ISSN No:-2456-2165

The Effect of Lifestyle, Brand Image and Personalities on Smartphone Purchase Decision of Consumers in Hochiminh City

Ngoc-Long Nguyen[1],
Thu-Thao Tran[2],
Minh-Phu Vo[3]
Faculty of Business Administration, Industrial University of Ho Chi Minh City, Vietnam

Abstract:- The research was carried out in Ho Chi Minh city to evaluate the impacts of personalities, lifestyle, and brand image on buying decision of smartphone consumers. The results of the research has shown the effects of factors used in the hypothesis and the managerial implications have been submitted for further application of marketing strategies.

Keyword:- *Personality, Smartphone Buying, Lifestyle, Smartphone Marketing.*

I. INTRODUCTION

Nowadays, smartphone has slipped into every corner of the life. It becomes the mode of communication between people, also, is a tool to record meaningful moments. Smartphone has brought a lot of utilities for users such as checking e-mail, searching information, accessing social networks, surfing the web via 4G or Wifi, making calls, free texting, listening to music, finding your way, uploading photos and videos to social networks etc. Smartphone is a product that integrates a lot of extremely useful and convenient functions for everyone and it becomes the leading product in the mobile phone market. Most people have a habit of using the phone a lot, from children to adults, using the phone in communication with relatives, internet access or work and entertainment.

From that, it can be affirmed that smartphone sector is an extremely attractive and potential business. However, with the current trend of deep integration, many mobile phone retail businesses are constantly expanding their influence in this attractive market. As a leading retailer of mobile phone distribution in Vietnam, mobile phone distribution businesses are facing severe competition as well as speed of service improvement which are able to meet increasingly advanced technology.

Studies on the factors affecting the decision to buy a smartphone have been conducted in the world in general and in Vietnam in particular, such as Factors affecting smartphone purchase intentions in college students (Rahim, Safin et al. 2016), Factors influencing the decision to buy a smartphone among Malaysia's Generation Y (Lay-Yee, Kok-Siew et al. 2013), Factors affecting smartphone purchase behavior among young people in Nigeria (Ayodele and Ifeanyichukwu 2016), Research on factors influencing consumers 'decision to buy a smartphone in Buon Ma Thuot city, Dak Lak province (Huynh 2017), Factors affecting consumers' decision to buy a smartphone in Dong Hoi city, Quang Binh province (Nguyen 2016) etc. However, specific factors such as individual personality, lifestyle, brand image have not been implemented much. Therefore, the author has studied the topic of the influence of lifestyle, brand image and individual personality to purchase decision toward smartphone of customers in Ho Chi Minh City market.

II. THEORETICAL BACKGROUND AND RESEARCH THEORY

A. Purchase decision

According to Armstrong, Cools et al. (2012), the process of purchase decision is the process by which consumers actually buy products. To measure purchase decision, Armstrong, Cools et al. (2012) stated that this process consists of five stages: demand for referrals, information seeking, evaluation of alternatives, purchase decision and post-purchase behavior.

Schiffman and Leslie (2010) indicated that purchase decision is an action committed by consumers to marketers to make decisions in the form of product selection, brand selection, based on condition (discount) and purchase amount. To measure purchase decision, it is possible to measure factors such as awareness, impact level and motivation of purchase decision.

Engel, Blackwell et al. (2005) showed that purchase decisions is affected by many factors, including promotions, surroundings, cleanliness, service quality, price, value, convenient distribution and retail experience. Coney, Best et al. (2001) pointed out that the categories of decision making are nominal, limited and broad. LeCun, Boser et al. (1989) considered consumer decision-making model to include six interrelated variables: message, brand identity, brand attitude, confidence, intention and purchase. Brand identity, brand attitude and confidence are three core factors that shape a consumer's image of a brand (Vatjanasaregagul, Wang et al. 2007).

B. Individual personality

Personality can be defined as a set of individual thoughts, attitudes, behaviors, perceptions, activities, and characteristics (Chan 2006). Bozionelos (2004) analysed that personality includes intellectual, rational, behavioral

and social models. Allport (1961) defined a personality as a dynamic and energetic organization that encompasses the inner system and the spirit of an individual, which helps people adjust their environment. Meanwhile Robbins, Francis et al. (2001) defined personality as the sum total of a person's response to events and influences on other individuals. More simply, personality can be defined as human characteristics, appearance and variables. Schiffman and Kanuk (2008) defined personality as a unique, different and dynamic group that is composed of the different physical and psychological characteristics of an individual, having a direct impact on attitude, actions and responses to social and physical environments.

Five personal characteristics are the five factors that describe the unique personality of each individual. Numerous studies of psychology and behavior around the world have used these five personalities to measure personality and assess behavior of individuals, for example: Barrick and Mount (1991), John, Srivastava et al. (1999), Gosling, Rentfrow et al. (2003).

C. Research hypothesis

Many researchers indicated that the individual personalities, lifestyle and brand have influences on customers' buying decision of smartphone, such as: Bosnjak, Galesic et al. (2007) considered that there is a positive relationship between openness to experience and consumers' online shopping behavior. Farid, Ali et al. (2018) conducted the study "The influence of personality on impulsive buying goods" and it contributed to a deeper understanding of Pakistani consumers and confirmed the role of personality in encouraging shopping. They concluded that openness, extraversion have a positive impact on the buying behavior of consumers in Pakistan. Chuang, Lin et al. (2007) demonstrated that students with an open mindset are strongly aware of the risks involved in the purchase process. Millar (1999) also pointed out that people with open characteristics often actively seek advices from others before making a decision to consume a product. Shahjehan, Zeb et al. (2012) also pointed out that open-minded people have a positive impact on both spontaneous and intentional purchases. Panda, Jain et al. (2018) concluded that dedicated and extraversioned personalities have a positive effect on mandatory smartphone usage, while neuroticism has a negative effect on using smartphone. Levy, Murphy et al. (2008) indicated that the agreeableness that influences families' decision to buy houses. Tang and Lam (2017) found that consumers' green purchasing intention mediates the relationship between the ease and green purchases. Chou, Picazo-Vela et al. (2013) concluded that neuroticism will influence consumer buying decision. Research "Brand image and product price; Its impact on Samsung smartphone buying decision" by Djatmiko, Pradana et al. (2016) have concluded that brand image of a product influences purchase decisions.

