

## **THE INTENTION AND ADOPTION AFFECTING DECISION FOR USING ANDROID AND IOS OPERATING SYSTEM ON SMARTPHONE IN THAILAND**

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### **Abstract**

As a trend using smartphone is still ongoing popularity. People trend to adopt and work through on smartphone instead of computer. This study attempts to provide significant insight into consumer intention to use Android and iOS operating system on smartphone, it is important to understand the factors that influence and effect to the adoption of the operating system among smartphone's users. Although, previous research are extensive studies on demand of smartphone, but only a few have explored in operating system.

A total of 400 respondents answered the questionnaires in particular smartphone users who using Android and iOS operating system. Data analysis was using descriptive statistic, the level of agreement, t-test, anova, and regression analysis.

This research found that perceived ease of use is an important factor that effect on the intention to use operating system among smartphone users in Thailand. Almost users prefer to switch operating system if they perceived that another operating system is easier to use and simple to learn.

The result of this research indicated that the operating system service providers should pay more attention to improve and develop their operating system to be easy to use and user friendly. This information will be useful in both operating system and smartphone developer and marketer to consider on the significant factors affecting intention to use Android and iOS operating system on smartphone to match the need of consumer in present.

## Introduction

With the rapidly growing trend in IT market. There are a lot of IT devices were increasing steadily selling in the market. For this reason, competitive in IT market devices were continuously rising up, especially in personal mobile device, such as mobile phone and smartphone. Mobile phone is one of the most widely adopted technology devices, and has become important tool in your life. More and more consumers are adopting it as their primary communication device )Nanda, 2008(. Nowadays, the mobile phone as you know is greater than in the past. There are not only using for making call, writing short text messaging services )SMS(, however there are more functions and features that provide entertainment and information. It is address as 'smartphone' )Osman, 2012(. Technology on smartphone is a combination of computing ability and mobile phone with connectivity of the internet that use advanced operating system and allow users to install applications and offer to be constantly connected to the internet. It became a major device and a part of people's living life )Suki, 2013(. Smartphone is the key gadgets for accessing the mobile internet )Chow et al., 2012(. It is a portable device that most people have it and carry it all the time. There are including a bigger display screen than mobile phone with a high-resolution touch screen and high performance. Currently, smartphone and apps growth have dramatically increased from previous years, due to people exchanged their feature phones to be more advanced devices.

As a trend using smartphone is still ongoing popularity. People trend to adopt and work through on smartphone

instead of computer. It was indicated that users have no longer using smartphone just only as a device for making call and texting message, but they used as multi-function devices for working, gaming, socializing, and downloading application which result in a change in usage smartphone of user behavior )Shin, 2012(. While the number of smartphone usage has continuously increasing, most users bought smartphone that run on Android OS and iOS operating system. Therefore, the main objective of this study is to identify what are the key factors affecting the intention to use Android OS and iOS operating system to lead the smartphone industry to understand what the users needed, and in order to provide the advantage and disadvantage information for smartphone industries about how to develop their products and market strategies. And also determine the direction of smartphone market in the future. The marketers will have more understanding the important factors that had affected with consumer selected using Android OS and iOS operating system on smartphone. In term of consumer, this research will help them easier to making decision to select his/her smartphone in the next time. As well as, rivals will gain information to improve their products.

## Literature review

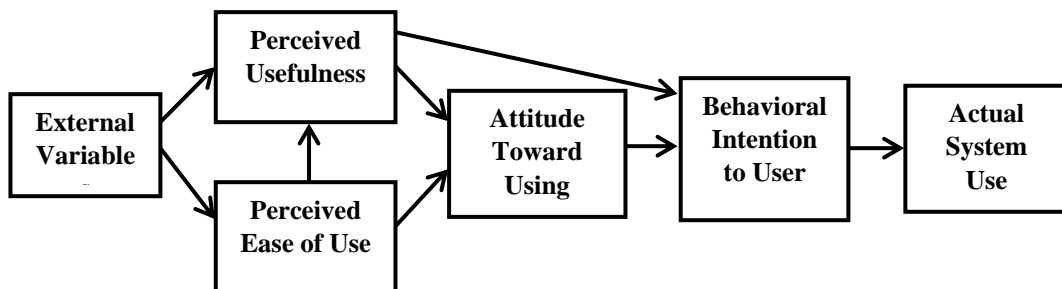
The prior research on demand for smartphones among students found that "brand name and social influence have affected to influence for increasing the demand of smartphones by aspects from friends and family members" )Suki, 2013(. Perceived of usefulness )PU( and perceived ease of use )PEOU( were investigated that effect on human

motivations affecting an adoption decision for smartphones among medical doctors and nurses )Park and Chen, 2007(.

