ANALYSIS ON FACTORS THAT INFLUENCED CHOICE OF MOBILE PHONE DEVICE AMONG STUDENTS OF HIGHER INSTITUTION

(A CASE STUDY OF KWARA STATE POLYTECHNIC, ILORIN)

BY

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CERTIFICATION

This is to certify you that this project was carried out by BABALOLA TOHEEB OLAMILEKAN (HND/23/STA/FT/0056), has been read and approved as meeting the requirements in partial fulfilment of the award of Higher National Diploma (HND) in statistics, Institute of Applied Sciences, Kwara State Polytechnic, Ilorin.

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DEDICATION

This project is dedicated to Almighty Allah for his merciful supervision over me throughout my stay on campus, granting me wisdom, knowledge and understanding towards the successful completion of my HIGHER NATIONAL DIPLOMA (HND). I also dedicate this project to students of Kwara State Polytechnic, with the hope that this research will contribute to creating a more vibrant and inclusive sports culture in our institution.

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I would like to express my heartfelt gratitude to my project supervisor, Mr. Safihi F.G for his invaluable guidance, support, and expertise throughout this research project. Your feedback and encouragement have been instrumental in shaping this work.

I also appreciate the Head of Department, Mrs. Elepo, T.A and other lecturers in my department.

To my parents, Mr. and Mrs. Babalola, I am forever grateful for your unwavering support, love, and encouragement. Your sacrifices have enabled me to pursue my academic goals. And my siblings, thank you for your support and understanding throughout my academic journey.

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Thank you all for being part of this journey.

ABSTRACT

This study explores the key factors influencing students' intention to purchase mobile phone devices, focusing on durability, features, students' budget, brand name/image, and production year. Using data from 100 valid responses, the reliability of the research instrument was confirmed with a Cronbach's Alpha of 0.746. Multiple linear regression analysis showed that the model significantly predicted purchasing intention ($R^2 = 0.386$, Adjusted $R^2 = 0.348$, $F = 7.524$, $p < 0.05$). Product features, students' budget, and brand name/image were significant predictors, while durability and production year were not. Additionally, students' type of residence back home had a modest but significant influence ($R^2 = 0.041$, $F = 4.229$, $p = 0.042$) on purchasing intention. The findings suggest that financial capability, product characteristics, and brand perception play vital roles in shaping students' mobile phone purchasing decisions.

Keywords: *Mobile phone purchasing intention, product features, students' budget, brand image, durability, production year, multiple regression, student behavior.*

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CHAPTER ONE

1.0 Introduction

As we all know we are now living in an age of digitalization, the application of sophisticated technological devices in our daily life is rising rapidly, and the size and shape of these devices are also changing quickly to match the changing taste and needs of customers (Rahim, Safin, Kheng, Abas & Ali, 2016). The people of different social classes, ages and income levels are very much accustomed with a wide range of technological devices and accessories, the introduction and development of mobile phones in our everyday life is one of the indication of these technological changes (Adekunle & Ejechi, 2018), the invention of mobile phone has changed the basic purpose of communication from reaching and exchanging views with others to a new way of interaction and assistance. Mobile phone has become part and parcel of our daily life (Smura, Kivi & Toyli 2009. Sata 2013). This is the device by which we can now express our thoughts and views, get our work done, assist others in their way of life and share our hurts and joys with others. Mobile phones are now considered as an inseparable part of our personal communication context (Karjaluoto et al 2005). Among the diverse modes of communication, mobile phone is one of the most reliable and efficient vehicles to reach wide range of persons within a very short time (Uddin, Lopa & Oheduzzaman, 2014). This device had one of the quickest household adoption rates of any other technological devices in the modern history (Comer & Wikle, 2008).

1.1 BACKGROUND OF THE STUDY

The first telecommunication device is called a pager. A pager is a small telecommunication device that only be used to receive or transmits alert signals and send short messages. In 1973, Motorola researcher Martin Cooper invented mobile phone and made the first call from Mahanttan in April 3rd 1973 (Cooper 2001), Mobile phone technology is still evolving and this technological advancements then led mobile phone a journey from OG (mobile radio telephone) to first generation 1G (analog signal) to second generation's 2G (digital signal) to third generation's 3G (digital signal and data) and very recent to fourth generation's 4G (high speed audio and video

streaming) technology (Bhalla & Bhalla, 2010). Li,Gan, Salleh, and Zakaria (2009) predicted the bunch usages of fifth generation's 5G (World Wireless Web), sixth generation's 6G (cellular system) and seventh generation's 7G (Space roaming system) mobile technology by 2020,2030 and 2040 correspondingly. Telecommunication devices help us to communicate at a distance. The first communication device is called pager. Pager is small communication device that can only be used to receive or transmit alert signals and send short messages. In year 1973, hand phone was invented by Motorola researcher Martin Cooper. The first traditional hand phone was designed to be large and bulky in size and only carry some basic functions such as calling and short messaging system (SMS). Hand phone is now further refined to smaller and compact version. It comprises of the hand phone that consists of numerous buttons and smart phones that can be controlled by touch screen. These devices perform a wider range of functions than pager and they have become the integral part of everyone around the globe.). In today's society, people are becoming more and more dependent on technology especially when communicating with others. Mobile phone is one of the highly technology communication device that allow users to connect with each other and transfer information across the globe. Mobile phone has brought huge benefit to the society in various aspect such as allowing users to call and talk straight away, send short message service (SMS), assist businessmen in making schedule of work and meetings, work as navigation system (GPS) access to the internet, entertainment, downloading applications, store data, assisting in legal matters such as tracking criminal via tracking system, and even help greatly in the aspect of education.

