = 0.14} show that the differences in the preference for Samsung brand based on user experience are not statistically significant at five percent (5%) level. Finally, the result further shows that the respondents that had been using Tecno

for four to six years had the highest level of preference ($\bar{X} = 3.84$). The ANOVA results {F = 0.41; p = 0.66} show that the differences in the preference for Tecno brand based on user experience are not statistically significant at the five percent (5%) level.

Preference for Different Brands of Smartphone

To further establish whether a significant difference exists in students' preference for the three selected brands of smartphones, ANOVA was conducted. The results are presented in Table 5:

Table 5

ANOVA Result of a Preference for different Brands of Smartphone

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.26	2	1.63	5.11	0.01
Within Groups	123.49	387	0.32		
Total	126.75	389			
Post-Hoc-Test using Student-Newman-Keuls (S-N-K)					
			Subset for alpha = 0.05		
Brands of Smartphone	N		I		II
Tecno	90		3.75		
Samsung	159				3.91
Apple	141				3.99
Sig			1.00		0.28

The results (F=5.11; ρ=0.01) in Table 5 shows that there is a statistically significant difference in the preference for the three smartphone brands investigated in this study. Since the ANOVA result is found to be significant ($p<0.05$), a post-hoc-test using Student-Newman-Keuls (S-N-K) was conducted to categorise the smartphone brands as rated by the students (respondents). The result shows that Samsung ($\bar{X} = 3.99$) and Apple ($\bar{X} = 3.91$) are perceived to be of the sam e category (Category II) which is significantly different or higher than Tecno ($\bar{X} = 3.75$) that belongs to Category I.

Furthermore, the responses to the open-ended question show that the reasons for selecting a particular brand of the smartphone as the

most preferred brand include the quality camera, possession of hybrid features, lasting battery, reliable built-in security system, unique operating systems, superior functionality, user friendly and easy to use features, attractive aesthetic appearance, high storage capacity; sleek, beautiful and durable hardware among others.

DISCUSSIONS

Firstly, the study found that the female students' preference for Samsung and Tecno smartphones is higher than that of males while the male students' preference for Apple brand is higher than that of female students. However, the difference in male and female students' preference for smartphones is not statistically significant. The possible reasons for this outcome among university students may be due to the fact that the different smartphone brands investigated poses the basic feature such as high speed and storage capacity, an expansive display, a versatile camera and built-in security (Huang et al., 2022).

This outcome is similar to the findings of Haverila et al. (2013) that revealed that texting and voice call usage between males and females were not significantly different. Similarly, Adekunle and Dimowo (2021) found that the preference for smartphone brands like Samsung, Apple, Tecno, Infinix, Huawei, Xiaomi, Nokia and Gionee was not significantly different between males and females. However, Adekunle and Dimowo (2021) found that the preference for iTel phones is significantly higher for females than males. The study of Rashid et al. (2020) however found that males and females have different reasons for preferring smartphones. They observed that males preferred using smartphones for playing games and searching for information while females were more concerned about using the devices for communication purpose. As found by Pinto et al. (2019), female preference for smartphones was mostly influenced by the connectivity, price, memory and camera while factors such as connectivity, price, type of operating system and battery capacity influenced the males' preference for a smartphone. Bagga et al. (2016) in a study on handset preference observed that the aesthetic appearance and price were the most important features for females while brand image and aesthetic appearance were more important factors to males.

Secondly, the results showed that the age of respondents does not significantly influence preference for smartphone. This outcome may not be surprising as the three smartphone brands investigated share similar attributes and deliver almost the same contents. Also, the respondents which were students used the devices for similar purposes and they were young people who were predominantly between the age of 19 and 23 years old. The purposes as noted by Dukic et al. (2015) include communication, entertainment, socialising, sharing and receiving of information for the fulfillment of academic needs. As found by Pinto et al. (2019), younger people were more concerned about durability, price, connectivity and camera/memory quality when choosing a smartphone. The three brands of smartphones investigated possess these attributes hence the preference of the respondents for the brands is not statistically different across the age categories.

Thirdly, it was found that most of the respondents had been using used different brands of smartphones for at least seven years. However, the preference for the three smartphone brands was not significantly influenced by the user experience of the respondents. The non-significant difference in the three brands of smartphone is possibly explained by similarity in design and content. This finding corroborates the outcome of a study conducted by Adekunle and Dimowo (2021) which shows that the usage experience (low and high experience users) did not significantly influence the preference for a smartphone. Finally, the study revealed that the students' preference for the three brands of smartphones varied significantly as Apple and Samsung were more preferred to Tecno. This shows that though the smartphone brands shared similar attributes, the extent to which the different brands possessed these attributes varied as perceived by students.

CONCLUSION, IMPLICATIONS, AND SUGGESTIONS FOR FUTURE STUDIES

Smartphones possess the ability to offer information in real-time and provide a wide range of functions. These attributes make smartphones uniquely different from the simple and traditional mobile phones. This study examined how the demographic profiles of university students such as gender, age and usage experience influenced their

preference for smartphone brands. The study also established whether a significant difference existed in the students' preference for the three selected brands of smartphone. Valid data collected from 390 students of a Federal government-owned university in Edo state, Nigeria were analysed using both descriptive and inferential statistics. Based on the research outcomes, the study concluded that students' gender, age and usage experience did not significantly influence their preference for smartphone. However, Apple and Samsung brands were preferred to Tecno by most of the students.

Firstly, this study contributes to the discourse on smartphone preference specifically among students in tertiary institutions in Nigeria. The study adopted the technology acceptance model in explaining the preference for smartphone technology among students. Secondly, the study provides empirical evidence on how student preference for smartphones is influenced by demographic attributes. The study investigated how the demographic attributes such as gender, age, and usage experience determined the brand of smartphones that are mostly preferred among university students.

The study has a number of implications for managers and users. These implications are explained as follows. First, based on the non-significant relationship between demographic profiles such as gender, age and usage experience and students' preference for smartphone, the manufacturers of the devices should not differentiate their products based on the investigated demographic profiles but sustain and possibly improve their products' durability, camera quality, long-lasting battery and impressive aesthetic appearance. Secondly, Tecno as the least preferred brand of smartphone can incorporate the unique attributes possessed by Apple and Samsung to enhance its competitiveness in the marketplace. Finally, future studies should investigate how other factors such as users' financial capacity, marital status, peer influence, affordability and so on can influence the preference of students and non-student users of smartphone.

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