

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

The following chapter provides the background of the research, the statement of the problem, research objectives, research questions, and significance of the study. This will provide a better understanding on smartphone in general view, local view and globally. It will also provide how competitive this industry is, and how it influence people's daily lives, especially towards undergraduates which is our target for this research.

In the research background, we did our research on the invention of smartphone in general and how it has impacted the society at large. We also did research on purchasing behavior in general. Statement of the problem is related to the research objectives and research questions. This study can be used as reference to smartphone developers as we targeting the undergraduates as our respondents and they are the future main users of smartphone.

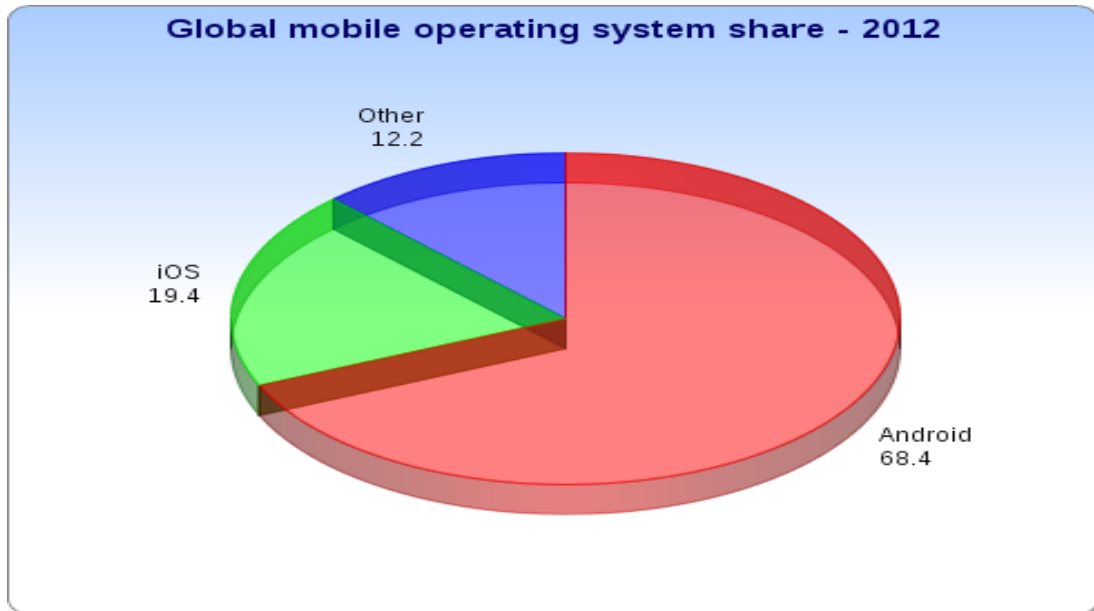
1.1 Research Background

Smartphone started in year 1992, invented by IBM, which was nicknamed as "Simon". The features it had was calendar, address book, calculator, email service, and a touch screen. It was very expensive at that time, USD\$899, not many can manage to afford it. At the year 1996, Nokia launched a series of smartphone that merged between a cell phone and a PDA. The real actual smartphone that first have all-in-one device is Ericsson, R380. As picture show, the phone is able to be flip open and close, inside is a touch screen, using Symbian operating system. Nokia also started with the first camera phone and Wi-Fi phone, which is called the 9500.



Only in 2002, is when the revolution on smartphone really started as Blackberry came into the industry, giving its users email services, as well as the Palm Treo and QWERTY keyboard. Other than blackberry, there is also Ericsson's P800 model. These phones had new features added to it, such as MP3, camera and wireless technology that leads to popularity of exchange email. More came in the year 2005, Sony Ericsson came out with the N-Series which targeted business people because of their computing capabilities. In 2007, Steve Job, the previous CEO of Apple came out with the iPhone, which change the idea of smartphone in people's mind. Android, which is an open-sources operating system started off by Google, Intel, HTC and a group of other developer in 2008. This is one strong force operating system against IOS as it has become one of the biggest percentage users operating in worldwide in 2012.

There are many brands in the smartphone industry, such as Nokia, Samsung, Apple, Sony Ericsson (known as Sony currently), HTC and etc. It is supported by different operating systems.



Sources: John Koetsier (2013)

According to John Koetsier (2013) in the VentureBeat.com (VB), Android has managed to capture estimated 70 percent in the global smartphone market share, whereas Apple only manages to get about 20 percent in it and the remaining is others. In the articles, it mentions that the sales of smartphones has grown 38 percent in the last quarter of 2012, reaching 217 million units worldwide, which put over 700 million, based on a new report from Strategy Analytics. Out of this number, 68.3% of smartphones use Android as the operating system. iOS only owns about 19.4% as an operating system. Neil Mawston, who is Executive Director, Wireless Device Strategies (WDS), is responsible for delivering analysis, insight and recommendations to mobile operators, handset vendors, component makers, investment banks, PC suppliers, software vendors and media firms worldwide. He is a recognized authority on global cell phone trends. (Anon). He made a statement, "Android is clearly the undisputed volume leader of the smartphone industry at the present time." (Koetsier, 2013). For the other competitors, it is a matter of being able to grow more and see Android and iOS as competitors as a learning role.

Top Smartphone Operating Systems, Forecast Market Share and CAGR, 2012-2016

Smartphone OS	2012 Market Share	2016 Market Share	CAGR2012-2016 (%)
Android	68.3%	63.8%	16.3%
iOS	18.8%	19.1%	18.8%
BlackBerry OS	4.7%	4.1%	14.6%
Window Phone	2.6%	11.4%	71.3%
Linux	2.0%	1.5%	10.5%
Others	3.6%	0.1%	-100.0%
Total	100.0%	100.0%	18.3%

Sources: Dan Grazino (2012)

Based on article by Dan Grazino (2012), in 2012, in the top smartphone operating system, forecasting market share and Compound Annual Growth (CAGR), 2012-2016, Android is predicted to grow in CAGR 2012-2016 by 16.3%, whereas IOS, grow about 18.8%. The one competitor both of these operating systems should not overlook is, Windows Phone which is expected to grow about 71.3%, taking over the smartphone industry as window has make an impression on the smartphone industry. The research manager with International Data Corporation (IDC) says that “Underpinning the worldwide smartphone market is a constantly shifting mobile operating system landscape”. This indicate, although Android is the leader in the smartphone industry, but there is also an expectation that they will be the biggest target in the industry to gain market share. (DanGrazino, 2012)

Smart phone has become a very common item in our daily life, the saying of “Anytime, anywhere and almost everything in the palm of the hand” seems to be a very common theme for the current smart phone users of today. According to Aldridge (2004) regarding smart phone, “They are such a big part of our daily lives

that it is highly likely you will have a mobile phone in your pocket right now. If you don't, it's probably because you left it somewhere accidentally”.

The mobile phone market has become a highly competitive market in spite of the fact that it is relatively new industry (Haverila, 2011). Though this industry is young, it has impact much on our daily lives now as it has been integrated into the work we do and the lifestyle we have. According to the findings by Harris Interactive (2009), undergraduate students spend 12 hours per day with media and gadget. This has provided the industry more opportunities for profit and market share.

As for purchasing behavior, it is known as buying behavior is the decision processes and acts of people involved in buying and using products (Brown, 2008). It also is a complex amalgam of needs and desires, and is influenced by factors such as the consumer's societal role (parent, spouse, worker, etc.), social and cultural environment and norms, and aspirations and inhibitions (Businessdictionary).

Purchase of Smartphone is increasing in the recent year due to the revolution of Smartphone in 2002. The market trend of Smartphone nowadays, has induced the consumer to purchase Smartphone. The manufacturers are slowly reduces the manufacture of mobile phone in the market therefore it has make the increase number of the purchase of Smartphone. When consumer wants to purchase a new phone, the latest phone in the market is Smartphone, mobile phone is considered as an outdated product. Thus, market trend has influence the purchasing behavior on Smartphone.

According to Francesco (2012), there are 50 million people own a mobile phone in Italian market, out of this number, 40 percent of them have a Smartphone. Besides, increase visit of website which generated by Smartphone, users spend 79- 80 min per day in using applications. From the research of AdMob Mobile Metrics report 2010 (as cited in Francesco, 2012), there are 22 percent in 2009 compared to 40 percent in May 2010. Marketers have made the Smartphone as laptop which the phone is not only for voice and text messaging but it is more and more as compute devices. Thus,

this has make consumer prefer Smartphone more than mobile phone. The added in new and more features of Smartphone are one of the reasons that influence the consumer purchasing behavior. Smartphone provided features and function that could not find in traditional mobile phone. As an example, the wireless technology and touch screen functions. Consumers' frequency used Internet, e-mail and GPS function that provided on Smartphone, wireless network which provide everywhere will increase the purchasing behavior toward Smartphone.

For the purchasing behavior of Smartphone in Malaysia, the consumer purchasing behavior is determined by the trend in community, consumer's needs software of the Smartphone and cost of plan. According to the article, the trend of Smartphone in community is the main factors to influence consumer in their purchasing behavior. Consumers are looking at the trend in community and make the decision to buy a Smartphone. By looking for the trend in community for making the purchasing decision, it has set their purchasing behavior. Other than that, the needs are another important factor to determine the consumer purchasing behavior. Based on their personal needs, consumers make the decision to purchase the Smartphone. This means when consumers purchase a Smartphone, they will look at whether they purchase it as a need or want. For male's purchasing behavior towards Smartphone in Malaysia, it has a higher percentage in emphasizing hardware and software of the Smartphone than female. Males are more focus on the hardware and software provided when buying a Smartphone (Mohd Azam Osman, Abdullah Zawawi Talib, Zainal Abidin Sanusi, Tan, S. Y., Abdullah Sani Alwi).

1.2 Problem Statement

As mention, there are many brands and operating system out there for smartphone users. There are many factors could influence purchasing behavior on smartphone, especially on the generation X, A new e-marketer report finds that by the time the class of 2016 graduates, close to 90% of college students in the US will own a

smartphone (Fredricksen, 2012). This indicating there is a big market for smartphone developer and supplier to target on as more and more undergraduates have smartphone in their hands, being part of their daily usage.

The invention of smartphone had put a slow death on mobile, especially to undergraduates, as trend of having a smartphone as mobile phone is high. With the current rebate that the government is providing undergraduates at the age of 21 and above are eligible to use RM 200 rebate to purchase smartphone, with terms and condition. This will increase the usage of smartphone among undergraduates. Undergraduates are define as a student in a university or college who has not receive a first, especially a bachelor's degree, according to Dictionary.com. Usually undergraduates are at the age of 19 or 20 onwards, takes about 3 to 5 years into tertiary or higher education based on etawau.com. Yet there are cases whereby the undergraduate is older, due to financial problem or other reasons.

The dependency of smartphone among undergraduates, using the convenience to stay in touch with friends and family, to stay in trend with the social needs and what do they use as a guide to purchase smartphone. This could be referring to many aspects of the undergraduate life, and how they see smartphone as part of their live.

We plan to use findings and methods from other different researches that we have search for to determine the main factor that influence undergraduate the most on their purchasing behavior of smartphone. We attempt to find out from participants from public and private universities to see how they respond to our research project.

1.3 Research objectives

There is not much research on undergraduates from both and private universities, especially from our very own university, from Sungai Long Campus, Universiti Tunku Abdul Rahman, regarding their purchasing behavior on smartphone even though there are many researchers for smartphone. Hence the purpose of this study is to find out the factors that influence purchasing behavior, on smartphone among undergraduates. Quantitative methods would be used in this research to examine the relation between the independent variables and dependent variable. The independent variables include friends and family, social influence, product features and branding. As for the dependent variable is purchasing behavior of smartphone. Our result will be showing the strength of how much the independent variable influence the dependent variable. Discussion and suggestion were given in response to the findings.

1.3.1 General Objective

To identify the factors that influence purchasing behavior of smartphone among undergraduates.

1.3.2 Specific Objectives

- a) To determine whether there is a significant relationship between friends and family and purchasing behavior of smartphone.

- b) To determine whether there is a significant relationship between social influence and purchasing behavior of smartphone.

c) To determine whether there is a significant relationship between product features and purchasing behavior of smartphone.

d) To determine whether there is a significant relationship between branding and purchasing behavior of smartphone.

1.4 Research Questions

What are the factors that influence purchasing behavior of smartphone among undergraduates?

1.5 Hypotheses of the Study

H1: There is a significant relationship between friends and family and purchasing behavior of smartphone.

H2: There is a significant relationship between social influence and purchasing behavior of smartphone.

H3: There is a significant relationship between product features and purchasing behavior of smartphone.

H4: There is a significant relationship between branding and purchasing behavior of smartphone.

1.6 Significance of the Study

This study could be used as a reference to smartphone developers for companies as this study would show which variable that we focus on influence the most on purchasing behavior of smartphone among undergraduates. There are more factors that have an effect but this study would focus on the target market group which is young adults.

1.7 Chapter Layout

There are five chapters in this study.