INTRODUCTION OF MOBILE PHONE TO NIGERIAN

The mobile system was introduced to the Nigerian market precisely on 6th August, 2001. That was in the third year of the former president Olusegun Obasanjo's first term. Interestingly, the Global System for Mobile Communications is almost in its 20th year

In Nigeria, At inception, what mattered was getting a means of virtual communication without having to depend on people who owned land phones to communicate. Apparently this ended the

monopoly of the telecommunication company Nigerian Telecommunication Limited (NITEL) which supplied wired telephony. It cannot be denied that introduction of mobile phone devices contributed to the extinction of this government agency, including other systems. For instance, letter posting offices and commercial internet access market – characterized by cybercafés which patronage has consistently dwindled.

NUMBER OF MOBILE PHONE USERS IN NIGERIA BASED ON MOBILE CONNECTION – (Digital 2020. Nigeria – Data Reportal)

There were 169.2 million mobile phone users in Nigeria in January 2020

The number of mobile phone connection increases by 12 million (+ 7.7%) between January 2019 and January 2020.

According to the statistics from Data Reportal, there are 187.9 million mobile phone connections in Nigeria in January 2021, comparing these figures with that of January 2020 there has been 10% increase in mobile phone users in the past year, with a 17 million additional mobile phone users being added from January 2020 to January 2021.additionally, a 2017 study by Pew Research found that 80% of adults in Nigeria owned some type of mobile phones.

1.2 Statement of the Problem

Mohd Azam Osman et al (2012), agreed that mobile phone technology is changing people's behaviour especially young adults however surveys that have been carried out are still insufficient. There is lack of understandings on the behaviours and consumer's preferences towards the mobile phone usage especially for students of higher institution. According to Erricson Consumer Lab (2013) 60% of students of higher institution feel addicted to their phone, while 75% sleep next to their phones, 88% texted in class, 97% use them for social networking, and 40% utilized it to study before test. In addition, the industry of mobile phone always shows drastic and tremendous changes or development in the telecommunication market. New model of mobile phones are launched to the market from time to time in order to gain the competitive advantage in the market.

The evolution of mobile phone has affected the users especially the students of higher institution in terms of motives and choices underlying the mobile phone buying decision process.

1.3 Aim and Objectives

The aim of this research is to determine the significant influence of phone's brand, students' budget, and durability on the choice of mobile phone devices among students of higher institution. This aim is achieved by the following specified objectives;

- To estimate the effect of these factors on the choice of mobile phone devices among the students of higher institution
- To determine which of these factors have statistical significant relative contribution to choice of the mobile phone.
- To determine whether the model fitted for this data is adequate for future prediction.
- To determine the effect of students' type of resident back home on their purchasing intention of mobile phone devices.

1.4 Significance of the Study

"Factors influencing the interest of purchasing mobile phone devices among students of higher institution'', although similar studies have been conducted on mobile phone devices and its respective purchasing intentions, however this research is directed mainly and only for the students of higher institution as consumers and factors that influence their purchasing intention towards mobile phone devices as well as how these factors (Brand name/image, production year, product features, students' budget and phone's durability) influence their purchasing intention. This is crucial for marketer as this will aid them to reconstruct and tailor their marketing messages to the needs of students as consumers. In a nutshell, Mobile Phone Company can benefit when the respective firm is able to cater for the needs of students

1.5 Scope and Limitation of the Study

This research uses Kwara State Polytechnic, Ilorin as the case study. Although, the objective of this research is achieved, there is a short coming during the course of conducting this research, due to time frame given for completing this research; it is limited in geographical coverage and sample size that only focuses only on an institution in Ilorin, Kwara State. Thus, the result can only represent certain group on students purchasing intention of mobile phone devices.

1.6 Justification of the Study

This research is justified because it introduces new factors (students' budget, Production year, & Students Type of Resident Back Home) into the pre-existing research, which will give different perspective entirely to the previous research history.

CHAPTER TWO

2.1 Introduction

The present study tries to determine the factors which significantly influence student's intention of purchasing mobile phone devices. According to Moschis,1976 ''consumers' behaviour is affected by a lots of factors, ranging from personal motivations, needs, attitudes, values, personality characteristics, socio-economic and cultural background, age, sex, professional status, price, recreation and innovation awareness, brand, impulsiveness, product sacrifice, social influences of various kind exerted by family, friends, colleagues, and society as a whole''. On reviewing the relevant literature, various factors have been found which influences consumers purchasing intention towards mobile phone devices.

2.2 Review of Related Literature

Purchasing Intention

According to Richard, Loury & David (2013), purchasing intention is defined as the possibility and illingness of consumer to purchase a particular goods or services in the future. Laroche et al. (1996) define purchasing intention as the individual's intention to purchase a particular brand they have chosen after certain evaluation. There are few researchers that have found out that the purchasing intention of consumers is based on their past experience, their preference towards the product as well as the external environment to collect information, evaluate alternative, and make purchase decision.9Dodds et al., 1991; Schiffman & Kanuk, 2000; Yang 2009). Besides, according to Dodds (1991) and Schiffman & Kanuk (2000) , when consumers have higher willingness to purchase a product, they will have a higher purchasing intention. Furthermore, purchasing intention also refers to consumer's intention to repurchase or purchase (Wand & Tadisma, 2008; Philip et al., 2002). Purchasing intention is linked to the behaviour, attitude and expectation of consumers. The buying behaviour is a key point for consumers to access and assess the individual product. The purchasing intention can be influenced by the price of the

product, brand name, perceived quality, and value of the product (Rai, 2020). The purchasing decisions of customers are influenced by internal or external factors at the time of obtaining goods and services (Gogoi, 2013). Generally, consumers prefer the low price of products and good packaging, but they do not trust the quality of these goods.