In their research, Sallam (2014) concluded that when customers focus on the positive aspects of a company or a product and they love the brand of the company or product, they often expressed that by using positive words in oral communication and this makes them make decisions to buy products and services of that business. Brand image has a strong positive influence and an important relationship with consumer purchasing behavior. People are aware of the brand image with positive attitude. Research described that teenagers in Gujranwala prefer branded products and that positively affects their consumer purchasing behavior (Malik, Ghafoor et al. 2013).

The research model of Lin and Shih's (2012) "The relationship between student lifestyle, attitude towards money, personal values, and purchase decision" concluded that lifestyle has positive influences on buying decision. Silaban, Saerang et al. (2014) studied "The personal factors that make decisions about buying mobile phone of Samsung in Manado" and concluded that personal and lifestyle factors have a significant influence on the purchase of smartphones of Samsung in Manado. Kim, Rao et al. (2000) have suggested that there is an impact between lifestyle and consumers' buying behavior through the study "The influence of consumer lifestyle on shopping behavior on the Internet". Recognizing these factors have influences on consumers' decision to buy a smartphone, hence, we conduct research with the following hypotheses and models:

Openness: McCrae, Costa et al. (2008) defined openness as the person's level of imagination and their comfortable thoughts. Mondak (2010) defined openness as a trait in which an individual has flexible behaviors, not a rigid person who only knows himself as well as others. Hogan, Barrett et al. (2007) have linked an open personality to individual creativity. Open-minded people quickly learn new things, be adventurous, and their interests are diverse (John, Naumann et al. 2008). Individuals with a low score in this trait are considered to be quite conservative, have a low mental level and normal behavior, they are quite reserved and do not share their emotions too much. Meanwhile, those who score high on this trait come up with new and entertaining ideas for everyone. They are always willing to experience new and adventurous things (Hirsh 2010), so they are expected to have open minds and tend to accept or try new products. Hence, the first hypothesis is developed as below:

H1a: The openness of individual personality has a positive influence on the decision to buy a smartphone.

Conscientiousness: Conscientiousness is described as a trend of productivity, achievement-oriented, docile and disciplined (Lim Leung and Bozionelos 2004). It is described by such characteristics as being organized (Sanders and Management (2008); Quintelier (2014); Tommasel, Corbellini et al. (2015)), discipline (Lim Leung and Bozionelos 2004), carefulness (Pullela , Mensa et al. (1998), severity (Lim Leung and Bozionelos (2004); Roberts et al., 2005; Sanders, 2008) and reliability (Sanders and Management (2008); Migliore, 2011; Lounsbury , Foster et al. (2012); Dant, Weaven et al. (2013); Quintelier (2014); Lounsbury, Foster et al. (2012)). According to

Barrick, Mount et al. (2013), conscientiousness involves individuals who are energetic and dynamic who plan for everything, organize and focus on their goals, helping them carry out their tasks in the most effective way.

An important aspect of implementing self-control is the readiness to monitor and monitor one's behavior (Baumeister, 2002). People with conscience closely monitor their behavior and better organize and effectively perform their tasks. Self-discipline is an important characteristic of conscientious people (Costa and McCrae 1992). Studies have shown that conscientiousness has an impact on the use and choice of buying smartphones, so the below hypothesis is proposed:

H1b: Conscientiousness of individual personality has positive influence on buying decision of smartphone.

Agreeableness: Agreeableness is a personality expressed in personal behaviors, considered kind, sympathetic, cooperative, warm and considerate (Thompson and differences 2008). In contemporary psychology, agreeableness personality is one of the five main aspects of personality structure, reflecting the individual differences in social cooperation and harmony (Graziano and Eisenberg 1997).

Being agreeableness can be understood as having someone who cares about others and their well-being. Individuals agree to care about interpersonal relationships based on honesty and equality (Phillips, Butt et al. 2006). Research by Phillips, Butt et al. (2006) found that comfort is associated with the use of mobile phones for gaming. Consequently, a hypothesis is developed as below:

H1c: Agreeableness personality has a positive impact on the decision to buy a smartphone.

Extraversion: This trait is mainly related to social, confident, assertive, predictive and enjoyment traits (Mooradian and Swan 2006). These individuals with low scores for extraversioned personality are often not very friendly, they prefer to be independent and do not like to rely on others. People who have high score on this extraversion feature always have positive, confident thoughts (Watson, Clark et al. 1991), who are energetic, enthusiastic and quite active, who like to communicate with society (John, Srivastava et al. 1999). Their sociality includes not only interacting with family and friends, but also with those around them such as salespeople and shop owners. Individuals who appreciate this trait prefer to explore new things in life that make them have a tendency to buy to experience new things, because they have low self-control (Eysenck, Barrett et al. (1993); Judge, Simon et al. (2014); Leong, Jaafar et al. (2017)). Therefore, we set out the hypothesis as below:

H1d: The extraversion of individual personality has a positive effect on the decision to buy a smartphone.

Neuroticism: Neuroticism is defined as disruption in emotional stability through negative emotional states (Robu 2007). Neurotic people are always anxious, isolated, dislike communicating (Robu 2007) and avoid situations in which they have to control their actions (Saleem, Beaudry et al. 2011). There is a negative in the relationship between computer use and negative personality (Saleem, Beaudry et al. 2011). A neurotic person is more difficult to control emotions and refrain from buying toward a certain liking (Tsao and Chang 2010). Realizing the impact of this personality on purchase decision, we hypothesize:

H1e: The neuroticsm of individual personality has a negative impact on the decision to buy a smartphone.