First chapter is Research Overview, which introduces the topic in general, giving an overview of the study context and explains the research problem. It consists of introduction, research background, problem statement, research objectives, research questions, hypotheses of the study, significant of the study, chapter layout and conclusion. Chapter two is Literature Review, which consists of review of introduction of the main themes from the previous chapter and the overall outline in chapter two, then the review of the Literature which touches on the dependent variable and the independent variables. Next is review of relevant theoretical models, proposed theoretical or conceptual framework and lastly, hypotheses development and conclusion. Chapter three is Methodology which consist of how the research is designed, how to collect data, what type of sampling design being used, what type of method and techniques being used in this study and how the data collected is being used on. Chapter four is data analysis, presents the pattern of the result and analyses of the result which are relevant to the research questions and hypotheses. Chapter five which is the last chapter provides the conclusion of the data collected and analyses in chapter four, linking the main theme of the study, discuss about the main findings, stating the limitation of the study and future recommendation for future researche

1.8 Conclusion

As a conclusion, this chapter gives an overview of what our study is about. We wanted to know about how purchasing behavior of undergraduates are influenced by different factors. This study has adopted other researchers' theory as the base of the study and how we consider about the future of smartphone at the younger generation of today.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This following chapter is going to discuss the details about literature review of the factors which influence the purchasing behavior towards smartphone. Those factors include friends and family, social influence, product features and branding. The main purpose for our research is to determine the vital factors that will influence the purchasing behavior on smartphone. It will continue with the review of relevant theoretical model, a proposed conceptual framework and hypotheses development. This chapter will be ended with the conclusion which summarize the major session.

2.1 Literature Review

2.1.1 Friends and Family

The family group is perhaps the most important influencers on the behavior on consumer because of the close and interactions among family members (June and Stacy, 2004). The research of June et al. (2004) stated that family is a rich field in consumer purchasing behavior. The family influences separate into parents and siblings. In this case, the survey was done by 469 respondents including students and families. From the result, it found that parents have a stronger influence than sibling. Compared to siblings, parents are always play a important role of consumer behavior that affect an individual in brand preference and loyalty, seeking for information, reliance on mass media and price sensitivity. Based on the research, parents transmit values, attitude and

purchasing habits to their children when selecting a product. Therefore, children learn this behavior through observation because their parents directly guide them on purchasing a product.

A study by Ting, Lim, Patanmacia, Low and Ker (2011) stated that friends and family members are the most important influencers to consumer in purchasing smartphone. The survey was conducted 358 university students in Petaling Jaya and Subang Jaya. Generally, the advice of friends and family members will influence the choice of consumer because they play an important role on the decision of an individual on using smartphone. This is because they will easily change the mindset of consumer to buy a product. They are more likely to rely on the opinions of others to make sure the smartphone is experience good. Therefore, consumer will ask for friends and family members of their opinion to make a comparison of the brand of smartphone.

According to Tiana (2011), the study aimed at who and or what influenced young people when selecting a mobile phone. The result stated that friends were the higher rating average (2.15) compares to family that influencing young people in their mobile phone decision. As for family, the rating average was 2.10 who aided young people in purchasing mobile phone. So, friends and family had almost rating averages that influence young people decision of buying a mobile phone. When consumer considering purchasing a mobile phone, they will ask for friends and family advises and then listen to the recommendation to purchase mobile phone.

According to Chow, Chen, Yeow and Wong (2012), the research was done by the students at Multimedia University, Melaka about the factors affecting the demand of Smartphone among young adult. The survey was conducted by 300 students who aged between 17 to 25 years. The researchers found that peer are the primary influencer affecting young adult decision, followed by media and

parents. People tend to ask for the opinion and advice from their friends based on smartphone's brand and they tend to buy the same brand of the smartphone that their friends using. For instance, people using smartphone for the purpose to keep contracting with their friends and colleagues. This shows that people will influence by their friends when they are considering buying a smartphone.

2.1.2 Social Influence

Social influence is the group of influences that affect an individual's beliefs, feeling and behavior (Mason, Conrey and Smith, as cited in Ting, Lim, Tanusina, Low and Ker, 2011). An individual may follow to social influence through daily observation, and perception of others in purchase a smartphone (Suki and Suki, as cited in Ting et al. 2011).

A study by Chi, Yeh, and Tsai (2011) indicates the influencing of advertising endorser on consumer purchase intention. There are 420 respondents were answer this survey and only 408 questionnaire are used to analyze data. Generally, business advertisers often use celebrities to promote a product or service. The result of study stated that celebrities can connect product value to customer by transfer their feelings on a particular product. This is because those endorsers can produce a strong recommendation and affect the choice of consumer. Thus, it can increase the consumer purchase intention.

A study by Tiana (2011) stated in this case, advertising were the top raking average with 2.34 (49 percent) will influence in young people when selecting a mobile phone. Meanwhile, the second higher rating average was technology which is 1.85 when they consider buying a new mobile phone while a 1.95 rating average was for the other technology purchases. Besides that, the influences of traditional media will also affecting consumers in making decision on purchasing smartphone. This including online diary blogs (1.21),

radio (1.26), newspapers (1.26), Youtube (1.29) and magazines (1.31) were the lower rating averages of influence young people to making a mobile phone decision. Therefore, the result was found that the power of advertising have a greater influences in make a change on a person feeling, attitudes, thoughts, behavior for consumption.

Yang, He, and Lee (2007) explore a study on the social reference group on mobile phone purchasing behavior between the mobile phone users of United States and China. The reference group refers to the groups whose opinions are valued to influence an individual's purchasing behavior such as celebrities. Compared to United States users, China users are relying on word-of-mouth communication with the belief because it is the powerful forces in making purchase decision. While United States users are more focus on their personal needs and they did not concern about others' opinion. So, the result shows that social reference group has a stronger influence on Chinese users than United States users.

According to the journal of Bansal and Voyer (2000), word-of-mouth communication has a strong affect in the marketplace. Consumer always relies on informal sources in making purchase decision rather than formal sources such as advertising. They will seek for WOM information before making any purchasing decision to avoid the problems of low comparability and the qualities of service. Besides, with WOM information, consumer may have better understand a serve before its consumption to avoid any risks. Thus, they will likely to incorporate and rely on positive WOM opinions of important on a product. This show that consumer is easily affected by the word of others when they are making decision on purchase a product.

2.1.3 Product features

Kotler, Philip, Armstrong, and Gary's study (as cited in Chow et al., 2012) suggests that a feature is an attribute of a product that to fulfill the consumers' needs and wants and satisfy them through the owning of the product, usage, and utilization for a product.

According to Chow et al., their research studied the factors affecting the demand of the smartphone among young adult. Product feature is one of the factors that affect the demand of smartphone. For their research, they targeted the respondents who aged falls on 17 to 25. Puth, G., Mostert, P. and Ewing, M.' study (as cited in Chow et al. 2012) mentioned the consumers nowadays use the product features to compare a product which offered by different competitive brand and use the significant features to evaluate the product. Among the similar brand products, the feature which is more outstanding, it has bigger chance to be chosen. Sanne's study (as cited in Chow et al. 2012) suggests that smartphone employ mobile operating system which allows other applications to run on the phone. There are many systems such as Windows Mobile, iPhone OS, Symbian OS, Google Android or Linux. For traditional mobile phone, it does not have this system so it has increase the value of smartphone. This feature enables to attract consumer to switch their phones from traditional mobile phones to smartphone.

According to Chernev (2005), his research argued that the feature of non complementary has greater influence than complementary features on choice of purchasing a product. The example of his research has used the complementary feature such as differences in functions and compare to the non complementary features such as various colors in product. From the results of the three experimental studies, it has concluded the complementary features brought lower probability to purchase a product compare to non complementary features. This research showed the features do influence

consumer buying behavior when come to a product. Therefore, features of smartphone such as color and functions are provided more choices compare to traditional mobile phone.

According to Oulasvirta, Wahlstrom, Ericsson (2010), their research stated that the present-day phones feature wireless connectivity, multimedia presentation and capture, a built-in Web browser, full programmability, application installation, a file management system, several gigabytes of storage, location and movement sensors, and high-resolution displays. These high-end mobile phones which called smartphone are rapidly growing in the market due to the features. The reason that makes smartphone unique is the functionalities as it can be used as traditional phone and also PCs. It provides calling and able to access to internet make smartphone's users easier for their work and life. For example, Smartphone have provided those functions that the mobile phones don't have and this attracts consumers to choose a smartphone rather than a traditional mobile phone.

According to Ting et al. (2011), their research studied dependency on smartphone and the impact on purchase behavior. They used 358 university students as their respondents of this research. Park, Y. and Chen, J.V. 's study (as cited in Ting et al., 2011) suggests that the demand of smartphone increase due to the functions offered in the phone. Euromonitor's study (as cited in Ting et al., 2011) suggests that smartphone are convenience for people is because of the advanced capabilities and features such as instant messaging, downloading applications and utilizing information services are helpful in their daily life. These functions of smartphone have increased the consumer's dependency on smartphone. After adapt to the comfortable life with smartphone, smartphone users will be more rely on smartphone and fix their purchase behavior of smartphone.

2.1.4 Branding

The concept of 'brand' there are many definitions, according to Bogan, Stephanie (2007), the study said that, brand is a perception of your value in the marketplace. Creating a brand is more than images and words, its creating a clear, compelling message that defines the work you do and value you provide.

In 2011, Yang, Wang, Son, Chen, and Hung have conducted a study on the survey of mobile phone industry in Taiwan. This survey was conducted on 500 respondents. The result found that there is two factors regarding brand recognition which is professional maintenance services and brand image. Both professional maintenance services and brand image will affect on consumers' brand recognition. Professional maintenance service which is the industry trained the professional staff to have stronger professionalism, excellent service attitude and has good maintenance technology and capability which mobile phone consumers would feel more at ease and the degree of brand recognition will be positively enhanced. Besides, the study found that a successful brand image can improve the added values of the product, let consumers develop positive attitude and trust toward the product brand, and then improve the recognition toward the brand. Therefore create a brand recognition on consumers' mind is important, the brand recognition of consumer let the brand of product become the first choices of the consumer when they want to buy the product which in this case, a smart phone.

A study of Srivastava (2007) which determined brand loyalty within in 150 members of 18 – 24 age groups stated that brand loyalty is primary factor for the consumer to purchase the product. From the consumers' perspective, a brand provides a visible representation of difference between products. Brand loyalty of consumer was strongly support by the quality and reputation of the brand's product, especially for mobile phone. Respondents most strongly

agreed with brand 'quality' and 'reputation' as being the basis of their mobile phone purchases. These statements has significantly ($p < 0.05$) higher levels of agreement than 'novelty' and 'promotion'. The result shows that most of the respondents strongly disagreed with brand choice for the sake of 'novelty' and 'promotion' being an influence on purchase. The influence of 'novelty' and 'promotion' considered unimportant as drivers of mobile phone purchase. Product categories influence on consumers' purchasing behavior on brand, brand loyalty is an important factor for consumer when purchase mobile phone when compared to daily used product.

Liaw's study in year 2011 has conducted a survey about a study on the influence of consumers' participation in a brand community on purchase intention. The data was collected from the college students and the public who use mobile phone in Taiwan. There are 310 questionnaires were distributed and 234 were collected and deemed as valid data. From the data collected the analysis shows that, customer's belongingness within the brand community have a positive influence while for customer's perceived risk it also has a weakening effect. Same for brand recognition, customer belongingness of brand recognition also shows a positive effect within the brand community and their purchase intention. The belongingness of the customer will be strengthening by the consumption of customer through the participation in brand community. Besides, it will also directly change their perceived risk and purchase intention. In this situation, customer will have a better perception on the product, therefore, more frequent interaction in the community will happen. According to this situation, customer belongingness to the community, purchase behavior, tendency to give recommendation to others will be enhancing.

According to Kumaravel and Kandasamy (2012), their research studied on to what extent the brand image influence consumers' purchase decision on durable product. They collected a survey data from 200 respondents at all the

level of income group with varying education status in Bangalore. The result shows that, brand awareness ($\beta = 0.23$, $t = 2.94$), brand features ($\beta = 0.47$, $t = 4.89$) and brand quality ($\beta = 0.37$, $t = 4.23$) had a significant effect on brand image. This shows that is an essential role of developing brand image because of the strong impact demonstrated by brand image. In Aaker and Keller's study (as cited in Kumaravel et al.), they also stated that it is an important part for a firm's marketing activities to consider brand image, because it is not only serves as a base for tactical marketing mix but it also plays an vital role in building long term brand equity.

2.1.5 Dependent Variable: Purchasing behavior

Purchasing behavior which is known as buying behavior is the decision processes and acts of people involved in buying and using products. (Brown, 2008)A research by Ting Ding Hooi and with four of the students of Monash University, Sunway Campus, Malaysia in the year 2010 which its aim is investigate the effect of convenience, social needs and social influences on university students' dependency towards smartphone and the impact on future purchasing behavior in Malaysia (Ting, Lim, Patanmacia, Low, 2011). In this research, they used random and judgmental sampling, targeting university student who uses smartphone only. This research focus on university students, as a segment of users, whose feedback would assists in the future mobile market strategies. The approach got 358 university students got surveyed through using face-to-face survey method as their sampling. The finding from this research is that the sample which is the university students that was approached are influenced by convenience, social needs and social influence and dependency is positively related with future purchasing behavior. Based on the result, among convenience, social needs and social influences, the highest b with $p < 0.01$, is towards convenience (0.43), second is social influences (0.35) and last is social needs (0.26).