Engel et al, (1995), presented the most recognized model of consumer purchasing intention-forming process. This model is divided into five stages: (1) problem identification, (2) search for information, (3) alternatives evaluation, (4) purchase decision and (5) post-purchase evaluation. It can be regarded as an impulsive buying behaviour. Fishbein and Ajzen (1975) argued that the purchasing intention is the real intention of consumer toward the products for buying. Kotler (2003) shows that the purchasing intention is influenced by the individual attitudes and unpredictable situations. Individual attitudes refer to the personal preferences toward others and obedience to expectations of others; unpredictable situation means that consumers change their intention to purchase since a situation appears. (Dodds et al.,1991).

Furthermore, purchasing intention is the common tools that are used by marketers to predict the sales of existing goods and services (Armstrong, Morwitz & Kumer, 2000). Marketers are interested in understanding consumers' purchase intention, so that they are able to properly segment the market and as a source to their decision making. Thus, previous research has proof that there are positive relationships between brand name/image, product features, and durability with purchasing intention of many products. (Lin & Lin, 2007; Ibrahim, Kassim, & Mohamood, 2013)

Brand Name / Image

It is simply refers to as an identity and exclusivity that represent an organization (brand name). It can also be defined as the beliefs, ideas, perception and impression a company has created in the mind of the consumers overtime which serves as the competitive advantage to the organization. According to Keller (1993) and Biel (1993), they both defined consumers perceptions about a brand are reflected by the brand associations in their memory and they often connect the brand

with variety of attributes and associations. These associations can be characterized into strength, favourability, and uniqueness of the brand. Strength indicates consumer accessibility of relative brand information and the consistency if that information over time. Favourability of brand association means the desire of consumers towards a brand, it depends on how the product and supporting market program able to successfully capture the purchasing intention and delivered information to their customers. Uniqueness of brand is the overall mind reflection and belief of consumers towards a particular brand with its unique qualities such as design, packaging, colour, texture, and other abstract dimension (Muligeta, 2012), which is not possessed by other competing brand (Lee and Wu, 2011). A strong brand can lead to higher level of satisfaction and increase consumer confidence to purchase it. (Laroche, Kim and Zhou, 1996).

Thus, according to Richardson, Dick, and Jain (1994) brand image is often used as an external factor for purchasing intention of not only mobile phone devices but every other product. According to the research done by Change Wave Research (2010), smart phones brand of Apple has higher number of customers that are loyal to the brand due to the fact that it differentiates different types of customers by selling different versions with different amounts of storage space and different colours at difference price points. Based on previous research, it was found that product's brand immage influences customers' evaluation as well as purchasing intention (Khasawneh, 2010). This claim can also be supported by the other research done by Norazah (2013), brand image was found to have a significant effect on the purchasing intention of smart phones among Malaysian students.

Product Features

These can be defined as the attributes of a product that can satisfy consumer's preference through having the product, using and applying the product (Kotler and Armstrong, 2007). Nowadays, there are many high technological features of mobile phones in the market. Thus, different people will choose different features of mobile phones that can meet with their needs and desires. Features like wireless connectivity, a built-in web browser, application installation, full programmability, a

file management system, multimedia presentation and capture, high resolution displays, several gigabytes of storage, location and movement sensors, size, weight, colour and weight. (Oulasvirta, 2011).

According to Meirovich and Bahnan (2008), new attractive product features will finally satisfy consumers as a foundation. Therefore, a feature of smart phone will influence the young consumers' choices towards Smart phone brands. Based on the features, consumers will differentiate which smart phone brands will be the origin they made the choice. Sujata et al. (2016) examined five factors taken into consideration for the research work, like hardware factors, technology factors, basic factors, financial factors, and brand factors. The findings revealed that the features of technology factors, OS version and hardware factors have significant impact on the purchasing intention of young students when buying smart phone. Ayodele and Ifeanyichukwu (2016) identified the factors affecting mobile phone purchasing intention among young consumers in Anambra State, Nigeria. Researchers found that the aesthetic value of mobile phone and features of mobile phone have significant influence on the purchasing intention among young consumers. Lavuri et al (2019) investigated the preference of buyers of branded smart phone device. They found that price, brand name, mobile features like processing power, design, camera, and style of mobile have significant influence in the consumers' buying preference toward branded mobile. Elemmari and Cavus (2019) identified the factors affecting the purchasing intention of consumers in the buying of smart phones, price, brand image/name; product features and social influence were taken as the independent variables to understand the effect of purchasing intention. Researchers found that product features, brand image/name, and social factors influence the purchasing intention of mobile phone, but price did not influence purchasing intention.