Brand image: Brand image has been recognized as an important concept in marketing and research on consumer behavior (Hee 2009). Customers deal every day with different types of products and services, so brand image is primarily responsible for brand differentiation (Morgan 2004). Companies compete to deliver good ideas about their products and services to build a positive image of their brand in the minds of consumers. Therefore, a positive awareness of the product quality and services will motivate the mind to form a positive brand image, (Tan, Liew et al. 2012). Brand image has a strong positive influence and an important relationship with consumers' purchase behavior. People are aware of brand image with positive attitude. Research described that teenagers in Gujranwala prefer branded products and that positively affects their consumers' purchase behavior (Malik, Ghafoor et al. 2013). Brand image is an important factor of the business to the process of buying products or services. Based on the discussion above, the hypothesis is presented below:

H2: Brand image has a positive impact on the decision to buy a smartphone.

Lifestyle: Psychology is a method of measuring lifestyle that can determine market segments by quantitative approach or qualitative approach as well as focus group method and depth interview method (Engel, Blackwell et al. 2005). Kim, Rao et al. (2000) showed that towards online shopping, consumers lifestyle often pay attention to selling price and price orientation over time when the benefits of buying have a positive impact on make purchasing decisions, while risks have negative impacts. Differences in lifestyle will lead to differences in people's behaviors and thoughts. Therefore, different lifestyles will make differences in interests and behaviors when making purchase decision. Thereby the author realized that there is an impact between lifestyle and buying decision, then a hypothesis is proposed below:

H3: Lifestyle has positive impact to decision to buy smartphone.

D. Mô hình nghiên cứu

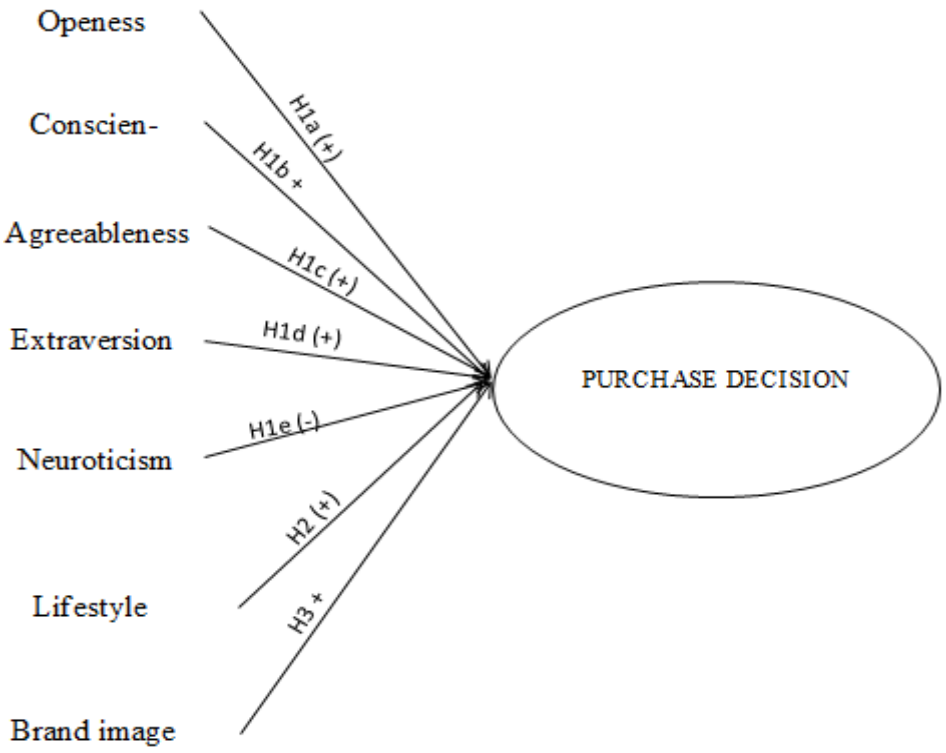

Fig 1:- Research framework

III. RESEARCH METHOD

In this research paper, we use mixed method, which includes qualitative research method and quantitative research method. Based on references from the theoretical background, previous research models, consulting with supervisor to produce research data which is used to evaluate scales and tests theoretical models and hypotheses. Quantitative research aims to collect and analyse survey data as well as test scales, testing theoretical research models and hypotheses.

A. Measurement

The author develops factors in the survey through references to relevant studies from previous studies, research theoretical models from scientific articles are summarized by the author summarize then develops the questionnaire under the censorship of supervisor. The survey consists of 07 factors using the Likert scale of Likert (1932). He made the convention with 5 specific levels: 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Strongly agree.

B. Data collection

The author conducted an official interview with 250 respondents in Ho Chi Minh City, 238 valid answers. The data is processed and used to test the research model. The author uses Likert's Likert scale (1932) with 5 levels to measure the value of variables (from 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree, 5-Totally agree), the information gathered in this quantitative study is used to measure the factors that influence consumers' decision to buy a smartphone. SPSS 20 is used to analyse the data, the Cronbach Alpha reliability coefficient and the Exploratory Factor Analysis (EFA).

	Frequency	**Percentage %**	**Total**
Gender			
Males	139	58,4	238
Females	99	41,6	
Age			
From 18 to 22 years old	163	68,5	238
From 23 to 35 years old	51	21,4	
From 36 to 55 years old	14	5,9	
Above 55 years old	10	4,2	

Table 1:- Personal information frequencies
Sources: Synthesised and analysed by author

IV. FINDINGS AND DISCUSSION

A. Reliability

Cronbach's Alpha analysis is a statistical test which is used to check the coherence and correlation between observed variables. This involves two aspects of the correlation between the variables themselves and the correlation of the scores of each variable and the overall score of each respondent. This method allows eliminating inappropriate variables and limiting garbage values in the research model unless we cannot know how exactly variance and error of the variables are. Accordingly, only the Corrected Item-Total Correlation values greater than 0.3 and Cronbach's Alpha greater than 0.7 are accepted and are appropriate for analysis in next steps (Nunnally and Bernstein 1994).