Rezaie Doulatabadi Hossein and Derakhshide Hamed (2012) explore the culture effects on consumer behavior by comparing national culture of Iran and Thailand through Hofstede Theory. The data collection method used was a questionnaire of 24 questions, targeted 140 students, consists of 70 from Iran and 70 from Thailand as sample size. This research is to study the national culture of these two countries from Hofstede vision on mobile phone consumer buying behavior. The findings of this research is Iranian consumers, when they are at the time of buying the mobile phone, they are most influenced by the discussion with friends and family whereas for the Thai consumers, are more influenced by group thinking and also by advertising.

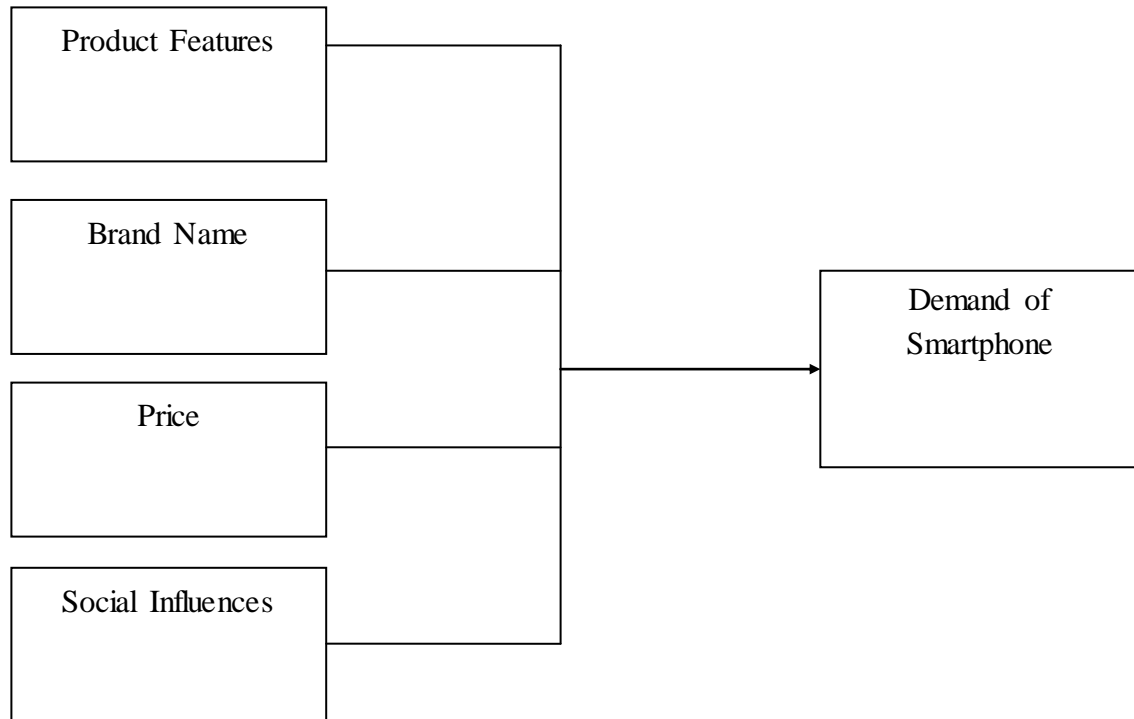
A research done by Lee Jung-Wan in the year 2011 at the United States, regarding the relationships between corporate image, price, product quality, product innovation, and customer loyalty, and investigates key drivers that establish and maintain customer loyalty to smartphone and mobile telecommunications service providers. The sample size was done through collecting one hundred and twelve participants from the web-based survey in United States. After analyzing the data, the results shows that out of the four variables, only price is not a strong antecedent for establishing customer loyalty in high-tech product market. This findings is the only partly different from the previous research. Among the three strong antecedents, the product innovation plays an important role in establishing and maintaining customer loyalty.

According to this journal done by Jamil Bojei and Wong Chee Hoo from Universiti Putra Malaysia in 2012, they concluded that brand equity dimensions (known as brand awareness), brand association, perceived quality, brand loyalty and current use have positive influence on the use of smartphone and its future repurchase intention. This is indicated brand plays a vital role in this current generation in adoption of latest Information Technology product.

The sample size taken in this research is 147 people, using questionnaire, the participants are all working executives which reflects the real smartphone users in Malaysia. They come from all the public and private universities that offered campus based Master Degree program from the clusters (this is referring to the population divided into thirteen states and three Federal Territories). The result shows that Nokia is the highest percentage (37.4%) while the second is Sony Ericsson (17%) and the third is iPhone (15.6%) among the listed brand in the study. The findings in this research are that all variables are in positive relationship with repurchasing intention. The primary finding is that brand awareness has the highest among the variables in relationship with repurchasing intention, similar with the previous studies of Kim, W.G., J-S, B. and Kim H.J. (2008) and Tolba, A.H. and Hassan, S.S. (2009). It also confirmed on the theoretical and empirical part of the research regarding the relationship of brand equity dimensions on adopting behavior of smartphone.

2.2 Review of Relevant Theoretical Models

Figure 2.1: Theoretical Framework of Factors Affecting Demand of Smartphone

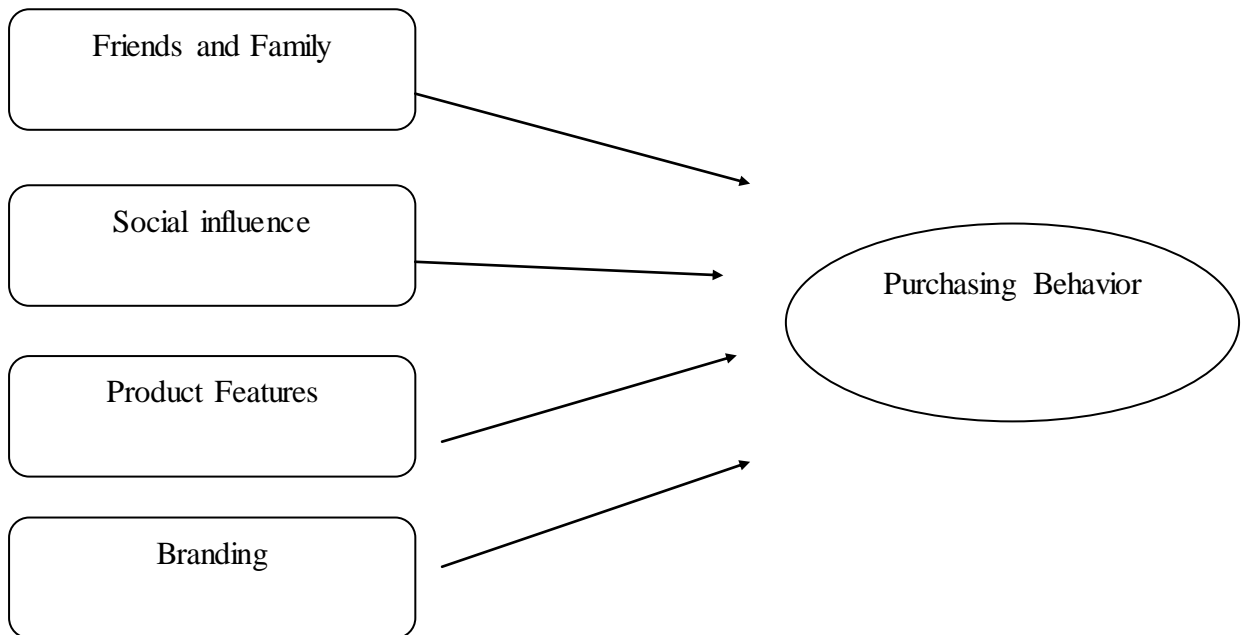


Adopted from: Chow, M. M., Chen, L. H., Yeow, J. A., & Wong, P. W. (2012). Conceptual Paper: Factors affecting the demand of smartphone among young adult. *International Journal on Social Science Economics & Art*, 44-49.

The model above is developed by Chow et al. (2012) to study on the association between the four independent variables, which are product features, brand name, price and social influences and the dependent variable which is demand of Smartphone among young adults. This study target respondents are undergraduate and post graduate students who aged 17 to 25 and it used a self-administered questionnaire to obtain information related to the study topic. (Chow et al., 2012)

2.3 Proposed Theoretical/ Conceptual Framework

Figure 2.2: Proposed Theoretical/ Conceptual Framework - The influence of friends and family, social influence, product features and branding on purchasing behavior on smartphones.



The figure above is the conceptual framework that we develop as foundation for our research project. Based on the research, we found that there are several factors will influence consumer purchasing behavior on smart phones. Therefore, the purpose of this research is to examine the relationship among four variables. Among four variables, friends and family, social influence, product features, and brand are categorized to independent variables and purchasing behavior categorized to dependent behavior.

2.4 Hypotheses Development

Hypotheses 1

H₀: There is no significant relationship between friends and family and purchasing behavior.

H₁: There is a significant relationship between friends and family and purchasing behavior.

Hypotheses 2

H₀: There is no significant relationship between social influence and purchasing behavior.

H₂: There is a significant relationship between social influence and purchasing behavior.

Hypotheses 3

H₀: There is no significant relationship between product features and purchasing behavior.

H₃: There is a significant relationship between product features and purchasing behavior.

Hypotheses 4

H₀: There is no significant relationship between branding and purchasing behavior.

H₄: There is a significant relationship between branding and purchasing behavior.

2.5 Conclusion

In conclusion, we have discussed on the literature review and identified the five variables which include independent variables (friends and family, social influence, product features, and branding) and dependent variable (purchasing behavior) based on the research results done by past researchers. We also discussed the relevant theoretical models and continue with a proposed theoretical framework based on our research and hypotheses development. The following chapter will be continued with research methodology.

CHAPTER 3: METHODOLOGY

3.0 Introduction

This chapter explains methodology used by researchers to collect and analyses the data which the method will used to explain and answer the hypotheses and research questions. The chapter comprises of research design, data collection methods, sampling design, research instrument, construct measurement, data processing, data analysis and conclusion.

3.1 Research Design

A research design is defined by how data is to be collected and analyzed in manner that aims to combine relevance to the research purpose so that information can be obtained. A quantitative research method was used in this research to quantify data and provide conclusive evidence, which based on representative and typically applied some forms of statistical analysis. It is used to obtain information from respondents to determine cause and effect interactions between variables. Therefore, it is suitable to use in this research which enables generalization on the results from the sample to the population interest. Thus, appropriate research has been used to avoid error in collecting data.

3.2 Data Collection Method

There are two types of data which are primary data and secondary data to be used in this research. These data were collected for this research presented to researchers from the study environment. Every research is based on data which is analyzed and

interpreted to gather the information. Both of these will be used to answer the hypotheses and research questions.

3.2.1 Primary Data

Primary data is the data that was developed from first-hand experience for the specific purpose of researchers study under consideration. The people involved in the data analysis therefore are familiar with the research design and data collection process. The researchers used of primary data to address specific questions, and performs their own analyses of the data they collected. The questions the researchers ask are tailored to elicit the data that will help them with their study.

The data that collected is through surveys and interviews, which shows that direct relationship between respondents and researchers. The entire research was conducted by using survey questionnaire because it is easier for the respondents to complete the questionnaire. The questionnaire were distributed to the respondents either through internet or handed. The responses from the respondents were obtained through a structures questionnaire for data analysis.

3.2.2 Secondary Data

Secondary data is often readily available. It is defined as the information gathered for purposes other than the completion of a research project. Secondary data is the data collected from a source for the purpose to provide a better understanding on research problem. It is also used to gain initial insight into the research problem.

Secondary data is collected from external sources such as books, journals, research articles and internet database. The journal are retrieved from different online database that subscribed by UTAR such as Proquest and Jstor. When secondary data is available, the researcher need only locate the source of data and extract the required information.

The information from secondary source tend to be inexpensive to obtain and can be analyzed in less time. Since the data is already collected, the researcher can spend most of his or her time analyzing the data instead of getting the data ready for analysis. It can be examined over a longer period of time.

3.3 Sampling Design

Sampling is the method of measuring experimental units from a population to make conclusion about the whole population. Sampling design is a procedure that specifies the population frame, sample size, sample selection, and estimation method in detail by which a sample is chosen (Define sampling design). The sampling design consists of target population, sampling frame and sampling location, sampling elements, sampling technique and sampling size.

3.3.1 Target Population

Target population is a particular group of people that is actually surveyed in a research (Business Dictionary.com). The target population of this research will be targeted on the undergraduates' students in friends and family, social influence, product features and branding that affects purchasing behavior on smart phone. The targeted samples were the individual groups consisted of male and female students, who are in the age 18 above. The reason for targeting on this segment in this study is because student will concern more

about purchasing smartphone during these ages period nowadays. Besides, this group of people represents the potential consumer that have an interest on purchasing smartphone which they think will enhance their personal image nowadays. In fact, most of them are smartphone users and willing to spend on phone. This can help to analyze the factors influencing them in making smartphone purchase more accurately.

3.3.2 Sampling Frame and Sampling Location

Sampling frame is complete lists of all the sampling population are selected (Sampling frame). However, sampling frame is not adopted in this research as it is not relevant to the non-probability sampling techniques. The target population consists of 160 males and females undergraduate from selected universities in Malaysia which included Universiti Tunku Abdul Rahman (UTAR), private university and public university. The questionnaires are randomly distributed and administered to Klang Valley areas. It is important that the respondents who have been selected represent the population and not biased in a systematic manner.