Summary of the Previous Research Work

S/N	Authors	Place	Factors Identified	Statistical Technique used	Results
1	Malvija, Saluja & Thakur, (2013)	India	Price, Brand Name/Image, Social Influence & Features	Confirmatory Factor Analysis & Chi-square	Price, Brand Name/Image, Social Influence & Features were dominant
2	Lay-Yee, Kok Siew & Yin Fah, (2013)	Malaysia	Brand Concern, Convenience, Dependency, Price, Features, & Social Influence	Karl Pearson Correlation	They were all found to be significantly correlated with purchasing intention
3	Falayi & Adedokun (2014)	Nigeria	Price, Students' Perception & Features	Karl Pearson Correlation	They wre all found to be significantly correlated with P.I
4	Ibrahim, Subari, Kasim & Mohammed (2014)	Malaysia	Relative Advantage, Compatibility, Social Influence & Price	Multiple Regression	They all have significant relationship with P.I, explaining 79.2% of the total variance

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the research methodology, which refers to the various methods and technique used when this research is carried out. It discusses and highlights on several sub-sections such as method of data collection, sampling design, data processing and lastly data analysis to answer the main research questions.

3.2 Method of Data Analysis

Researchers have to analyse and summarize all the data collected from the research questionnaire to interpret the result. Statistical Package for Social Science 21 (SPSS) by International Business Machine (IBM) is a software tool to complete the tasks. SPSS 21 process the data collected from the survey, increase the result in structure method and solve issues. SPSS 21 gives prompt and effective data management, offer better outcome and giving broad range of choices for researchers to analyze quantitative data, it saves time and also prevent making certain mistakes that happen during the process.

3.2.1 Reliability Analysis

Reliability Analysis is the calculation used for measuring scale reliability which help researchers to understand and study the measurement scales properties and items that assemble the scales. In addition, it provides information about the connection between individual items in the scale. In this research, Cronbach ‘s Alpha Reliability Coefficient is used to test for the internal reliability and consistency of all the items of the independent variables used in the study. It normally ranges between 0 and 1. If the cronbach’s alpha‘s value is closer to 1.0, it means that the greater the internal consistency of the items in the scale. According to the rule of thumb for Cronbach’s alpha with 10 items, the strength of association is considered poor when the alpha

coefficient range is less than 0.6. Strength of association is moderate when the alpha coefficient ranges from 0.6 to 0.69 and the range from 0.7 to 0.79 is considered good strength of association. Furthermore, 0.8 to 0.89 will be very good strength of association. Lastly, if the alpha coefficient range is more than or equal to 0.9 that represent excellent strength of association. But if the number of items in the scale is lesser than 10, according to Julie pelant's book ''The SPSS of Survival Manual'', she noted that if there is less than 10 items on a scale, it is difficult to have high alpha so the strength of association is considered moderate if the alpha value is greater than or equal to 0.5.

3.2.2 Frequency Statistics

Frequency is a measure of how many times a particular data is repeated throughout an investigation study. Frequency statistics is a mathematical and statistical measure of the repetitiveness and how often the data obtained is similar or different. It measures the centralization and decentralization of data. Central tendency of the data refers to the tendency of the data to occur similar to each other.it is a measure of the closeness of the results obtained. Measure of central tendency includes the mean, mode and median. On the other hand, there is a measure of variation which refers to degree of dispersion of the data that is obtained from the samples. It consists of the range, variance and standard deviation. Frequency statistics helps to represent the data in graphical form. The graphical representation includes histograms, bar graphs, pie charts, and frequency table. Frequency and percentages of each variable is presented in graphical representations. By converting the data into graphical representations, it is easier to compare and contrast the value obtained by each variable in the study. The graphical representation can be constructed and used to explain based on the reader's intuition and constructive motivation. (Robert W.Jernigan, 2008).

3.2.3 Multiple Linear Regressions

Multiple regressions is an extension of simple linear regression. It is used when we want to predict the value of a dependent variable (target or criterion variable) based on the value of two or more independent variables (predictor or explanatory variables). Multiple regression helps in

determining the overall fit (variance explained) of the model and the relative contribution of each of the predictors to the total variance explained.

Multiple linear regressions was used in this research to model the impact the 5 variables has on purchasing intention of mobile phone devices among students of higher institution. The multiple linear regressions uses 5 independent variables (Brand name/image, product features, durability, students' budget and production year) to predict the relationship with dependent variable (Purchasing intention) and to determine whether the 5 variables are able to explain the variance in confidence level.

Assumption of Regression Analysis

The regression model is based on the following assumptions;

- The relationship between the dependent and independent variable is linear.
- The expected value of error term is zero.
- The variance of error term is constant for all the values of the independent variables, the assumption of homoscedasticity.
- There is no autocorrelation.
- The independent variable is uncorrelated with the error term.
- The error term is normally distributed.
- The square differences between the observed value and the predicted value are similar

The model for multiple linear regression analysis is as follows:

$Y = \beta_0+\beta_1X_1+\beta_2X_2+\beta_3X_3+...+\beta_nX_n+\varepsilon$

Where:

- Y= dependent variable (students purchasing intention of mobile phone device)
- β_0= constant value of Y when X becomes zero

- X_i = Independent variables (brand name/image, product features, durability, students' budget and production year)
- β_1 = The regression coefficient of variable X_1 (durability)
- β_2 = The regression coefficient of variable X_2 (product features)
- β_3 = The regression coefficient of variable X_3 (students' budget)
- β_4 = The regression coefficient of variable X_4 (brand name/image)
- β_5= The regression coefficient of variable X_5 (production year)

3.3 Method of Data Collection

This simply refers to the method of gathering information for the purpose of conducting an investigation or a research. There are two method of data collection which are primary and secondary method of data collection.