If meet two conditions above, the analytical variables are accepted and are appropriate for the analysis in next steps (Nunnally and Bernstein 1994).

With new researches for respondents, the author accepts Cronbach's Alpha from 0.6 and above as part of the scale that meets requirements in analysis, according to Trong and Ngoc (2007).

No.	Variable	Corrected Item -Total Correlation	Cronbach's Alpha if Item Deleted	Cronbach's Alpha	Rejected Variable
Extraversion (HN)					
1	HN1	0,546	0,787	0,803	
2	HN2	0,618	0,754		
3	HN3	0,645	0,741		
4	HN4	0,665	0,730		
Agreeableness (DT)					
5	DT1	0,780	0,827	0,883	DT3= 0,247
6	DT2	0,737	0,864		
7	DT4	0,802	0,807		
Conscientiousness (TT)					
8	TT1	0,657	0,854	0,863	
9	TT2	0,767	0,808		
10	TT3	0,681	0,839		
11	TT4	0,767	0,804		
Neuroticism (TC)					
12	TC1	0,727	0,818	0,863	
13	TC2	0,701	0,829		
14	TC3	0,734	0,815		
15	TC4	0,681	0,837		
Openness (CM)					
16	CM1	0,674	0,860	0,874	
17	CM2	0,794	0,812		
18	CM3	0,652	0,868		
19	CM4	0,802	0,808		
Brand image (HA)					
20	HA1	0,686	0,804	0,846	

21	HA2	0,633	0,827		
22	HA3	0,702	0,797		
23	HA4	0,713	0,792		
Lifestyle (LS)					
24	LS2	0,690	0,806	0,849	LS1= 0,284 LS6= 0,293 LS7= 0,270
25	LS3	0,676	0,813		
26	LS4	0,695	0,805		
27	LS5	0,690	0,807		
Purchase decision (QD)					
28	QD1	0,652	0,844	0,860	
29	QD2	0,699	0,825		
30	QD3	0,729	0,812		
31	QD4	0,745	0,805		

Table 2:- Cronbach's Alpha
Nguồn: Synthesised and analysed by author

From the result of the analysis above, we can conclude that:

The Cronbach's Alpha of "Extraversion" scale is 0,803 (greater than 0,6) and the Corrected Item – Total Correlation values of 4 variables in this scale are all above 0,3. Therefore, Extraversion is found to be good reliability for further analyses.

The Cronbach's Alpha result of "Agreeableness" scale shows the Corrected Item-Total Correlation of DT3 is 0,247 (less than 0,3), which is smallest among all variables of this scale. Hence, DT3 is removed in this scale to ensure the strong relationship among the items and "Agreeableness" scale is modified for the second Cronbach's Alpha analysis. From the result of the second analysis, the Cronbach's Alpha result of "Agreeableness" scale is 0,883 (greater than 0,6) and the Corrected Item – Total Correlation values of the rest 3 variables in this scale are all greater than 0,3. Therefore, "Agreeableness" scale is enough reliable to be used in further analyses.

The Cronbach's Alpha result of "Neuroticism" scale is 0,863 (greater than 0,6) and the Corrected Item – Total Correlation values of 4 variables in this scale are all greater than 0,3 so "Neuroticism" scale is found to be good reliability for further analyses.

Similarly, the Cronbach's Alpha result of "Conscientiousness" scale is 0,863 (less than 0,6) and the Corrected Item – Total Correlation values of 4 variables in this scale are all greater than 0,3. As a result, this scale has good reliability to be used in further analyses.

The Cronbach's Alpha result of "Openness" is 0,874 (greater than 0,6) and the Corrected Item – Total Correlation values of 4 variables in this scale are all greater than 0,3. Hence, the reliability of "Openness" scale is good for further analyses.

The Cronbach's Alpha result of "Lifestyle" scale indicates that LS1, LS6, LS7 have the Cronbach's Alpha are 0,248; 0,293; 0,270 respectively (all less than 0,3). Therefore, these variables are removed in this scale and "Lifestyle" scale is modified and conducted for the second Cronbach's Alpha analysis. Then the result of the second analysis shows that the Cronbach's Alpha of "Lifestyle" scale is 0,849 (greater than 0,6) and the Corrected Item – Total Correlation values of the left 4 variables are all greater than 0,3 so "Lifestyle" scale has good reliability to be used in furthers analyses.

Lastly, Cronbach's Alpha result of "Purchase decision" scale is 0,860 (greater than 0,6) and the Corrected Item-Total Correlation values of 4 variables in this scale are all greater than 0,3. Hence, "Purchase decision" scale is enough reliable to be used for further analyses.

B. Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis is a statistical analysis method used to shorten a set of many observed interdependent variables into a smaller set of variables (factors) so that they are more meaningful but still contains most informative content of the initial variable set. The relationship of mutually related groups of variables is considered as a number of fundamental factors. Each observed variable will be calculated with a ratio which is called Factor Loading. It indicates that each measurement variable belongs to which factor. (Assoc. Prof. Dr. Nguyen Minh Tuan 2015).

ISSN No:-2456-2165

Factor	KMO	Sig.	Total Variance	Factor Loading
1. Independent variables				
	0,797	0,000	72,641	
Openness				0,720 – 0,867
Neuroticism				0,797 – 0,856
Conscientiousness				0,727 – 0,853
Brand image				0,783 – 0,821
Lifestyle				0,744 – 0,830
Extraversion				0,750 – 0,791
Agreeableness				0,850 – 0,871
2. Dependent variable				
	0,749	0,000	70,526	
Purchase decision				0,799 – 0,868

Table 3:- Exploratory Factor Analysis (EFA)
Sources: Synthesised and analysed by author

The result of Factor Analysis shows that there are 27 observed variables grouped into 7 factors. The independent and dependent variables all have Factor loading greater than 0.5 to ensure significance, so observed variables are important in factors, and no variables are excluded. Consequently, 7 factors are created, and these factors meet all requirements for the analysis of Multivariate Linear Regression.