3.3.3 Sampling Elements

In this research, researchers are targeted on the undergraduates' students' age 18 years above in Klang Valley areas. The elements are demographic information which includes gender, age, race, and monthly income. Students sample are included in this research because they have more knowledge about smartphone. In this research, selective respondents will be chosen to answer the questionnaire and helped in evaluate their purchasing behavior towards smartphone.

3.3.4 Sampling Techniques

Sampling techniques is the method used in drawing samples from a population to make conclusion regarding the populations (Farlex). There are two types of sampling technique which are probability sampling and non-probability sampling. In probability sampling, each member of the population has the same chance to be selected. In non-probability sampling, members are selected from the population have unknown probability of being selected (StatPac).

Non-probability sampling has applied in this research, which means selected units in the sample have an unknown probability of being selected and where some units of the target population may even have no chance at all of being in the sample. The reason of using non-probability sampling in this research is because the population elements are selected on the basis of their availability. Benefits of this sampling technique are cost saving, convenience and time saving.

3.3.5 Sampling Size

A sample size of 160 respondents was chosen from different universities who have experiences in purchase smartphone in Malaysia who come from different states within Klang Valley areas. Besides, 16 respondents also completed the questionnaire for pilot testing. This number of sample size is recommended in a survey for quantitative research in order to get an accurate result. Questionnaires were being distributed to be filled up. Undergraduates were chosen to be the sample as their purchasing behavior towards smartphone. Respondents were instructed to answer the questions based on their purchase behavior. Questionnaire serves as an important tool to generate responses from the respondent because it was a cheaper way to gather data

from potentially greater amount respondents. Moreover, questionnaire consume less time in data collection.

3.4 Research Instrument

Questionnaire has been used in this research to obtain data from huge amount of respondents. The purpose of the questionnaire is to obtain and acquire useful data from the undergraduate students (government, private and semi private university) in the area of Klang Valley. The questions of the questionnaire are developed on the literature review that has been done in Chapter 2. We used questionnaires in our research because it can reach large number of respondents, quick, efficient, easy, inexpensive and get high response rate. Quality of the data for this research must as high as possible, therefore the accurate of the research can be perform.

3.4.1 Questionnaire Design

The questionnaire is design in English as it is the international language and suitable for communication with the respondents. Before the survey started, briefing would be given to the respondents which include in the cover page of the questionnaire about the purpose of doing the questionnaire. Besides, we promised that this survey is private and confidential about the information given by the respondents.

The questionnaire is separated into two major sections, which are Section A and Section B. Section A questioned about which include demographic information in questions, Section B examining on independent variables and dependent variable.

3.5 Constructs Measurement (Scale and Operational Definitions)

In Section A, nominal scale is used for the demographic profiles of respondents. For example, “Gender” – Male or Female. The Section B of our research in our questionnaire focuses on the independent variables and dependent variable respectively. The independent variables are friends and family, social influence, product features and brand. These variables of questionnaire are designed with interval scale. The interval scale is a standard survey rating scale which interprets differences in the distance along the scale. For example, from 1 (strongly disagree) to 5 (strongly agree), best use to find out on opinion or attitude measurement.

Table 3.1: Adaptation for Questionnaire for Published Research

Construct	Adopted from
Friends and Family	-Ting, D. H., Lim, S. F., Patanmancia, T. S., Low, C. G., & Ker, G. C. (2011). - Chow, M. M., Chen, L. H., Yeow, J. A., & Wong, P. W. (2012) - Yang, J., He, X., & Lee, H. (2007)
Social Influence	-Ting, D. H., Lim, S. F., Patanmancia, T. S., Low, C. G., & Ker, G. C. (2011). - Chow, M. M., Chen, L. H., Yeow, J. A., & Wong, P. W. (2012) - Yang, J., He, X., & Lee, H. (2007)
Product Feature	-Chow, M. M., Chen, L. H., Yeow, J. A., & Wong, P. W. (2012). - Haverila, M. (2011) -Ting, D. H., Lim, S. F., Patanmancia, T. S., Low, C. G., & Ker, G. C. (2011).
Branding	- Srivastava, R. K. (2008) - Chow, M. M., Chen, L. H., Yeow, J. A., & Wong, P. W. (2012)
Purchasing Behavior	-Ting, D. H., Lim, S. F., Patanmancia, T. S., Low, C. G., & Ker, G. C. (2011)

Source: Developed for research

Table 3.2: Items for Questionnaire Before Actual Respondents.

Construct	Sample Items
Friends and Family	<ol style="list-style-type: none"> 1. My friends' evaluation will influence my choice in purchasing smartphone. 2. My friends' preferences will influence my smartphone purchase. 3. It is important that my friends like the brand of smartphone I'm using. 4. My friends influence my decision in buying smartphone. 5. I would collect smartphone information from family members. 6. Family recommendation may influence my smartphone purchase.
Social Influence	<ol style="list-style-type: none"> 1. Social pressure affects my choice on smartphone. 2. Advertising will influence my choice in purchasing smartphone. 3. Advertising endorsers (like concerts, sports events, drama series, through celebrities) will affect me to buy a smartphone. 4. I would buy a smartphone if it helped me to fit in my social group better. 5. My choice of smartphone is influenced by other consumers' word-of-mouth.
Product Features	<ol style="list-style-type: none"> 1. Smartphone has more applications than basic hand phone. 2. Smartphone provide high quality of games. 3. Smartphone's internet accessibility is speedier than basic hand phone. 4. I would prefer carrying my smartphone rather than my laptop. 5. Having a smartphone is like having both a mobile phone and a computer together. 6. Smartphone provides bigger size of display screen.

Branding	<ol style="list-style-type: none"> 1. I prefer to buy an international recognized smartphone. 2. I prefer to buy a trustworthy brand of smartphone. 3. Brand name is a major factor that will influence my decision towards buying a smartphone. 4. I make my purchase according to my favorite smartphone brand, regardless of price. 5. I choose my smartphone brand because it has a good reputation. 6. My choice of smartphone brand is influenced by promotions. 7. My choice of smartphone brand says something about me as a person.
Purchasing Behavior	<ol style="list-style-type: none"> 1. On the whole, I'm satisfied with my smartphone experience. 2. Overall, my positive experience outweighs my negative experience with smartphone. 3. I intend to keep continuing using smartphone in the future. 4. I intend to have a better purchase of smartphone in the future.

Source: Developed for research

*Note: The proper questionnaire after pilot testing is in appendix

3.6 Data Processing

After collecting all the questionnaires from the targeted respondents, data process step is to be taken place before any analysis is being used on. The process consists of checking, editing, coding and transcribing. Before processing the data, we make sure all questionnaires that are sent out have been properly filled up completely by the respondents without any omission. Any uncompleted questionnaires are taken out. Next thing we did is coding, data entry, editing, and data transformation for all the remaining completed survey questionnaires.

3.6.1 Questionnaire Checking

Questionnaire checking is the process of checking data collected in order to ensure an optimal quality levels to be matched and the questions are acceptable. All the data will be checked to avoid mistakes and the incomplete questionnaire will be checked thorough the checking process. If there is any problem detected, action will be taken to correct the mistakes before distribute the questionnaires to respondents.

3.6.2 Data Editing

Data editing is a process of correcting and editing the error detected in the questionnaire before presenting the data as information. This process helps to filter the ambiguous and inaccurate data and results from respondents. Unsatisfied answers will be discarding if there is a possibility to harm the overall result. Therefore, editing is needed before transfer the data to information.

3.6.3 Data Coding

Data coding is to categorize a numerical numbers or any characters to represent a particular response. Each response will be differentiated by different numbers. This code can be used to indicate the column position and others. This is because numerical numbers can ease the process of data recoding and easy for respondents to answer the questionnaires. As example, section A using number “1” to represent “male” and using “2” to represent “female” in questionnaire for respondents to fill up their gender. For section B, level of “strongly agree”, “agree”, “neutral”, “disagree”, and “strongly

disagree” can be coded accordingly from “1” to “5” for answering in questionnaire.

3.6.4 Data Transcribing

Data transcribing is a process of transcribing all the data collected from questionnaires which we assigned to the respondents earlier into computer. After transfer the data into computer, those data will be run by using the Statistical Project of Social Science (SPSS) software.

3.6.5 Data Cleaning

Data cleaning is through carry out the SPSS software to check whether there is an unreliable data or exceeding value. The consistency checks of the software will also help to detect the out of range.

3.7 Data Analysis

We used SPSS statistical software to analyze our data, to gain the result from the methods to analysis the data we got from our respondents. Accurate and correct figure are then used and reported in chapter 4 while interpret in chapter 5.

3.7.1 Descriptive Analysis

Descriptive analysis is used to utilize the data from the research respondents in a form that we can interpret and understand easily. Percentage, frequency, graph are used to describe the measurement of the data from Section A of the questionnaire such as age, gender, race, income level/ allowance, what brand of smartphone do you use and etc.

3.7.2 Scale Measurement (Reliability Test for Pilot Test)

Pilot test of the questionnaire have been conducted before the actual survey is going through. The purpose of pilot test is conducted to detect weakness or error in designation and instrumentation of a probability sample. Respondents which have been selected to do the pilot test are from friends, family and lecturer of UTAR. The benefits of pilot test are it can help us to improve the questionnaire and questions which are not related to our research have been deleted to prevent time wasting. We have distributed 16set of questionnaire as pilot test sample. Feedback about the error or mistake such as ambiguous and grammar mistake is collected from the respondents. The Cronbach's alpha is used to examine the internal consistency or reliability of the pilot testing. Malhotra (2004) mentions that alpha coefficient which was below 0.6, the reliability is weak. When the Cronbach's alpha scores in the range of 0.6 to 0.8, is considered as strong reliability whereas the Cronbach's alpha which are above 0.8 to 1.0, is considered very strong reliability. The table shows the result for 16 participants in pilot testing.

Table 3.3 Reliability Test (Cronbach's Alpha)

Construct	Cronbach's Alpha	Number of Items
Friends and Family	0.865	6
Social Influence	0.784	5
Product Features	0.618	6
Branding	0.759	4
Purchasing Behavior	0.808	4
All Variables	0.860	25

Source: Developed for research

3.7.3 Inferential Analysis

3.7.3.1 Pearson Correlation Coefficient

Correlation coefficient is a statistical measure of the convariation, or association, between two variables (Zikumund, 2003). Its purpose is to determine the relationship of one variable to another. Correlation coefficient (r) is within the range of +1.0 to -1.0. If the value of r is more than 0 to 1.0, means there is a positive linear relationship, similar to if the value is less than 0 to -0.1, means it has a negative linear relationship. If the value of r is at 1.0 or -1.0, there is a perfect positive or negative linear relationship. However there is no correlation is indicated if $r = 0$. This method is used in this study to test the relationship between the independent variables which are friends and family, social influence, product features and branding and the dependent variable which is purchasing behavior.

3.7.3.2 Multiple Regression Analysis

Multiple regression analysis is a method to analysis the effects of two or more independent variables on a single interval-scaled dependent variable are investigated simultaneously (Zikmund, 2003). For this particular study, this method is used to determine the relations between all four independent variable (friends and family, social influence, product features and branding) on a single dependent variable (purchasing behavior).

Example of how multiple regression analysis equation looks like :

$$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$$

a = The regression constant

X₁ = Independent variable

β_1 = Coefficient / multipliers that describe the size of the effect the independent variable are having on dependent variable.

3.8 Conclusion

In conclusion, Chapter Three described the methodology that used to carry out the research design and data collection methods which separated into primary and secondary data, sampling design, research instrument, constructs measurement, data processing and data analysis which include descriptive analysis, scale measurement and inferential analysis. Data that have been collected from the questionnaire are coded into SPSS for analysis and will be analyzed in Chapter Four. Chapter Four will provide a detailed analysis and interpretation of the result that derived from the responses on the questionnaires that had been distributed

CHAPTER 4: DATA ANALYSIS

4.0 Introduction

This chapter will describe and analyze the result of the questionnaires surveyed from the respondents. Statically Package for Society Science (SPSS) version 19 was used to analyses the data that collected from 160 respondents. The statistic tests that covered in this chapter is descriptive analysis which included the respondents demographic and the general information of respondents, scale measurement through reliability test, and inferential analysis which analyzed through Pearson Correlation analysis and multiple regression analysis.