3.3.1 Primary Method of Data Collection

This simply refers to as the method of collecting primary data, which are; interview (face-to-face and telephone), observation, questionnaire, experiment. Etc. primary data is the data collected for a purpose directly from the first hand source and used for that pre-determined purpose.

3.3.2 Secondary Method of Data Collection

This simply refers to as the method of collecting secondary data. Secondary data are the written materials gotten from published or unpublished sources such as information from books, journals, magazine articles and newspapers, internet, electronic library database etc.

This research uses both type of data collection method which are primary and secondary sources. This study uses distributed questionnaire through survey as the primary data source, while the secondary data source is from journal, articles, internet, textbooks, media publications, electronic

library database and articles. In this research 100 set of questionnaires were distributed to students who study in Kwara State Polytechnic Ilorin, Kwara State.

3.4 Sampling design

Sampling simply means to take a fractional part out of the whole population and analysed results to judge the entire population. The objective of sampling design is to know the characteristics of the population. In this research the sampling design specified on the sampling location, target population, sampling technique and sampling size. In this research the sampling location and the target population are Kwara State Polytechnic, Ilorin (Kwara State) and her students, while the sampling technique is based on both probability and non-probability sampling. Probability Sampling is the type of sampling in which all the elements in the population has equal chance of being selected. Examples are Simple Random Sampling, Stratified, Systematic, and Cluster .etc. for this research purpose, simple random sampling (using table of random number) was used to distribute the questionnaire.

Non-Probability sampling is the type of sampling in which all the elements in the population does not have equal chance of being selected. Examples are judgemental, convenient, accidental .etc. for this research purpose, convenient sampling is used to choose the sampling location (Case Study). Convenience sampling is used due to availability and familiarity with the respondents.

Data Processing: According to Malhotra (2010), data processing refer to the process that are guided by preliminary plan of data analysis which come from the data analysis. In this research, data processing consists of few steps, questionnaire checking, data coding and data transcribing.

Questionnaire Checking: in this process, researchers will ensure the completeness and quality of the research by eliminating those unacceptable questionnaires. This step must be taken after the questionnaire is done. During the course of this research, pilot test was done to detect any error such as confused questions and grammatical mistakes which was corrected and modify before the actual survey questionnaire was distributed.

Data Coding: this simply refers to assigning a code to represent each answer in the questionnaire (Malhotra, 2012). The data coding can be categorized in numerical forms or any other characteristics. for the purpose of this research, likert scale is used which is an ordered, one dimensional scale from which respondents chooses one option that best aligns with their view. It consists of five options and each question is a statement. The respondent may agree or disagree to the statements and the scoring are in numbers such as 1 represents Strongly Disagree; 2 represents Disagree; 3 represents Neutral; 4 represents Agree; 5 represents Strongly Disagree. Other ones used for this research is

Likert Scale

Measurement	Numerical
No Influence	1
Least Influenced	2
Neutral	3
Influenced	4
Highly Influenced	5

Data Transcribing

According to Malhotra (2010), data transcribing is the process of transferring coded data from the survey questionnaire into the computer. In this research, after the collected data was transferred into the computer, Statistical Package for Social Science (SPSS) software was run to obtain the results.

3.5 DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

Variable Name	Category	Assigned Code	Frequency	% of the Total Sample
Gender	Male Female	0 1	45 56	45% 56%
Age	15-19 20-24 25-29 30+	1 2 3 4	20 63 16 1	20% 63% 16% 1%
Level of Respondent	ND 1 ND 2 HND 1 HND 2	1 2 3 4	19 52 14 15	19% 52% 14% 15%
Type of Resident Back Home	Urban Rural	1 2	70 30	70% 30%
Marital Status	Single Married Divorced	1 2 3	90 10 0	90% 10% 0%

CHAPTER FOUR

DATA ANALYSIS

4.1 Data Analysis

Cronbach Alpha Reliability Analysis Test for Independent Variables

Scale: ALL INDEPENDENT VARIABLES

Case Processing Summary

		N	%
Cases	Valid	100	100.0
	Excluded[a]	0	.0
	Total	100	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.748	.746	5

All items used in this study obtained Cronbach's alpha value with 0.746 which is greater than 0.6, which indicates that there is good strength of association and reliability among the independent variables. This indicates that all questions for the independent variables are standardized and accepted as refer to the rule of thumb about cronbach's alpha coefficient (Nunnally & Bernstein, 1994).