Moreover, the result indicates that KMO measure (Kaiser-Meyer-Olkin) has value of 0,797 for independent variables and 0,749 for dependent variables, satisfying the conditions of $0.5 \leq KMO \leq 1$. Hence, we can conclude that the result of Factor Analysis is very compatible to the data.

Test results of Correlation Analysis in each factor group show that Bartlett's Test has Sig value. = 0.000 <0.05 so we can conclude that the observed variables are correlated with each other in each factor group.

The Eigenvalue coefficient of the independent variable is 1,487 and the dependent variable is 2,281 (representing the variation explained by each factor)> 1. As a result, 7 factors have the best summary of information.

Total Variance Explained has a cumulative variance of factors (from factor 1 to factor 7) of 72,641% and that of the dependent variable is 70,526, both greater than 50% therefore they meet the standard application. It is concluded that 72,641% of change of factors is explained by the observed variables in the model.

C. Linear Regression Analysis

The Linear Regression model is used to describe the relationship between dependent variables and independent variables, they are closely linked to each other and thereby predict the extent of the dependent variables. The Linear Regression model describes the linear correlation relationship between a dependent variable and some independent variables, performs regression tests to assess the appropriateness of the model, identify main factors that influence the ranking level of each factor. To analyse the relationship between two quantitative variables, we can use the regression model, in which a cause variable (independent variable) and a result variable (dependent variable) (Assoc. Prof. Dr. Nguyen Minh Tuan 2015).

Model	Unstandardized Coeficients		Hệ số chuẩn hóa	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Constant	0,150	0,289		0,517	0,606		
CM	0,174	0,051	0,159	3,445	0,001	0,715	1,399
TC	-0,100	0,040	-0,102	-2,466	0,014	0,880	1,137
TT	0,117	0,039	0,136	2,976	0,003	0,727	1,375
HA	0,304	0,038	0,349	8,105	0,000	0,817	1,223
LS	0,105	0,037	0,132	2,837	0,005	0,702	1,426
HN	0,083	0,037	0,093	2,254	0,025	0,891	1,123
DT	0,261	0,033	0,346	8,016	0,000	0,816	1,225
R	0,807						
R Square	0,651						
Adjusted R Square	0,640						
Durbin Wastso	2,008						
F (61,180)	Sig. = 0,000						

Table 4:- Regression result
Sources: Synthesised and analysed by author

According to Trong and Ngoc (2008), R shows the correlation between variables in the regression model, R^2 (R Square) shows the percentage of variation of dependent variable (Y), which is explained by independent variables (X) in the model.

Table 4 shows:

At the significance level of 5%, the adjusted R^2 = 0.640 indicates that the relevance of model is 64.0%. It means that independent variables explain for 64.0% of the variation of the dependent variable. Sig = 0.000 ≤ 0.05 means that there is a Linear Regression Model between the purchase decision and 7 independent variables in the model.

The Durbin-Watson test result of 2,008 indicates that there is a considerable difference which exist between independent and dependent variables or there is no autocorrelation.

The F value has Sig. value of 0,000 (less than 0,05). This indicates that the model as a whole is significant with these values and all factors are accepted in this model.

The VIF values (Variance Inflation Factor) of the variables are all insignificant, within 1,123 to 1,426 (all less than 2). This proves that the multi-collinearly in this Linear Regression Model have not existed and all data are mutually exclusive.

Sig. values of 7 independent variables are all less than 0,05 so these 7 independent variables are all accepted. Moreover, independent variables including HN, DT, TT, CM, HA, LS have Beta values > 0. This shows that these independent variables have a positive effect on the dependent variable. This means that any increases in any factors will raise the level of purchase decision. Besides, independent variable TC has Beta coefficient <0, which shows that this independent variable has the opposite effect on dependent variable. This means that any increases in the TC factor, the buying decision of consumers will decrease.

The relationship between the dependent variable and independent variables is showed in the Multiple Linear Regression as below:

Unstandardized Linear Regression equation:

QD = 0,174*CM – 0,100*TC + 0,117*TT + 0,304*HA + 0,105*LS+ 0,083*HN + 0,261*DT

Standardized Linear Regression equation:

QD = 0,159*CM – 0,102*TC + 0,136*TT + 0,349*HA + 0,132*LS+ 0,093*HN + 0,346*DT

With:
CM: "Openness" (Mean value of the variables of CM1, CM2, CM3, CM4)
TC: "Neuroticism" (Mean value of the variables of TC1, TC2, TC3, TC4)
TT: "Conscientiousness" (Mean value of the variables of TT1, TT2, TT3, TT4)

HA: "Brand image" (Mean value of the variables of HA1, HA2, HA3, HA4)
LS: "Lifestyle" (Mean value of the variables of LS2, LS3, LS4, LS5)
HN: "Extraversion" (Mean value of the variables HN1, HN2, HN3, HN4)
DT: "Agreeableness" (Mean value of the variables of DT1, DT2, DT4)
QD: "Purchase decision" (Mean value of the variables of QD1, QD2, QD3, QD4)

D. Discussion

Giả thuyết	Nội dung	Kết quả
H1a	The openness of individual personality has a positive effect on the buying decision of smartphone	Accepted
H1b	The consciousness of personal personality has a positive effect on the decision to buy a smartphone.	Accepted
H1c	The agreeableness of personal personality has a positive effect on the decision to buy a smartphone.	Accepted
H1d	The extraversion of individual personality has positive influence on the purchase decision of smartphone.	Accepted
H1e	The neuroticism of personal personality has negative effect on the decision to buy smartphone	Accepted
H2	The brand image has positive effect on the decision to buy smartphone.	Accepted
H3	Lifestyle has positive influence on the purchase decision of smartphone	Accepted

Table 5:- Research result according to the proposed model
Sources: Synthesised and analysed by author

From the analysis result, it shows that all 5 personalities have influence on the customers' decision to buy a smartphone for a mobile phone retail business. Particularly, Extraversion, Agreeableness, Conscientiousness and Openness have a positive influence on the purchase decision while Neuroticism has a negative impact on the purchase decision. Besides, Brand image and Lifestyle also have a positive impact on the decision to buy a smartphone.