4.1 Descriptive Analysis

4.1.1 Respondents Demographic Profile

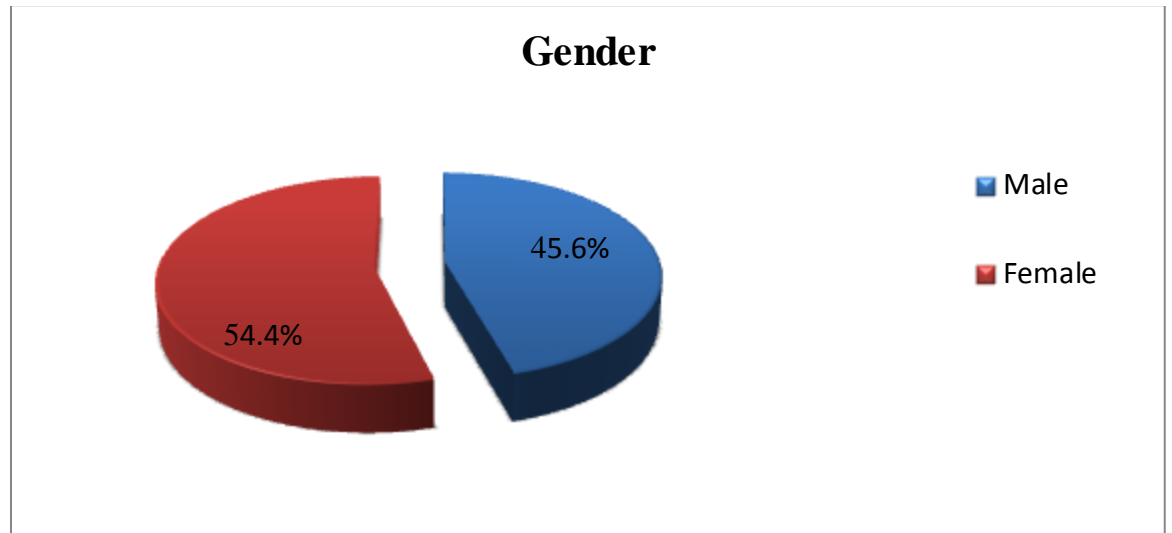
In this survey, respondents' demographic had been asked in section A which included respondent's gender, age group, race and income level. Table 4.1 shows the collected data from respondents.

Table 4.1: Frequency Table: Demographic Profile

Category	Frequency (N)	Percent (%)
<u>Gender</u>		
Male	73	45.6
Female	87	54.4
<u>Age Group</u>		
18 – 20	16	10
21 - 25	142	88.8
26 – 30	0	0
31 – 35	2	1.3
Above 35	0	0
<u>Race</u>		
Chinese	111	69.4
Indian	29	18.1
Malay	20	12.5
Others	0	0
<u>Income Level/Allowance</u>		
< RM 500	111	69.4
RM 501 – RM 1,000	26	16.3
RM 1,001 – RM 2,000	14	8.8
>RM 2,000	9	5.6

Source: Developed for the research

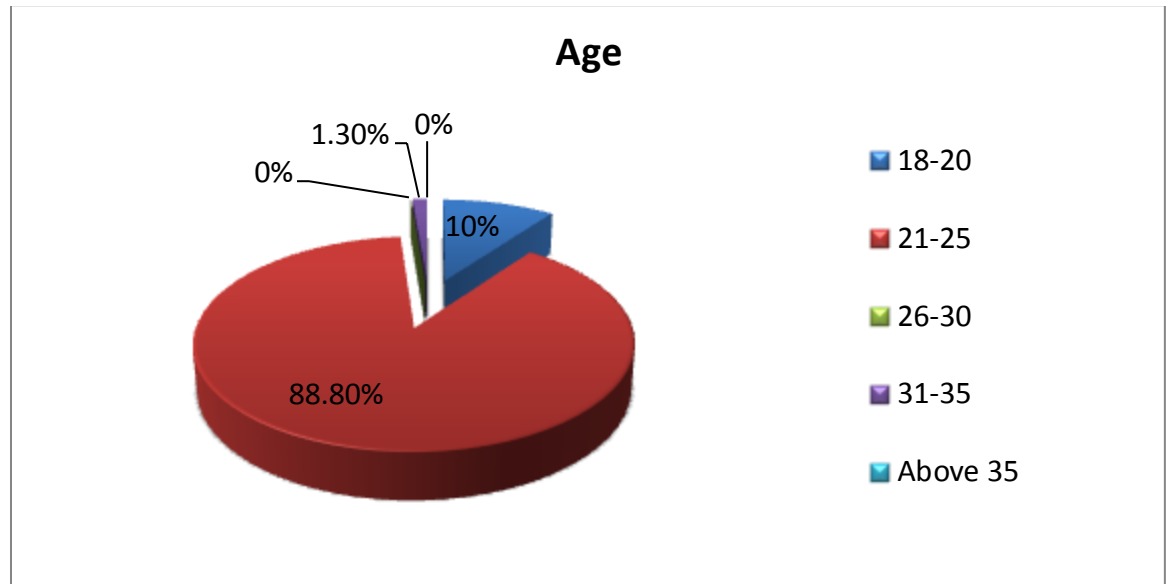
Figure 4.1: Gender



Source: Developed for the research

Table 4.1 and Figure 4.1 show the gender distribution of the respondent who is participated in this survey. According to the result, majority of the respondent is female, which are 87 respondents out of 160 respondents or 54.4% of the total respondents. While for male respondents, there are only 45.6% of the total respondents which equates to 73 respondents.

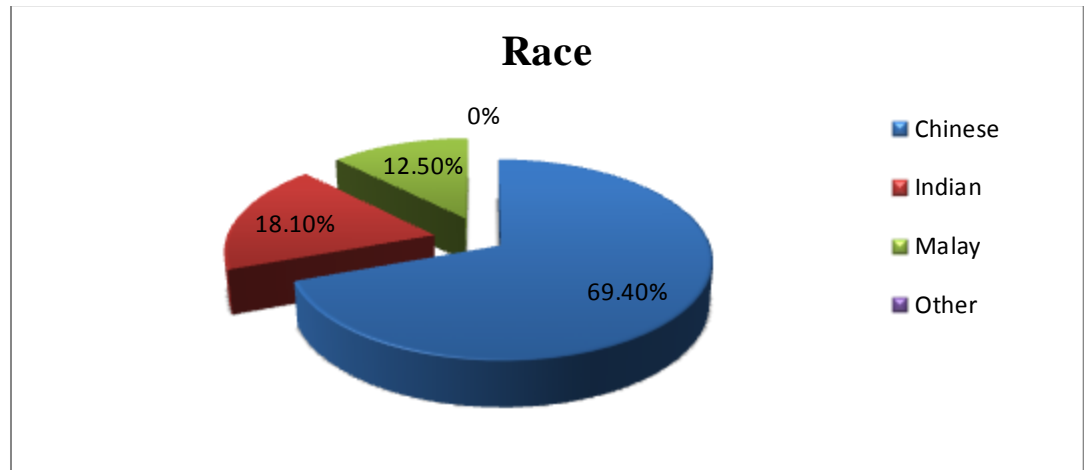
Figure 4.2: Age



Source: Developed for the research

Based on the Table 4.1 and Figure 4.2, the majority of the respondents were aged between 21-25 years old which is representing 88.8%. It followed by 10 % of the respondents who were aged between 18-20 years old and only 1.3% of respondents were aged 31-35 years old. There is no respondents fall into the age group of 26-30 years old and above 35 years old.

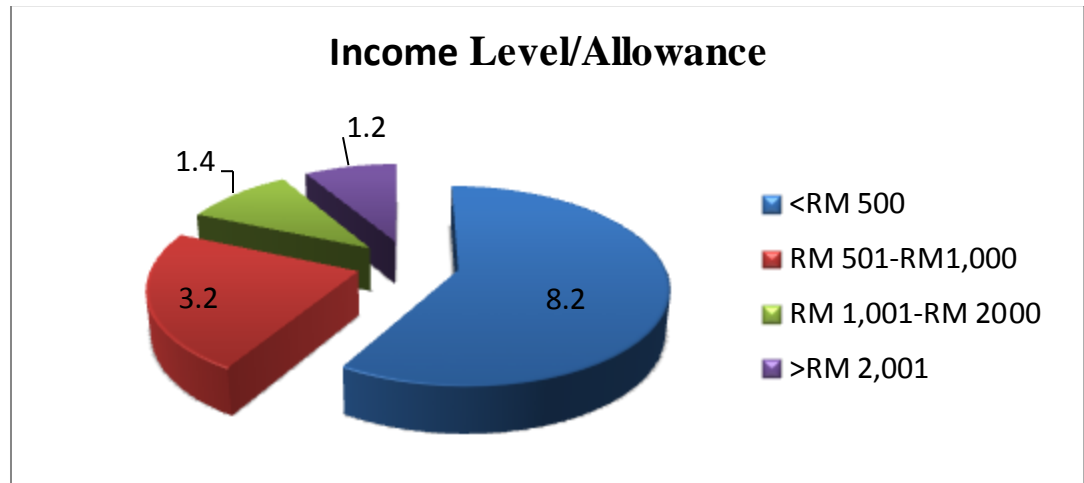
Figure 4.3: Race



Source: Developed for the research

Based on the Table 4.1 and Figure 4.3, majority of the respondents were Chinese which is representing 69.4%. It continues with 18.1% of respondents who were Indian and only 12.5% of respondents were Malay. There were no other races of respondents.

Figure 4.4 Income level/allowance



Source: Developed for the research

From the Table 4.1 and Figure 4.4 above shows that respondents' income level or allowance below RM 500 is 69.4% or 111 respondents, which is the highest percentage of income level or allowance among respondents. Next, followed by the income level or allowance of RM 501 to RM 1000 is 16.3% or 26 respondents. While for the income level for RM 1000 to RM 2000, it consists of 8.8% or 14 respondents. The lowest percentage of income level or allowance is those respondents who above RM 2000 which are only 5.6% or 9 respondents.

4.1.2 General Information of the Respondents

In this survey, three questions had been asked under respondents' general information in section A. The questions consist of the current using brand of smartphone and channel to get information about smartphone. Table 4.2 shows the data collected from respondents.

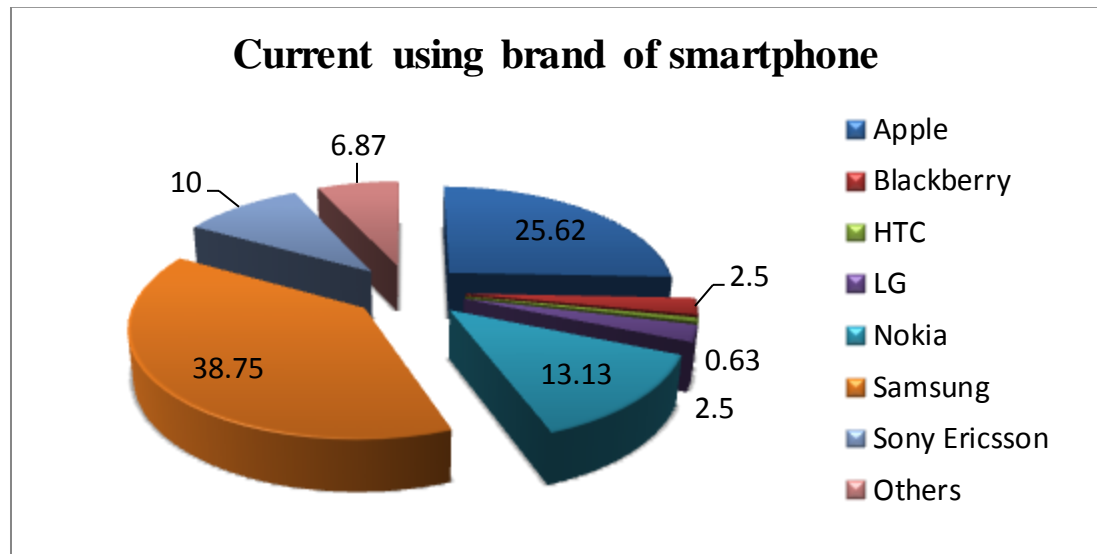
4.1.2.1 Which brand of Smartphone are you currently using?

Table 4.2: Current Using Brand of Smartphone

Brand	Frequency	Percentage (%)
Apple	41	25.62
Blackberry	4	2.50
HTC	1	0.63
LG	4	2.50
Nokia	21	13.13
Samsung	62	38.75
Sony Ericsson	16	10.00
Others	11	6.87

Source: Developed for the research

Figure 4.5: Current Using Brand of Smartphone



Source: Developed for the research

According to the Table 4.5 and Figure 4.5 above, most of the respondents are currently using Samsung smartphone which consists of 38.75% or 62

respondents. Besides that, Apple Smartphone is ranking as number two which is 25.62% or 41 respondents that they currently using. Next, followed by Nokia, Sony Ericsson and others smartphone (i.e. Ninetology, CSL and etc.) consists of 13.13% or 21 respondents, 10.00% or 16 respondents and 6.87% or 11 respondents respectively. Furthermore, the respondents for Blackberry and LG are consisting of 2.50% or 4 respondents for each of it. Lastly, there is only 0.63% or 1 respondent who is currently using HTC smartphone.