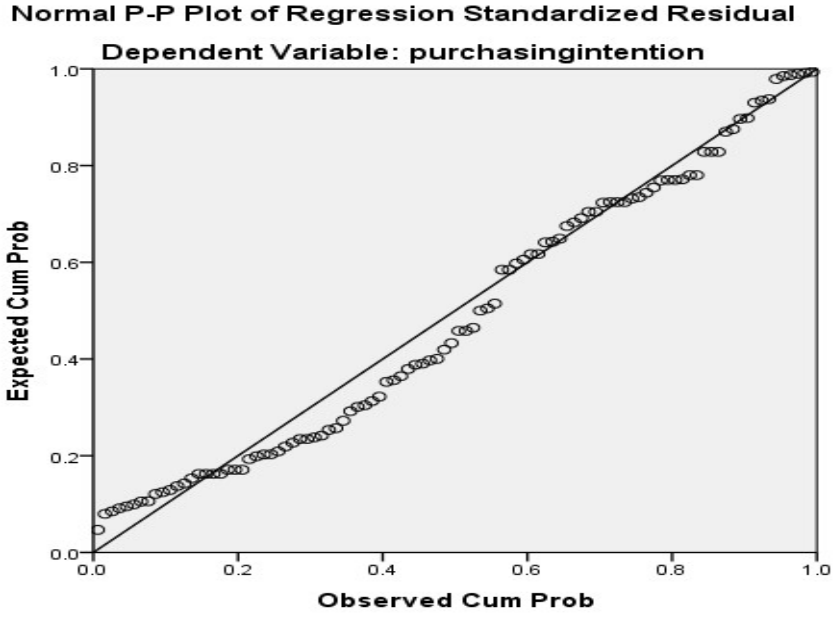
VALIDATION OF ASSUMPTIONS OF LINEAR REGRESSION

Correlations

Control Variables			Brand name	features	Students budget	durabillity	Production year
Purchasingintention	Brandname	Correlation	1.000	.365	.277	.430	.330
		Significance (2-tailed)	.000	.008	.005	.000	.001
		Df	97	97	97	97	97
	Features	Correlation	.365	1.000	.097	.506	.128

	Significance (2-tailed)	.008	.000	.000	.000	.208
	Df	97	97	97	97	97
	Correlation	.277	.097	1.000	.514	.131
Students' budget	Significance (2-tailed)	.005	.000	.000	.000	.195
	Df	97	97	97	97	97
	Correlation	.430	.506	.514	1.000	.334
Durability	Significance (2-tailed)	.000	.000	.000	.000	.001
	Df	97	97	97	97	97
	Correlation	.330	.128	.131	.334	1.000
Productionyear	Significance (2-tailed)	.001	.208	.195	.001	.000
	Df	97	97	97	97	97

This table shows that all the independent variables (durability, features, students' budget, brand name/image and production year) show weak correlation among themselves, since all the correlation are below 0.7. This validates one of the assumptions of linear regression.



The graph above shows the linear relationship of the dependent variable (purchasing intention)

Regression Analysis

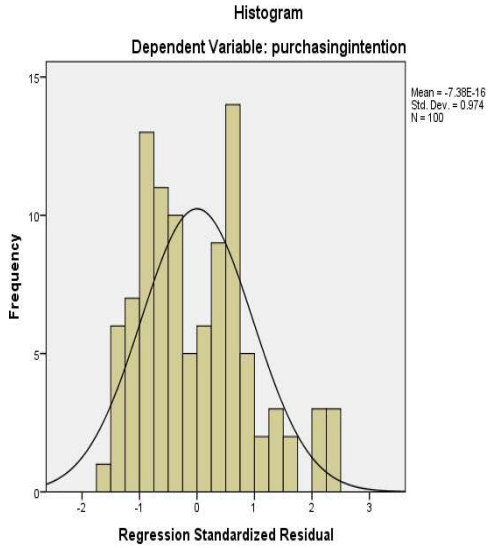
Descriptive Statistics

	Mean	Std. Deviation	N
Choice of preference	2.63	1.515	100
Durability	3.77	1.213	100
Features	3.75	1.306	100
Students' budget	3.76	1.311	100
Brand name	4.06	1.135	100
Production year	3.50	1.299	100

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Production year, features, brand name, Durability, students budget[b]	.	Enter

b. All requested variables entered



d.

The chart showing the data is normally distributed.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.635[a]	.386	.348	1.314	2.093

a. Predictors: (Constant), production year, features, brand name, durability, students budget
b. Dependent Variable: purchasing intention

The table above shows that the R value= 0.635, R Square = 0.386 and Adjusted R Square = 34.8. Based on the R Square value 38.6% of the variation in the purchasing intention of mobile phone devices among students of higher institution has been explained by production year, product features, brand name/image, durability and students' budget. This also indicates that the relationship between the dependent variable and the independent variables is weak. However, there are 61.4 percent of the variation in purchasing intention which is explained by other factors. Therefore, researchers can conclude that even though the relationship is weak but production year, product features, brand name/image, durability and students' budget will still affect purchasing intention of mobile phone devices among the students of higher institution.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	64.971	5	12.994	7.524	.000[b]
	Residual	162.339	94	1.727		
	Total	227.310	99			

a. Dependent Variable: purchasing intention
b. Predictors: (Constant), production year, features, brand name, durability, students budget

Hypothesis Testing

$H_0 : \beta_0 = 0$ VS $H_1: B_1 \neq 0$

Level of Significant $\alpha = 0.05$

Test Statistic: F = MSR/MSE

Decision Criteria

Reject H_0 if the P value < Significant level ($\alpha = 0.05$ and conclude that the model is adequate for future prediction. Otherwise, we do not reject H_0.

Interpretation: The ANOVA table shows that the F-value is significant since the p-value (0.000) < 0.05, which means we do not reject the null hypothesis (H_0). This indicates that the model is adequate and it can be used for future prediction.