The result also showed that the brand image has the most impact with the Beta coefficient of 0.349 while Agreeableness have the second impact with the Beta coefficient of 0.346, followed by Openness, Conscientiousness, Lifestyle, Neuroticism with Beta coefficient is 0.159; 0,136; 0,132; -0,102 respectively; and the least impact on purchase decision is Extraversion with Beta coefficient of 0.093.

V. IMPLICATION

In an increasingly developing economy in Vietnam, there is a highly competitive pressure for businesses, people's lives are improved, so customers' demand is higher, and customers are also getting more choices and consider more carefully when they decide to buy something. The product choice of customers to meet the needs of customers is a decision-making process as their demand appear. In this process, there are also direct and indirectly factors that affect the process of buying decision. Therefore, in order to be able to attract and improve consumers' choice of smartphones in Ho Chi Minh City, the results of research has shown that Brand image, Lifestyle and Personalities stated in this study such as Extraversion, Openness, Neuroticism, Conscientiousness and Agreeableness all have impact on the purchase decision of the consumer. The author would like to give some recommendations to those who are doing business on mobile phone in order to increase shopping demand and change consumers' perception in a positive way.

Brand image: This is the factor that has the strongest impact on the research model and increase customers' decision to buy smartphones. Therefore, administrators should devote efforts to enhance and maintain their brand image as well as those of products through advertising and marketing. Since then, they need pay attention to the strategies to increase the quality of customer perception and develop strategies to attract customers, for example: appropriate marketing strategies, researching and developing customer services, developing promotions, branding strategies, optimising marketing plan and knowing how much it will cost to impact on brand image elements. Then we have the best plans, to achieve the highest efficiency in terms of advertising smartphone brands and products of companies to achieve business results and also calculate the cost for finding customer

information to bring products to customers most fast and completely.

Agreeableness: The personality shows tendency to be comfortable with others, the people with high scores in this personality are usually generous, trusty, sympathetic, cooperative, warm, considerate and helpful. The results have shown that agreeableness has an impact on purchase decision, so administrators need to train salespeople with the appropriate skills to achieve target customers.

Openness: The personality shows the tendency to search, vivid imagination capacity easily to be inspired by new things, so they tend to be curious to learn, enjoy new things, new experiences and ideas. For this personality, they like to discover new things in open-minded people, that is why new product lines' appearance need to have promotion advertisement for consumers that help them to know the presence of products. Then it is easier to approach them, administrators need more offline sessions, exchanges, experience new products' features and news that are constantly updated through communication channels so customers can capture information, stimulate customers' curiosity to research.

Conscientiousness: The personality shows those who follow the rules, be careful and responsible. These individuals have plans for everything, organize and focus on their goals and achieve these goals most effectively. Salespeople need to understand the needs of customers, thereby giving suggestions to meet these demands, try their best to support customers, showing this personality to customers to receive their interest them making customers give buying decision faster.

Neuroticism: The personality shows the tendency to experience negative emotions. People with high scores are those who are sensitive, anxious, and sometimes have unreasonable thoughts. Administrators develop sales policies to reduce negative thoughts about the product prices and promotions such as offering 0% interest instalment plans so customers can choose their interesting products even since they can't afford, the product recall program when customers no longer need to use, warranty checking and renew if products have any errors in order to make customers feel more comfortable, avoid wasting customer time, increase the exchange duration if there is any errors caused by production in order to make customers feel more satisfaction.

Extraversion: The personality shows a tendency to seek stimulation and a variety of social relationships. People with high scores in this personality are often talkative, friendly, and active. Customers with extraversion personality are attracted to different types of advertising messages, hence, businesses offer ads that are more impressive to customers. For this personality, salespeople need to listen customers' share about their interests and needs, have open-ended questions to lead the story telling to capture exactly what customers need, then gives advices and supports to them as appropriate as business can do.

Lifestyle: A person's lifestyle is a way of living in his or her world expressed in his or her activities, interests and opinions. Lifestyle that perfectly shows a person description in relation to his environment. People from the same cultural branches, social class and same career may have completely different lifestyles. Businesses need to find relationships between their products and groups of customers in term of lifestyle, thereby designing sales programs, developing distribution and promotion programs that are appropriate to the lifestyle of the target market.

According to the analysis result of the research model, marketers and administrators should realize that personal character is one of the motivating factors for purchase decision of smartphone. Therefore, in order to have a good strategy in the market, the administrators must highly consider the personality demands of consumers. Marketers can test by categorizing smartphone product lines that target customers according to their individual personalities, which can be in unique product designs for different personality types, thereby giving marketing and promotion strategies to increase the stimulation for customers, motivating them make buying decisions quickly. Marketers can also try to develop a marketing campaign based on product image orientation to be compatible with personality. In a practical marketing strategy, marketers can convey that a smartphone product line may fit in several certain personalities.

Marketers should classify the market of businesses based on the different personalities of consumers. This will help businesses develop the product that can match personalities of customers. Consumers are looking for uniqueness on their smartphone products, so they need to be provided goods and services that reflect differenence or limited products in the market. Marketers can use celebrities to promote their products.