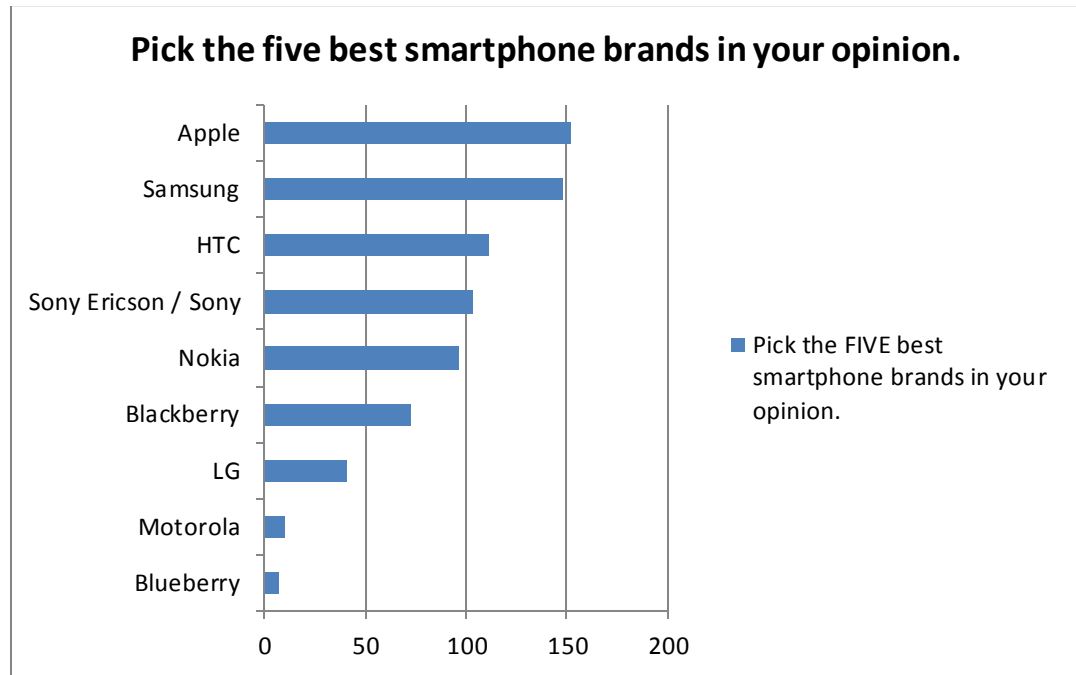
**4.1.2.2 Pick the five best smartphone brands in your opinion.
(Respondents are allowed to choose more than one)**

Table 4.3: List of the Best Smartphones Brands in Respondent View

Brands	Frequency	Percentage%
Apple	152	20.46
Blackberry	73	9.83
Blueberry	7	0.94
HTC	111	14.94
LG	41	5.52
Motorola	10	1.35
Nokia	97	13.05
Samsung	148	19.92
Sony Ericson / Sony	104	13.99

Source: Developed for research

Figure 4.6: List of the Best Smartphones Brands in Respondent View



Source: Developed for research

This question needed the 160 respondents to pick five best smartphone brands in their opinion. As the table and graph above, it showed that Apple has the highest frequencies among the brand, 152 out of 743 frequencies, indicating its place in total of about 20.46 percent. The second best brand in respondents' opinion is Samsung which got 19.919% which is 148 frequencies out of 743. Next was HTC which has 111 frequencies, total of 14.94%, then Sony Ericson which is also known as SONY currently as Ericson recently being purchased over by Sony, no longer a joint venture partnership gain 13.99%, 104 out of 743 frequencies. Followed by Nokia, Blackberry, LG which gain about 13.05%, 9.83% and 5.52% respectively. The least frequencies among them are, Motorola and Blueberry, which one got only 7 and 10 frequencies out of 743 in total.

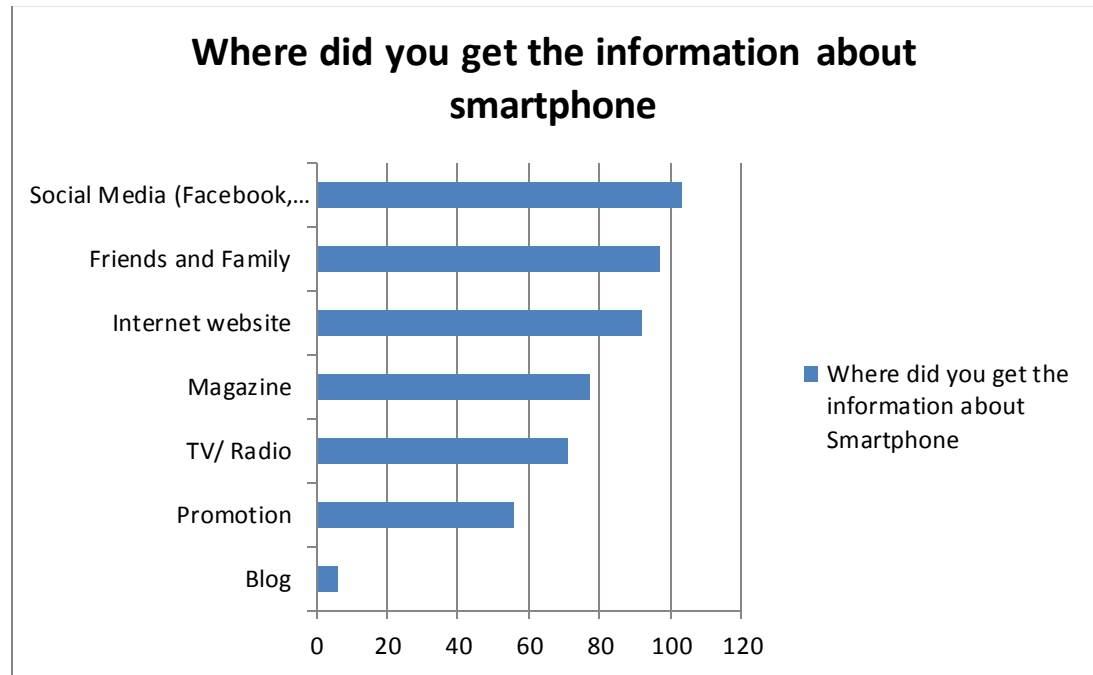
**4.1.2.3 Where did you get the information about Smartphone?
(Respondents are allowed to choose more than one)**

Table 4.4: Channel to Get Information About Smartphone

	Frequency	Percentage (%)
Blog	6	1.19
Family / Friends	97	19.32
Internet website	92	18.33
Magazine / Newspaper	77	15.34
Promotion	56	11.16
Social Media (Facebook, Twitter, Youtube, Google etc)	103	20.52
TV/ Radio	71	14.14

Source: Developed for the research

Figure 4.7: Channel to Get Information About Smartphone



Source: Developed for the research

Table 4.3 and Figure 4.6 show the channel to get information about Smartphone. We allow our respondent to be able to choose more than one answer for this question as we want to see where our respondent gain their information about smartphone. The above table shows the frequency of the respondent picking on the items that we put in for this question. Based on our respondent, only 1.19% got their information about Smartphone from Blog. The highest among all the information area our respondent can gain from about smartphone are from Social Media (Facebook, Twitter, Youtube, Google etc), which can be explain as our respondents are undergraduates which uses social media frequently in daily life. The second highest is from Family/ Friends which gain 19.32% which is equal to 97 out of 502 frequencies. The third highest is from Internet Website, which got 18.33% out of the total. Followed by Magazine/Newspaper which has got 77 frequencies from our respondents who got their information from, next is TV/Radio which have 14.14 percentage whereas Promotion have 11.16 percentage where respondents got their information about smartphone.

4.1.3 Central Tendencies Measurement of Contrasts

Table 4.5: Descriptive Statistic on Variables

Variables	N	Mean	Standard Deviation	Ranking
Friends and family	160	3.0775	0.72580	5
Social Influence	160	3.1900	0.76753	4
Product Features	160	3.9763	0.61690	1
Branding	160	3.7938	0.70239	3
Purchasing Behavior	160	3.8938	0.67500	2

Source: Developed for the research

From the Table 4.4 above shows that the descriptive statistics of friends and family, social influence, product features, branding, and purchasing behavior. Descriptive statistic refers to a set of data that summarizes the data given by the entire population. Based on the table, product features have the highest mean of 3.9763 and then followed by purchasing behavior, branding and social influence which are 3.8938, 3.7938 and 3.1900 respectively. While for friends and family, it is the lower mean among these five variables which is 3.0775. This means that majority of the respondents agreed that friends and family plays an important role in influencing their purchasing behavior towards smartphone while friends and family is the less important in influencing respondents purchasing behavior towards smartphone.

Standard deviation is a measure of the set of data to indicate how close it is to the mean. Social influence has the highest standard deviation of 0.76753. It shows that the data of social influence are spread apart to the large value and data collected would not same to one another. Next, the standard deviation for

friends and family, branding and purchasing behavior are 0.72580, 0.70239 and 0.67500 respectively whereas product features has the lowest standard deviation of 0.61690. It means that the data of product features tend to be very close to the same value and data collected would have the similar to one another.

4.2 Scale Measurement

4.2.1 Reliability Test

Table 4.6: Reliability Test for Actual Research

Variables	Number of Items	Cronbach's Alpha
Friends and Family	5	0.764
Social Influence	5	0.790
Product Feature	5	0.669
Branding	4	0.740
Purchasing Behavior	4	0.822
Overall	23	0.868

Source: Developed for research

Table 4.5 above reveals the result of reliability test for the actual study, which is done on the four independent variables (friends and family, social influence, product feature and branding), dependent variable (purchasing behavior) and the overall variables' internal consistency.

In chapter 3, we have explained how Cronbach's alpha is being analysis. The Cronbach's alpha which is less than 0.6 is considered to be poor reliability whereas Cronbach's alpha value which is within the range of 0.60 to 0.70 is

taken as a fair reliability. The Cronbach's alpha that is in the range of 0.70 to 0.80 shows a good reliability and for the Cronbach's alpha value that is above 0.80 indicates very good reliability for the variables. In a short note, the higher the Cronbach's alpha to 1.00, the better the internal consistency. From the table, it apparently showed that all the Cronbach's alpha values for each variable are above 0.60. Therefore, the internal consistency for the measures applied in this study can be considered to be acceptable.

The reliability test result for the actual result is better after reediting the questionnaire that is used in the pilot test, adjusting the questions to improve on the Cronbach's alpha. Among the variables, Purchasing Behavior has the highest Cronbach's Alpha at the value of 0.822. Social Influence is the second highest Cronbach's alpha after Purchasing behavior, at the value of 0.790 whereas for friends and family, branding and product features, the Cronbach's alpha value is 0.764, 0.740, 0.669 respectively. Overall the variables internal consistency is fairly good as its Cronbach's alpha is 0.868.

4.3 Inferential Analysis

4.3.1 Pearson Correlation Analysis

Table 4.7: Pearson Correlation

		Friends and Family	Social Influence	Product Features	Branding	Purchasing Behavior
Friends and Family	Pearson Correlation	1	.636**	.264**	.145	-.035
	Sig. (2-tailed)		.000	.001	.067	.660
Social Influence	Pearson Correlation		1	.350**	.308**	.169*
	Sig. (2-tailed)			.000	.000	.033
Product Features	Pearson Correlation			1	.557**	.654**
	Sig. (2-tailed)				.000	.000
Branding	Pearson Correlation				1	.513**
	Sig. (2-tailed)					.000
Purchasing Behavior	Pearson Correlation					1
	Sig. (2-tailed)					

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

* . Correlation is significant at the 0.05 level (2-tailed).

Pearson correlation analysis is a measure of the strength of linear relationship between independent variables and dependent variable. According to correlation coefficient, when the relationship between the variables is not linear, the strength of the relationship between the variables does not adequately represent.

Based on Table 4.6, correlation of each independent variables (friends and family, social influence, product features and branding) is significant at 0.01 level or 0.05 level (2-tailed) to the dependent variable (purchasing behavior). According to the Pearson correlation value, friend and family shows -0.35, social influence shows 0.169, product features shows 0.654, and branding shows 0.513. Thus, product feature have strongest significant relationship with purchasing behavior, followed by branding and social influence. However, friend and family possess a negative relationship -0.35 with purchasing behavior. As a result, there is a significant relationship between social influence, product features, branding and purchasing behavior, but there is no relationship with friend and family.

4.3.2 Multiple Regressions

This analysis is adopted to examine the relationship of four independent variables that researchers intent to analyze, which includes friends and family, social influence, product features and branding towards a dependent variable which is purchasing behavior. Multiple regression analysis can be successfully conducted as the all construct are measured by the Likert scale.

Table 4.8: Model Summary of Multiple Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.713 ^a	.509	.496	.47925

Source: Developed for research

From Table 4.7, it shows that the R value is 0.713, R Square is 0.509 and the Adjusted R Square is 0.496. The 0.509 of the R Square represents that there is 50% of the purchasing behavior can be explained by the 4 independent variables which include friends and families, social influences, product features and branding. It means the 50% have been significantly explained by four independent variables while another 50% have another factors to explain. This means other than friends and family, social influence, product features, and branding, there are other factors that are able to influence the purchasing behavior.

Table 4.9: ANOVA of Multiple Regression Analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.844	4	9.211	40.104	.000 ^a
	Residual	35.600	155	.230		
	Total	72.444	159			

Source: Developed for research

a. Predictors: (Constant), Branding, Friends and Family, Product Feature, Social Influence

b. Dependent Variable: Purchasing Behavior

According to the ANOVA Table 4.8, F value (4, 155) proven to be significant at 40.104; $p = 0.000$ ($p < 0.001$). The overall regression model with the four predictors, friend and family, social influence, product features and branding are well explained the variation in purchasing behavior.

Table 4.10: Coefficients of Multiple Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	T	
1	(Constant)	1.162	.280		4.150	.000
	Friends and Family	-.245	.068	-.263	-3.574	.000
	Social Influence	.060	.067	.068	.892	.374
	Product Features	.641	.077	.586	8.372	.000
	Branding	.196	.066	.204	2.956	.004

Source: Developed for research

Based on the output of the Table 4.9, the following equation is formed:

$$\text{Purchasing behavior} = 1.162 - 0.263(\text{Friends and family}) + 0.068(\text{Social influence}) + 0.586(\text{Product features}) + 0.204(\text{Branding})$$

From the linear equation, it revealed that there is a significant positive relationship between social influence, product features, branding with the purchasing behavior. The product features has the most significant influence on purchasing behavior. It has proven by the Standardized coefficient value $\beta=0.586$. It could be explained by a unit increases in product features enable an increase of 0.586 unit in purchasing behavior on Smartphone. This shows

the product features is a more predictor of purchasing behavior on Smartphone than other 3 independent variables.