The coefficients in this table helped to compare which of the 5 predictor variables (durability, product features, students' budget, brandname/image, production year) contribute the most to the variation of purchasing intention. To make the comparison, the Beta standard coefficients were used. The results indicate that product features (β= -2,398 ; p = 0.039) is a significant predictor of purchasing intention of mobile phone device. The result is consistent with the findings of the previous studies, product features has significant influence on university students cellular phone purchasing intention.(Ling et al ., 2006 Lay-Yee, Kok-Siew, & Yin-Fah, 2013).

The predictor students' budget (β = 2.639; p= 0.024) is also a significant predictor of purchasing intention. since non of past researchers has included students' budget in their findings the only similar factor related to it is product price which has been confirmed by the researchers (Md, Rakibul, 2019, Karjaluoto et al., 2005; Uddin et al., 2015) to also have significant influence on young Omanis' smartphone purchasing intention. another independent variable that influences the purchasing intention of mobile phone device is brand name/image (β = -0.493; p= 0.000) which also have significant influence on purchasing intention. this result is consistent with finding of the previous studies, brand name /image has significant influence on purchasing intention of young female adult.(a study of young female adult consumers).

Durability ($\beta = -0.088; p = 0.437$) and production year ($\beta = 0.066; p = 0.488$) are not significant predictors of purchasing intention of mobile phone device among the students of higher institution.

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions					
				(Constant)	durability	features	studentsbudget	Brandname	production year
1	1	5.704	1.000	.00	.00	.00	.00	.00	.00
	2	.148	6.203	.01	.00	.00	.00	.03	.23
	3	.067	9.248	.05	.05	.00	.00	.26	.74
	4	.048	10.885	.27	.79	.00	.00	.02	.00
	5	.032	13.266	.67	.16	.00	.00	.68	.03
	6	.000	13.761	.01	.00	1.00	1.00	.00	.00

a. Dependent Variable: purchasing intention

Coefficients[a]													
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4.418	.608		7.268	.000	3.211	5.625					
	Durability	-.110	.141	-.088	-.780	.437	-.389	.170	-.157	-.080	-.068	.599	1.670
	Features	.783	1.331	2.398	2.091	.039	5.426	.141	.106	.211	.182	.606	1.051
	Students' budget	.049	1.330	2.639	2.293	.024	.409	5.689	.118	.230	.200	.606	1.052
	Brand name/ image	.658	.134	.493	4.927	.000	.923	.393	.451	.453	.429	.758	1.319

	Production year	.077	.111	.066	.697	.488	.143	.298	.095	.072	.061	.839	1.192

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.34	5.00	2.63	.810	100
Residual	-2.205	3.281	.000	1.281	100
Std. Predicted Value	-1.590	2.926	.000	1.000	100
Std. Residual	-1.678	2.497	.000	.974	100

a. Dependent Variable: purchasing intention

Regression Analysis to Estimate the Effect of Students' Type of Resident Back Home on their Purchasing Intention

Descriptive Statistics

	Mean	Std. Deviation	N
PURCHASING INTENTION	3.11	1.476	100
TYPE OF RESIDENT BACKHOME	1.38	.801	100

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	TYPE OF RESIDENT BACK HOME[b]	.	Enter

a. Dependent Variable: PURCHASINGINTENTION
b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.203[a]	.041	.032	1.453	2.172

a. Predictors: (Constant), TYPE OF RESIDENT BACK HOME
b. Dependent Variable: PURCHASING INTENTION

According to the table above, the R value = 0.203, R Square = 0.041 and Adjusted R Square = 0.032. R Square shows that 4.1 percent of the variation in purchasing intention can be explained by student's type of resident back home. This also indicates that the relationship between the dependent variable and the independent variable is weak. However, the remaining 94.9 percent of the variation in purchasing intention is explained by other factors. Therefore, it can be concluded that even though the relationship is weak but type of resident back home will still affects students' purchasing intention towards mobile phone devices.

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8.927	1	8.927	4.229	.042[b]
	Residual	206.863	98	2.111		
	Total	215.790	99			

a. Dependent Variable: PURCHASING INTENTION

c. Predictors: (Constant), Type Of Resident Back Home

Hypothesis Testing

$H_0 : \beta_0 = 0$ VS $H_1: B_1 \neq 0$

Level of Significant $\alpha = 0.05$

Test Statistic: F = MSR/MSE

Decision Criteria

Reject H_0 if the P value < Significant level ($\alpha = 0.05$) and conclude that the model is adequate for future prediction. Otherwise, we do not reject H_0.

Interpretation: The ANOVA table shows that the F-value is significant since the p-value (0.042) < 0.05,which means we do not reject the null hypothesis (H_0). This indicates that the model is adequate and it can be used for future prediction

CHAPTER FIVE

SUMMARY, CONCLUSION & RECOMMENDATIONS

5.0 Introduction

This chapter reviews the summaries of statistical analysis in the past chapter, discussion of major findings, conclusion and recommendation for future research. Furthermore, conclusion was made for the whole chapter in this research project.

5.1 Summary of Statistical Analysis

5.1.1 Multiple Regression Analysis

From the model summary table: R Square is 0.386 which indicate that 38.6% of the variation in the purchasing intention has been explained by the brand name/image, product features, durability, students' budget and production year, while the remaining 61.4% is explained by other factors.

From the coefficient table: Using standardized Beta, it shows that product features, (β =0.389, p =0.039) students' budget (β =0.639, p =0.024), and brand name/ image (β =0.493, p =0.000) are the only factors that have statistically significant relative contribution to the purchasing intention of mobile phone among the students of higher institution. While the relative contribution of durability (β =-0.088, p =0.437) and production year (β =0.066, p =0.488) are not statistically significant to the model.