Businesses should invest more significantly in research and business development strategies to help them to find out what customers desire. This can help marketers make changes for their goods and services that are able to reach to customers easier. To ensure the success, it is important to develop a sales strategy to reach customers. Marketing administrators should evaluate product brands that gain interests from customers. Investing in high-quality advertising and retail services can help build long-term relationships with consumers. Especially advertising can help brand to increase awareness among consumers in the mobile phone retail market. Also, administrators should continuingly focus on different personalities and consumer perceptions. Marketing strategies should be different for different markets.

However, administrators also need to learn the psychology of customers and allocate attention appropriately. Besides that, it is important for companies not to rush to follow trends as well as the desire to meet the needs of customers immediately but lose their differences. Customer service improvement does not mean giving them

a lot of things, but administrators should consider about things that truly bring value to their customers.

Sales team need to have the necessary skills, also to be more open-hearted to their customers by sharing with them thoughts about plans and life etc. Hereby, companies are able to attract customers have interactions with salespeople and they may give their demands or feedbacks. It is necessary to bring opportunities for customers to experience new products, thereby stimulating personalities of each person, increasing purchase decisions.

Trying to maintain the joyousness for the business at an acceptable level. A simple way to improve customer service is to give them the most comfortable mind to interact with businesses, viewing customer services as an interaction, not just doing it as a one-way experience for customers.

VI. LIMITATION

The limitation of the sample is that customers who are using smartphones on social networks cannot be considered a representative of the whole country. This study has used a random sampling method, which may be different from the probability sampling method and may not be as representative of the overall population as the probability sampling method. This study focused primarily on customers who currently use smartphone. In future, studies should extend the scope to bigger sample size with a larger population and possibly expand to other bigger cities and provinces such as Hanoi, Danang, and Can Tho, in which the prevalence of Smartphones is growing fast. The study should expand the market research to gain insights into the larger smartphone market.

This study only considered some of the main factors in the buying decision process of customers: individual personality, brand image, lifestyle, purchase decisions. However, there are many other factors that are likely to appear in consumer behavior such as: circumstances, post-purchase behavior, promotions etc. Factors and hypotheses used in this study may not be detailed enough to explain all aspects of the determining factors that influence the purchase decision of smartphone. This is a direction for further researches.

Moreover, current research is limited by consumer points. Further researches may be conducted from manufacturers and distributors.

REFERENCES

[1]. Armstrong, S. J., et al. (2012). "Role of cognitive styles in business and management: Reviewing 40 years of research." **14**(3): 238-262.
[2]. Ayodele, A. A. and C. J. I. J. o. R. S. R. Ifeanyichukwu (2016). "Factors Influencing Smartphone Purchase Behavior Among Young Adults in Nigeria." **7**: 13248-13254.
[3]. Barrick, M. R., et al. (2013). "The theory of purposeful work behavior: The role of personality, higher-order goals, and job characteristics." **38**(1): 132-153.
[4]. Barrick, M. R. and M. K. J. P. p. Mount (1991). "The big five personality dimensions and job performance: a meta-analysis." **44**(1): 1-26.
[5]. Bosnjak, M., et al. (2007). "Personality determinants of online shopping: Explaining online purchase intentions using a hierarchical approach." **60**(6): 597-605.
[6]. Bozionelos, N. J. J. o. M. P. (2004). "The big five of personality and work involvement." **19**(1): 69-81.
[7]. Chan, D. J. J. o. A. P. (2006). "Interactive effects of situational judgment effectiveness and proactive personality on work perceptions and work outcomes." **91**(2): 475.
[8]. Chou, S. Y., et al. (2013). "The effect of online review configurations, prices, and personality on online purchase decisions: A study of online review profiles on ebay." **12**(2): 131-153.
[9]. Chuang, S.-C., et al. (2007). "The effect of induced positive and negative emotion and openness-to-feeling in student's consumer decision making." **22**(1): 65-78.
[10]. Coney, K. A., et al. (2001). Consumer behavior: Building marketing strategy, McGraw-Hill Book Company, New York.
[11]. Costa, P. T. and R. R. J. P. a. McCrae (1992). "Normal personality assessment in clinical practice: The NEO Personality Inventory." **4**(1): 5.
[12]. Dant, R. P., et al. (2013). "Influence of personality traits on perceived relationship quality within a franchisee-franchisor context." **47**(1/2): 279-302.
[13]. Djatmiko, T., et al. (2016). "Brand image and product price; Its impact for Samsung smartphone purchasing decision." **219**: 221-227.
[14]. Engel, J. F., et al. (2005). "Consumer Behavior, 10."
[15]. Eysenck, S. B., et al. (1993). "A cross-cultural study of personality: Canada and England." **14**(1): 1-9.
[16]. Farid, D. S., et al. (2018). "Effects of Personality on Impulsive Buying Behavior: Evidence from a Developing Country." **5**: 31-43.
[17]. Gosling, S. D., et al. (2003). "A very brief measure of the Big-Five personality domains." **37**(6): 504-528.
[18]. Hee, P. J. T. O. S. U., ProQuest, UMI Dissertations Publishing (2009). "The antecedents and consequences of brand image: Based on Keller's customer-based brand equity."
[19]. Hirsh, J. B. J. J. o. E. P. (2010). "Personality and environmental concern." **30**(2): 245-248.
[20]. Hogan, J., et al. (2007). "Personality measurement, faking, and employment selection." **92**(5): 1270.
[21]. Huỳnh, V. M. (2017). Nghiên cứu các yếu tố ảnh hưởng đến quyết định mua Smartphone của người tiêu dùng tại thành phố Buôn Ma Thuột, tỉnh Đắk Lắk.
[22]. John, O. P., et al. (2008). "Paradigm shift to the integrative big five trait taxonomy." **3**(2): 114-158.
[23]. John, O. P., et al. (1999). "The Big Five trait taxonomy: History, measurement, and theoretical perspectives." **2**(1999): 102-138.