Branding ranked as the second important factor in affecting purchasing behavior on Smartphone with $\beta=0.204$. Other than that, social influence with $\beta=0.68$, its significant is above 0.05 so it is not considered as one of the major factor to influence purchasing behavior.

However, there is a negative relationship between friends and family with purchasing behavior as its standardized coefficient value $\beta= -0.263$. It will cause a unit increases in friends and family enable a decrease of 0.263 unit in purchasing behavior on Smartphone.

4.3.2.1 Test of significant

Hypotheses 1

H0: There is no significant relationship between friends and family and purchasing behavior.

H1: There is a significant relationship between friends and family and purchasing behavior.

The significant value for friends and families is 0.000. This value is lower than p value of 0.05. Therefore H₁ is accepted and it shows there is a significant relationship between friends and families and purchasing behavior.

Hypotheses 2

H0: There is no significant relationship between social influence and purchasing behavior.

H2: There is a significant relationship between social influence and purchasing behavior.

The significant value for social influence is 0.374. It is higher than the p value of 0.05. Therefore, H_2 is rejected and it shows there is no significant relationship between social influence and purchasing behavior.

Hypotheses 3

H0: There is no significant relationship between product features and purchasing behavior.

H3: There is a significant relationship between product features and purchasing behavior.

The significant value for product features is 0.000. This value is lower than the p value of 0.05. Therefore, H_3 is accepted, and this shows there is a significant relationship between product features and purchasing behavior.

Hypotheses 4

H0: There is no significant relationship between branding and purchasing behavior.

H4: There is a significant relationship between branding and purchasing behavior.

The significant value for branding is 0.004. This value is lower than the p value of 0.05. Therefore, H_4 is accepted and this shows there is a significant relationship between branding and purchasing behavior.

In conclusion, friend and family, product features and branding are having a significant influence on purchasing behavior as $P < 0.05$ while social influence has no significant influence on purchasing behavior.

4.4 Conclusion

As conclusion in this chapter, under descriptive analysis section, respondents' demographic and general information have been analyzed using frequency analysis. Besides, means and standard deviation was use to analyze the central tendencies of the five variables. Other than that, the five variables were also measured by using reliability test under scale measurement section, the results show that the items are acceptable and good reliability. Moreover, under inferential analysis, Pearson Correlation Analysis and Multiple Regression Analysis are used to measure the strength of linear relationship and significant impact between independent variables and dependent variables. Lastly, overall research study will be discuss, conclude and implication in next chapter, besides, the result that obtained from this chapter provide resource for us to make recommendation on this research study.

5.0 DISCUSSION, CONCLUSION AND IMPLICATION

5.0 Introduction

After the result was analyzed in previous chapter, in this chapter, it will start with the summary of the statistical analyses and next will discussing on major finding and implications of the study. After that followed by the discussion on limitations of the study and lastly, recommendation will be providing for the future research and conclusion.

5.1 Summary of Statistical Analysis

5.1.1 Descriptive analysis

Based on the demographic profile that we analyzed, majority of the respondents are female which consist of 54.4% out of 100% whereas male respondents consist of 45.6% of the total respondents. Besides that, the majority of the respondents are at aged between 21 to 25 years old which is 88.8%. While in the range between 18 to 20 year is 10% and 31 to 35 year old is 1.3% which only two respondents. From the survey we collected, we found that there is no respondent from the range of 26 to 30 year old and above 35 year old.

Moreover, Chinese stand for 69.4% (111 respondents), the highest race in the study. While for Indian and Malay respondents, there are 18.1% and 12.5%

respectively. From the survey, we also found that the respondents' income level or allowance is in the range less than RM 500 (69.4%) and followed by RM501 to RM 1000 (16.3%). The respondents' income level of allowance for RM 1001 to RM 2000 consists of 8.8% and there is only 5.6% of the respondents is in the range of income level or allowance in the range above RM 2000.

In addition, the highest percentage of 38.75% of the brand of smartphone the respondents currently using is Samsung. Apple is ranking as number two which is 25.62% and followed by Nokia which is 13.13%. Subsequently, Sony Ericson consists of 10.00% while others brand that respondents using now consist of 6.87. The respondents who using Blackberry, LG and HTC are consist of 2.5%, 2.5% and 0.63% respectively.

From the data we collected, we also found out that the five best smartphone brands in respondent view were Apple, Samsung, HTC, Sony Ericsson / Sony and Nokia. The highest percentages of the information areas about smartphone the respondents gain are from social media which representing 20.52%. It continues with the second highest were 19.32% which are from family and friends and next was internet website which consists of 18.33%. While for Magazine / Newspaper, there are 15.34% of the respondents get the information from and then followed with TV / Radio and Promotion which got 14.14% and 11.16% respectively. However, only 1.19% of the respondents get the information about smartphone is from Blog.

5.1.2 Scale Measurement

The scale of measurement in this report is using reliability test. Each of the variables of the reliabilities is measure by using Cronbach's Alphas. According to the results, the highest score of Conbach's Alphas is purchasing

behavior which is 0.822 and then followed by social influence (0.790), friends and family (0.764) and brand (0.740). While the lowest score of Cronbach's Alphas is product features which is 0.669. From the result, all variables have more than 0.6 in Cronbach's Alphas. Therefore, it is still considered as satisfactory measurement.

5.1.3 Inferential Analysis

5.1.3.1 Pearson Correlation Analysis

Pearson correlation analysis is a measure of the strength of linear relationship between independent (friends and family, social influence, product features and branding) and dependent variable (purchasing behavior). The result shows that product features have the strongest relationship with purchasing behavior (0.654), followed by branding (0.513) and social influence (0.169). However, there is a negative relationship between friends and family and purchasing behavior which is -0.35. As a result, it shows that there are significant positive relationships among social influence, product features, branding and purchasing behavior, but there is no significant relationship between friends and family and purchasing behavior.

5.1.3.2 Multiple Regressions

Multiple regression is used to examine the relationship of four independent variables (friends and family, social influence, product features and branding) towards the dependent variable (purchasing behavior). Based on the result shown in Table (4.7), the value of R square for this test is 0.509 and the adjusted R Square is 0.496. This result shows that there are significant

relationship between friends and family, social influence, product features, branding toward purchasing behavior. It means that 50% of the R Square for this test can be explained by the four independent variables and another 50% have other factors to be explained.

The coefficients of four independent variables are friends and family (-0.245), social influence (0.60), product features (0.641) and branding (0.196). While for the beta, the most influence on purchasing behavior towards smartphone is 0.586, followed by branding and social influence which are 0.204 and 0.068 respectively whereas the least influence on purchasing behavior towards smartphone is friends and family which is subjective norm (-0.263).

5.2 Discussion of Major Findings

5.2.1 First Hypotheses

H1: There is a significant relationship between friends and family and purchasing behavior.

Based on the Pearson correlation coefficient analysis, friends and family does not have a significant relationship with purchasing behavior, which in turn H1 is rejected based on the respondent data result. The correlation which the significant supposed to be at the level of 0.01 or 0.05, which it got at 0.660, that indicates there is no significant relationship between friends and family and purchasing behavior. Besides that, its Pearson correlation is at -0.035.

This shows that though in chapter 2, we found journals which support friends and family as independent variables that influence the purchasing behavior. However based on the result we got from this study, friends and family does

not have significant relationship with purchasing behavior. We found a new journal to support this finding. A study by Nayna Sharma (2011) on the role of reference groups in buying decisions supports our finding that purchasing decision are not affected by opinions of friends and relatives and family. Furthermore, the target group we are targeting on is on undergraduates which they prefer hearing other people's opinion but not necessary get influenced by them on their purchasing behavior, they want to be individualistic.

5.2.2 Second Hypotheses

H2: There is a significant relationship between social influence and purchasing behavior.

There is a significant relationship between social influence and purchasing behavior, through the result of analyzing the data of the 160 respondents using Pearson correlation coefficient analysis. It has the significant level of 0.033 at the 0.001 or 0.005 with it Pearson correlation of 0.169. This is supported by the journal we used in chapter 2, which is study by Yang, He, and Lee (2007) which explore on social reference group on mobile phone purchasing behavior between the mobile users of United States and China where both are influence by social reference group in different ways. Other than that, in the journal of Bansal and Voyer in 2000, it mentions that word of mouth communication has a strong effect in the marketplace, as consumer rely on the information that are provided by social reference group rather than from the formal source such as advertising. Different people are different in reacting to social reference group to influence in their purchasing behavior.

5.2.3. Third Hypotheses

H3: There is a significant relationship between product features and purchasing behavior.

We accept H3 and rejected its null hypothesis as the result shows that there is a significant relationship between product features and purchasing behavior when the p-value is lesser than 0.001 or 0.005 level at two-tailed test. It also carries the pearson correlation coefficient value of 0.654. This is similar to the study that we used in our chapter 2, the study according to Chow et al., the product feature is one of the factors that affect the demand of smartphone. The studies shows that consumer use product feature to compare between products that are offered by competitors, using the significant features to evaluate the products. Product feature does play a role in influence undergraduates in their purchasing behavior towards smartphones.

5.2.4 Forth Hypotheses

H4: There is a significant relationship between branding and purchasing behavior.

H4 is accepted in this study as the p-value for it is at 0.000, which is lesser than 0.001 or 0.005 of two tailed test, carries the coefficient value of 0.513. This is similar with the outcome of a study by Yang, Wang, Son, Chen, and Hung in 2001, studied on how brand recognition on two factors which are professional maintenance services and brand image. These two factors have an effect on customer recognitions as professional maintenance service is regarding about the services the company brand provides such as

professionalism and attitude of the staff whereas for a good brand image of the company can add value to the product, putting trust in the brand.

Majority people would prefer Apple as the brand they prefer, as this brand has shown they are a trustable brand with high quality features and services. Branding helps consumer to decide in purchasing behavior, in our case, for undergraduates who are considering to purchasing smartphone.

5.3 Implications of the Study

5.3.1 Managerial implications

This research is aims to find out the factors which are friends and family, social influence, product features and branding that influence purchasing behavior on Smartphone among undergraduate. This research will be useful for phone industry practitioner who has concern in what factors do influence the purchasing behavior on Smartphone as this finding of research have provided the useful implications.

According to the results of findings in research, it shown social influence has positive relationship towards the purchasing behavior on Smartphone. It means the social influence will influence the purchasing behavior on Smartphone. For marketer, they may need to notice this trend and further concentrate on the way of marketing the Smartphone to consumer. In order to attract the consumer, marketer can focus on the advertisement and use the well recognized celebrities to promote the smartphones. Those celebrities are powerful enough to influence consumer purchasing behavior.

Other than that, product features have the most significant positive relationship towards the purchasing behavior on Smartphone in the research. This means consumers are focus on the attributes and feature a Smartphone can provide to them. If the Smartphone provide various features and uniqueness compare to another Smartphone with less features, consumers will definitely to purchase the Smartphone with more features. They will look at the Smartphone features rather than follow their friend and family's purchasing behavior. Therefore, marketer should focus on designing the Smartphone with more features that can differentiate themselves from other competitors to make it more outstanding in the market.

In the research, branding also has a positive relationship towards the purchasing behavior on Smartphone. It means consumer highly recognize the brand while purchasing Smartphone. This is because consumers perceive brand provide them a visible representation of difference between products. (Srivastava, 2008) Therefore, it is important to create brand recognition in consumer's mind. Marketer should put more effort in enhance their brand image in order to let consumer has the brand image in their mind when come to purchase a Smartphone.

According to the research, the variable of friends and family is not included in this managerial implication due to the not significant result at Pearson correlation. According to Shahzad and Faryal (2012), the factor of group and family has weak or not effective impact on the female buying behavior towards cosmetics. Therefore, similar to it, it can prove that friends and family are not effective to influence the purchasing behavior on smartphone. In conclusion, the results of our research may help for phone industry and marketer to have a better understanding of consumer purchasing behavior towards Smartphone in order to improve themselves in their product strategy and selling method.

5.4 Limitations of the Study

This research on the friends and family, social influence, product features and branding that influence towards the purchasing behavior has been done successfully. From the results we got, we found out there are several limitations that can be improved as it had affect the outcome of the results. As our research targets the undergraduates, therefore there is 88.8 percent of respondents are aged 21-25. This may affect the outcome of result on the factors that influence the purchasing behavior on Smartphone as it can only represent the certain age group on purchasing behavior. Other than that, majority of the participants is Chinese which has almost reach 70 percent among the race group. Therefore, the result of our research can only represent the Chinese in purchasing behavior.

Another limitation is the participants of the survey do not concentrate in the survey. As they are not being serious towards the survey, it has caused the data become unusable. We did use both methods which is hardcopies and online survey, the feedback showed uncertainty in the data. Although we have filtered those unusable questionnaires, it still took most of our time to check one by one and find more respondents to reach our target populations. In addition, most of the questionnaires we distributed through online, there is only minor part of handed questionnaire. Therefore, when participants have question on our survey we are unable to solve their problem. This may lead to more inaccurate results in the end of the survey.