From the ANOVA table: Since ($p=0.000 < 0.05$), it indicates that the model is adequate and can be used for future prediction. The Predicted multiple regression models is

$\hat{Y}$= 4.418 - 0.110 (Durability) + 0.783 (Features) + 0.049 (Students' Budget) + 0.658 (Brand Name/Image) + 0.077 (Production Year).

5.2 Conclusion

The study concludes that the additional product features, reliable brand name/image, consideration of students' budget with respect to, durability of the phone, production year of the phone as well as students' type of resident (Urban/Rural) are positively related to the purchasing

intention of mobile phone devices among students of higher institution. However, product features, students' budget and brand name/image are the only significant predictors of purchasing intention. The other two variables such as durability and production year are insignificant predictor of purchasing intention of mobile phone device.

The findings shows that the effects of brand name/image, product features, durability, students' budget, and production year (R Square =0.386) has explained 38.6% of variation in the purchasing intention of mobile phone devices among the students of higher institution, while the remaining the remaining 61.4% is explained by other factors. The effect of students' type of resident back home (R Square =4.1) has explained 4.1% of variation in purchasing intention, which shows that it is very weak to accurately model the data. it can be concluded that the other factor significant in explaining the variation in purchasing intention that were not put into consideration in this study accounts to 61.4%.the study provides scope for future researchers to examine other predictor variables that influence the purchasing intention of mobile phone device among students of higher institution.

5.3 Recommendation

Recommendation for the Mobile Phone Manufacturing Companies

Mobile phone manufacturing companies should focuses on ways to

- Add new and attractive technological features to their products.
- Ensure reliability of their brand name/image.
- Put students' budget as well as their type of residents back home into consideration so as to boost the sales of their respective company at the same time will bring increase in satisfaction of students' purchases.

Recommendation for the future Researchers

- The weak relationship of R Square in the model summary result may be rectify by future researchers by considering more variables like user friendliness, celebrity endorsement, effective promotion and peer pressure .

- The target respondents in this research are 100 which is not much compare to the total population. Therefore, future researcher should include more sample size, since the larger the sample size the more accurate the result is. Probability of uncertainty of invalid data and unreturned questionnaire should also be put in consideration.
- Since this research uses the data collected in one polytechnic to generalize the purchasing intention of mobile phone devices among students of higher institution, future researchers should try as much as possible to include students of University and College as well so as for the result to be able to represent the entire components of higher institution.

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APPENDIX

KWARA STATE POLYTECHNIC, ILORIN
INSTITUTE OF APPLIED SCIENCES
DEPARTMENT OF STATISTICS

I am a final year student of the above named institution from Department of Statistics. The purpose of this research is to determine factors that influence the choice of purchasing mobile phone devices among students of higher institution. I solicit for your support in filling out this questionnaire. Your response will be treated as confidential and used strictly for this research purpose.

Thanks in anticipation.

Babalola Toheeb Olamilekan

Researcher

SECTION A

1. Gender of Respondent: Male [ ] Female [ ]
2. Age of Respondent: 15 – 19 [ ] 20 – 24 [ ] 25- 29 [ ] 30 Above [ ]
3. Level of Respondent: ND1 [ ] ND2 [ ] HND1 [ ] HND2 [ ]
4. Marital Status: Single [ ] Married [ ] Divorced [ ]
5. Department of Respondent: _____

SECTION B

1. Source of Income: Parents/Guardian [ ] Self Employed [ ] Salary Earner [ ]
2. Income Per Month: Below #10,000 [ ] #10,000 - #20,000 [ ] #21,000 - #30,000 [ ] Above#30,000 [ ]
3. Type of Phone Currently Using:
   [ ] Simple Featured, Specified Brand _____
   [ ] Android, Specified Brand _____
   [ ] IPhone, Specified Brand _____

4. Price Range of Phone Currently Using: Below #30,000 [ ] #40,000 - #50,000 [ ] #51,000 - #70,000 [ ] Above 150,000 [ ]
5. Type of Resident Back Home: Urban [ ] Rural [ ]
6. Do you have preference aside from your current phone? Yes [ ] No [ ]
7. What is the Price range of the Preferred Choice? Below #30,000 [ ] #40,000 - #50,000 [ ] #51,000 - #70,000 [ ] Above 150,000 [ ]
8. Indicate the level to which you are influenced or not influenced by this factors while purchasing mobile phone devices with the following statement by circling one option for each item,

1=No Influence[ ], 2= Least Influence, 3= Neutral, 4= Influenced, 5= Highly Influenced.

Phone's Brand Name	1	2	3	4	5
Phone's Year of Production	1	2	3	4	5
Phone Features	1	2	3	4	5
Student's Budget	1	2	3	4	5
Phone's Durability	1	2	3	4	5

9. Reason(s) for your answer in question 8

_____

_____

Section C

This section is seeking your opinion regarding the factors that influence your purchasing intention of mobile phone. You are to indicate the extent to which you agree or disagree with the statement by circling one option for each item, 1 =Strongly Agree, 2 = Agree, 3 =Neutral, 4=Disagree, 5 =Strongly Disagree.

PURCHASING INTENTION	SD	D	N	A	SA
I intend to buy a mobile phone in near future/recommend my friend and family to buy	1	2	3	4	5