[24]. Judge, T. A., et al. (2014). "What I experienced yesterday is who I am today: Relationship of work motivations and behaviors to within-individual variation in the five-factor model of personality." **99**(2): 199.
[25]. Kim, D., et al. (2000). "Effects of consumer lifestyles on purchasing behavior on the internet: a conceptual framework and empirical validation." 76.
[26]. Lay-Yee, K. L., et al. (2013). "Factors affecting smartphone purchase decision among Malaysian generation Y." **3**(12): 2426-2440.
[27]. LeCun, Y., et al. (1989). "Backpropagation applied to handwritten zip code recognition." **1**(4): 541-551.
[28]. Leong, L.-Y., et al. (2017). "Understanding impulse purchase in Facebook commerce: does big five matter?" **27**(4): 786-818.
[29]. Levy, D., et al. (2008). "Influences and emotions: exploring family decision-making processes when buying a house." **23**(2): 271-289.
[30]. Likert, R. J. A. o. p. (1932). "A technique for the measurement of attitudes."
[31]. Lim Leung, S. and N. J. E. R. Bozionelos (2004). "Five-factor model traits and the prototypical image of the effective leader in the Confucian culture." **26**(1): 62-71.
[32]. Lin, L.-Y. and H.-Y. J. I. j. o. R. i. M. Shih (2012). "The relationship of university student's lifestyle, money attitude, personal value and their purchase decision." **1**(2): 19-37.
[33]. Lounsbury, J. W., et al. (2012). "Key personality traits and career satisfaction of customer service workers." **22**(5): 517-536.
[34]. Malik, M. E., et al. (2013). "Impact of brand image and advertisement on consumer buying behavior." **23**(1): 117-122.
[35]. McCrae, R. R., et al. (2008). "Empirical and theoretical status of the five-factor model of personality traits." **1**: 273-294.
[36]. Millar, H. J. N. B. (1999). "Consumer expectations and openness." **17**.
[37]. Mondak, J. J. (2010). Personality and the foundations of political behavior, Cambridge University Press.
[38]. Mooradian, T. A. and K. S. J. J. o. B. R. Swan (2006). "Personality-and-culture: The case of national extraversion and word-of-mouth." **59**(6): 778-785.
[39]. Nguyễn, T. T. T. (2016). Nghiên cứu các yếu tố ảnh hưởng đến quyết định mua Smartphone của người tiêu dùng trên địa bàn thành phố Đồng Hới, tỉnh Quảng Bình.
[40]. Nunnally, J. C. and I. H. Bernstein (1994). Psychological theory, New York: McGraw-Hill.
[41]. Panda, A., et al. (2018). "Compulsive smartphone usage and users' ill-being among young Indians: Does personality matter?" **35**(5): 1355-1372.
[42]. Pullela, R., et al. (1998). 47 GHz static frequency divider in ultrafast transferred-substrate heterojunction bipolar transistor technology. 1998 Conference on InP and Related Materials, May, Tsukuba, Japan.
[43]. Quintelier, E. J. Y. C. (2014). "The influence of the Big 5 personality traits on young people's political consumer behavior." **15**(4): 342-352.
[44]. Rahim, A., et al. (2016). "Factors influencing purchasing intention of smartphone among university students." **37**: 245-253.
[45]. Robbins, M., et al. (2001). "The personality characteristics of Methodist ministers: feminine men and masculine women?" **40**(1): 123-128.
[46]. Robu, V. J. R. d. p. ș. ș. e. (2007). "Un posibil model de integrare a rezultatelor la inventarul NEO PI-R în cadrul demersului de evacuare specific selecției de personal." **1**(3).
[47]. Saleem, H., et al. (2011). "Antecedents of computer self-efficacy: A study of the role of personality traits and gender." **27**(5): 1922-1936.
[48]. Sallam, M. A. J. I. b. r. (2014). "The effects of brand image and brand identification on brand love and purchase decision making: the role of WOM." **7**(10): 187.
[49]. Sanders, B. A. J. P. A. I. J. o. P. S. and Management (2008). "Using personality traits to predict police officer performance." **31**(1): 129-147.
[50]. Schiffman, L. and L. L. J. J. P. I. Kanuk (2008). "Consumer behaviour 7th edition (Perilaku Konsumen)."
[51]. Schiffman, L. G. and L. Leslie (2010). Consumer Behavior (edisi ke-10), Pearson Education Inc: United States of America.
[52]. Shahjehan, A., et al. (2012). "The effect of personality on impulsive and compulsive buying behaviors." **6**(6): 2187-2194.
[53]. Silaban, D. P., et al. (2014). "Analyzing the personal factors influencing purchase decision of Samsung smartphone in MANADO." **2**(1).
[54]. Tan, T. M., et al. (2012). "Consumer-based brand equity in the service shop." **4**(4): 60.
[55]. Tang, C. M. F. and D. J. I. J. o. C. H. M. Lam (2017). "The role of extraversion and agreeableness traits on Gen Y's attitudes and willingness to pay for green hotels." **29**(1): 607-623.
[56]. Tommasel, A., et al. (2015). "Exploring the role of personality traits in followee recommendation." **39**(6): 812-830.
[57]. Trọng, H. and C. N. M. J. N. x. b. T. k. Ngọc (2007). "Thống kê ứng dụng kinh tế xã hội."
[58]. Tsao, W.-C. and H.-R. J. A. J. o. B. M. Chang (2010). "Exploring the impact of personality traits on online shopping behavior." **4**(9): 1800-1812.
[59]. Vatjanasaregagul, L., et al. (2007). "The impact of service quality and consumer decision factors on brand equity." **6**(3).
[60]. Watson, D., et al. (1991). "Self-versus peer ratings of specific emotional traits: Evidence of convergent and discriminant validity." **60**(6): 927.