The third limitation is time constraints. As we have spent much time on the previous research, the following part has been rushed. Therefore, we could not find more respondents in various races to make our research result more significant. Due to the time constraint, we also restricted the survey area in Klang valley only so we unable to cover the whole area in Malaysia. If we have more time on researching, we may develop more factors that are more sufficient enough to influence the outcome of the results and better respondents.

Other than that, due to the small sample we used to conduct this survey, the total 160 respondents may not accuracy enough to represent whole of the target group's purchasing behavior of our study which is undergraduates, as we only focus on undergraduates within Klang valley.

5.5 Recommendation for Future Research

There are several limitations that have been found in this research. Therefore, further improve on the research have to be implicate to better understand the purchasing behavior on Smartphone.

One of the limitations is the targets respondents, we should target on all ages group rather than only target on undergraduate. This is because this survey only represents the undergraduate which only part of the Malaysia consumer. Besides, 69.4 percent of the respondents' income level is below RM500 which might not enough for respondents to purchase a Smartphone due to the respondents' preference.

Besides, we should equalize our respondents' race in the survey, where most of the respondents in this survey is Chinese which cannot represent the purchasing behavior of Smartphone in undergraduate. Malaysia is made up with difference race of people with difference culture, they might have difference purchasing behavior. Therefore, the three major races in Malaysia which is Malay, Chinese and Indian undergraduate should be equalizing in our survey.

Other than that, we also realize that the respondents are not concentrate in the survey. This maybe the respondents do not understand the questions or they did not pay attention when answer the question. Most of the questionnaire we distribute through internet, therefore, we cannot give respond directly when they have problem when answer the survey. Thus, handle questionnaire should distribute more to get more

significant result such as 70 percent handed questionnaire and 30 percent through internet.

Furthermore, this survey we only use one month to get the respondents feedback on the survey, this time constraint have restricted the survey only distributed in Klang Valley areas only. Therefore, in the future research, longer time period to do the survey is needed to get a better and significant result. Besides, the target places to distribute the survey also have to cover the whole are in Malaysia.

Lastly, due to the time constraint and small target areas, we only target 160 respondents in our survey. This small sample size which may not accuracy enough to represent the whole society's purchasing behavior, therefore, longer time period and large target places will help in getting more respondents in the survey. Large sample size will help us to get more accurate result in the survey.

5.6 Conclusion

All in the effort we put in to complete this final year project with this topic regarding smartphone, to determine the factors that influence the purchasing behavior towards smartphones among undergraduates. As the previous chapters, like for chapter one have shown what we have learned about the background of smartphone and how it became a popular sensation in these current few years. The literature review which is chapter 2 was done to form theoretical structure for this study. The analysis tests that we used which are Pearson Coefficient Correlation and Multi-Regression which to examine the variables relationship between each independent variable and dependent variable, and to examine the significant relationship between the four independent variables (friends and family, social influence, product features and branding) against the dependent variable, (purchasing behavior) respectively.

It was indicated in our study that only social influence does not have an impact on purchasing behavior compared to the rest of the independent variables (friends and family, social influence, product features and branding). The findings of this study support the hypotheses that is developed initially except for hypotheses two and five which is about social influence and how social influence does not make an impact on purchasing behavior. Marketer should perhaps take more attention on how to improve their branding and also product features so that friends and family who uses it are more reliable to spread the news of the smartphone which can somewhat lead to purchasing behavior.

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UNIVERSITI TUNKU ABDUL RAHMAN
FACULTY OF ACCOUNTANCY AND MANAGEMENT
Bachelor of International Business (Hons)
Survey Questionnaire (Pilot Testing)

We are students of Bachelor of International Business (Hons) at the Faculty of Accountancy and Management (FAM) at Universiti Tunku Abdul Rahman. We are currently conducting a survey on the relationships between friends and family, social reference group, product feature and brand and purchasing behavior.

First of all, we would like to thank you for sparing your time to fill up the questionnaire. The purpose of this survey is to find out does friend and family, social reference group product feature or branding affecting purchasing behaviour on smartphone among undergraduates. This would only take you approximately about 10 minutes to complete.

Please take note all information obtained will be analyzed and to be written into a report which is used solely for academic purpose. We would like to assure you that all the information collected will remain private and confidential.

Once again, we would like to thank you for your participation in completing this questionnaire. Thank you for your cooperation.

Team members:
Cheng Hui Ying 10UKB06417
Huang Wan Ee 10UKB06479
Lum Sin Yin 10UKB06580
Tan Yi Jie 10UKB02438

Section A. Demographic Information

Please place a '√' on the blank boxes provided.

1. Gender Male
 Female
2. Age 18 – 20 years old
 21 – 25 years old
 26 – 30 years old
 31 – 35 years old
 Above 35 years old
3. Race Chinese
 Indian
 Malay
 Others, please specify: _____
4. Income level/ Allowance Below RM 500
 RM 501-RM 1,000
 RM 1,001-RM 2,000
 Above RM 2,000
5. Which brand of smartphone are you currently using?
 Samsung
 HTC
 Apple
 Blackberry
 Nokia
 Sony Ericsson
 LG
 Motorola
 Blueberry
 Others, please specify: _____

6. Why do you choose the preferred smartphone brand?
Please rate question 6 accordingly with the rank of 1 to 5; 1 means most important, continue to 5 which is least important

	Samsung
	HTC
	Apple
	Blackberry
	Nokia
	Sony Ericsson
	LG
	Motorola
	Blueberry
	Others, please specify: _____

7. Where did you get the information about smartphone?
You can tick more than one.

	TV / Radio
	Family / Friends
	Magazine / Newspaper
	Promotion
	Social Media (Facebook, Twitter, Youtube, Google+)
	Blog
	Internet
	Others, please specify: _____

Section B. Please indicate the extent to which you agree or disagree with the following statements.

1	2	3	4	5
Strongly Disagree (SD)	Disagree (D)	Neutral (N)	Agree (A)	Strongly Agree (SA)

No	Question Items	SD	D	N	A	SA
Friends and Family						
1	My friends' evaluation will influence my choice in purchasing smartphone.	1	2	3	4	5
2	My friends' preference will influence my choice in purchasing smartphone.	1	2	3	4	5

3	It is important that my friends like the brand of smartphone I'm using.	1	2	3	4	5
4	My friends influence my decision in buying smartphone.	1	2	3	4	5
5	I would collect smartphone information from family members.	1	2	3	4	5
6	Family recommendation may influence my smartphone decision.	1	2	3	4	5
Social Influence						
7	Social influences affect my choice on smartphone.	1	2	3	4	5
8	Advertising will influence my choice in purchasing smartphone.	1	2	3	4	5
9	Advertising endorsers ((like concerts, sports events, drama series, through celebrities) will affecting me to buy a smartphone.	1	2	3	4	5
10	I would buy a smartphone if it helped me to fit in with my social group better.	1	2	3	4	5
11	My choice of smartphone is influenced by other consumers' word-of-mouth.	1	2	3	4	5
Product Features						
12	Smartphone has more applications than basic hand phone.	1	2	3	4	5
13	Smartphone provide high quality of games.	1	2	3	4	5
14	Smartphone's internet accessibility is speedier than basic hand phone.	1	2	3	4	5
15	Smartphone saves me time and effort of my work. I would prefer carrying my smartphone rather than my laptop.	1	2	3	4	5
16	Having a smartphone is like having both a mobile phone and a computer together.	1	2	3	4	5
17	Smartphone provides bigger size of display screen.	1	2	3	4	5
Brand Name						
18	I prefer to buy an international recognized smartphone.	1	2	3	4	5
19	Brand name is a major factor that will influence my decision towards buying a smartphone.	1	2	3	4	5

20	I make my purchase according to my favorite smartphone brand, regardless of price.	1	2	3	4	5
21	I choose my brand because it has a good reputation.	1	2	3	4	5
22	My choice of brand is influenced by promotions.	1	2	3	4	5
23	My choice of brand says something about me as a person.	1	2	3	4	5
Purchasing behaviour						
24	On the whole, I'm satisfied with the smartphone experience.	1	2	3	4	5
25	Overall, my positive experience outweighs my negative experience with smartphone.	1	2	3	4	5
26	I intend to keep continuing use smartphone in the future.	1	2	3	4	5
27	I intend to have a better purchase of smartphone in the future from my experience.	1	2	3	4	5

Thank you very much for your participation in this survey,

Your time and opinions are deeply appreciated.

UNIVERSITI TUNKU ABDUL RAHMAN
FACULTY OF ACCOUNTANCY AND MANAGEMENT
Bachelor of International Business (Hons)
Survey Questionnaire (Actual Questionnaire)

We are students of Bachelor of International Business (Hons) at the Faculty of Accountancy and Management (FAM) at Universiti Tunku Abdul Rahman. We are currently conducting a survey on the relationships between friends and family, social influence, product features, branding and purchasing behavior.

First of all, we would like to thank you for sparing your time to fill up the questionnaire. The purpose of this survey is to find out does friend and family, social influence, product features or branding affecting purchasing behavior on smartphone among undergraduates.

This would only take you approximately about 10 minutes to complete.

Please take note all information obtained will be analyzed and to be written into a report which is used solely for academic purpose. We would like to assure you that all the information collected will remain private and confidential.

Once again, we would like to thank you for your participation in completing this questionnaire. Thank you for your cooperation.

Team members:

Cheng Hui Ying 10UKB06417

Huang Wan Ee 10UKB06479

Lum Sin Yin 10UKB06580

Tan Yi Jie 10UKB02438

Section A. Demographic Information

Please place a '√' on the blank boxes provided.

- 1 Gender Male
 Female
- 2 Age 18 – 20 years old
 21 – 25 years old
 26 – 30 years old
 31 – 35 years old
 Above 35 years old
- 3 Race Chinese
 Indian
 Malay
 Others, please specify: _____
- 4 Income level/ Allowance Less than RM 500
 RM 501-RM 1,000
 RM 1,001-RM 2,000
 Above RM 2,000
- 5 Which brand of smartphone are you currently using?
 Apple
 Blackberry
 Blueberry
 HTC
 LG
 Motorola
 Nokia
 Samsung
 Sony Ericsson
 Others, please specify: _____
- 6 Rank the **FIVE** best smartphone brand.
(Note : 1 is the most preferred, 5 is the least preferred). Just choose five out of the list.
 Apple
 Blackberry
 Blueberry
 HTC
 LG
 Motorola
 Nokia
 Samsung
 Sony Ericsson / Sony

7 Where did you get the information about smartphone?
You can tick more than one.

- TV / Radio
- Family / Friends
- Magazine / Newspaper
- Promotion
- Social Media (Facebook, Twitter, Youtube, Google etc)
- Blog
- Internet websites
- Others, please specify: _____

Section B. Please indicate the extent to which you agree or disagree with the following statements.

1	2	3	4	5
Strongly Disagree (SD)	Disagree (D)	Neutral (N)	Agree (A)	Strongly Agree (SA)

No	Question Items	SD	D	N	A	SA
Friends and Family						
1	My friends' preferences will influence my smartphone purchase.	1	2	3	4	5
2	It is important that my friends like the brand of smartphone I'm using.	1	2	3	4	5
3	My friends influence my decision in buying smartphone.	1	2	3	4	5
4	I would collect smartphone information from family members.	1	2	3	4	5
5	Family recommendation may influence my smartphone purchase.	1	2	3	4	5
Social Influence						
6	Social pressure affect my choice on smartphone.	1	2	3	4	5
7	Advertising will influence my choice in purchasing	1	2	3	4	5

	smartphone.					
8	Advertising endorsers (like concerts, sports events, drama series, through celebrities) will affect me to buy a smartphone.	1	2	3	4	5
9	I would buy a smartphone if it helped me to fit in my social group better.	1	2	3	4	5
10	My choice of smartphone is influenced by other consumers' word-of-mouth.	1	2	3	4	5
Product Features						
11	Smartphone has more applications than basic hand phone.	1	2	3	4	5
12	I prefer smartphone based on the physical characteristics (design standards, colour, weight, dimensions, shape).	1	2	3	4	5
13	Smartphone's internet accessibility is speedier than basic hand phone.	1	2	3	4	5
No	Question Items	SD	D	N	A	SA
14	I would prefer carrying my smartphone rather than my laptop.	1	2	3	4	5
15	The bigger the size of the memory of the smartphone, the better.	1	2	3	4	5
Branding						
16	I prefer to buy an international recognized smartphone.	1	2	3	4	5
17	Brand name is a major factor that will influence my decision towards buying a smartphone.	1	2	3	4	5
18	I make my purchase according to my favorite smartphone brand, regardless of price.	1	2	3	4	5
19	I choose my smartphone brand because it has a good reputation.	1	2	3	4	5
Purchasing behavior						
20	On the whole, I'm satisfied with my smartphone experience.	1	2	3	4	5
21	Overall, my positive experience outweighs my negative	1	2	3	4	5

	experience with smartphone.					
22	I intend to keep continuing using smartphone in the future.	1	2	3	4	5
23	I intend to have a better purchase of smartphone in the future.	1	2	3	4	5

Thank you very much for your participation in this survey,

Your time and opinions are deeply appreciated.