According to several researches from Lu et al. )2003(, Park and Chen )2007(, Gao et al. )2010(, TAM )Technology acceptance model( was taken to study on the acceptance of information system to find out the factors or determinants of technology acceptance. TAM proposed by Davis )1989( that developed from TRA )Theory of Reasoned Action(, this theory was described that Social Behavior was not taken by unconscious motive )Fishvein and Ajzen, 1985(, but actions behavior was determined by behavioral intention. If intention can be predicted, the prediction of the behavior intention will be more accurate. The intention to use is mainly determined by attitude and subjective norm. Attitude is a personal factor, and subjective norm is a social factor )Hsiao, 2013( or "the person's perception that most people who are important to him or her think he should or should not perform the behavior in question" )Fishbein & Ajzen, 1975(. Lu et al. )2003( said that subjective norm is equal social influence that it was significant to participate in activities. Social Influence is

interpersonal influence by friends, family, and colleagues )Christensen and Schiaffino, 2011(. There are many researchers compared the TAM with another theory. For instance, Davis )1989( was compared between TAM and TRA. And Taylor and Todd )1995( were compared between TAM and TPB )A theory of Planned Behavior(. They found that TAM was easier and have more potential to find out the factors or determinants of technology acceptance.

A technology acceptance model or TAM is a theory that was established and has a reputation as a measure of the success of the technology proposed by )Davis, 1989(. The objective of TAM is to describe and predict the acceptance of information system by assumption the factors or determinants of intention to adoption technology. There have two main elements those are perceived ease of use )PEOU( and perceived usefulness )PU(. PU is described as "the degree to which a person believes that using a particular system would enhance his or her job performance". PEOU is "the degree to which a person believes that using a particular system would be free from effort" )Davis, 1989(. The model of technology acceptance was shown in Figure 1 below.



**Figure 1** Technology acceptance model (TAM)

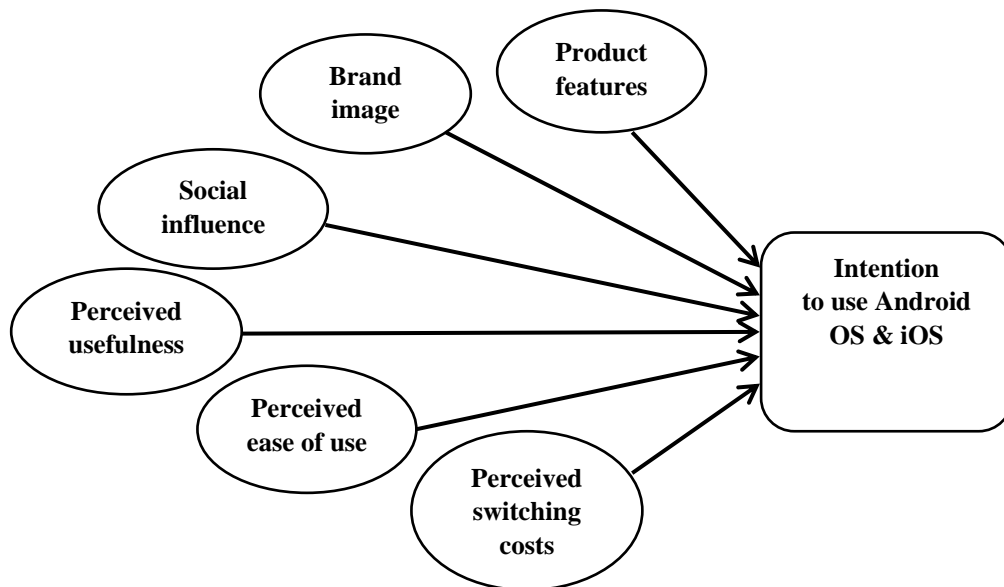
TAM has been applied as well to more general context relate to consumers' adoption and usage of technology. It explained factors to consumer choice of new media. For example individuals' Internet usage (Gao et al., 2010). Therefore, this research will be conduct by adoption TAM model to study the affect consumer intention to using Android and iOS operating system on smartphone including PU and PEOU based on the technology under study. The factors of demand affecting will be affected by different factors and different situation (Bettman et al., 2000).

While Park and Chen (2007) have found that behavioral intention to use smartphone has affected influenced by perceived usefulness (PU) and attitude toward using smartphone, PU and perceived ease of use (PEOU) positively

determine attitude toward using smartphone. And PU and PEOU were also taken to examine in the influence consumers' behavioral intention to use (IU) mobile entertainment, and there were revealed that PU and PEOU were significant and associated with consumer intention to use of mobile entertainment (Leong et al., 2013).

In addition, Perceived value has been considered an important factors that determinant the consumer's intention to purchase, and estimate of the utility of a product or service. Hsiao (2010) had explored that perceived value significantly influenced the intention to pay for social networking sites while satisfaction did not. Therefore, in analyzing the determinants which affect consumer intention to use Android and iOS have to study more related theories.

## Conceptual framework



**Figure 2** A conceptual model of the intentions to use Android & iOS operating system on smartphone

## Product features

A product can be defined as “anything that satisfies a want or need through use, consumption, or acquisition. And features are the tangible or intangible attributes given the product by its designers” )Mullins, 2010(. The features are required to compare the advantage of product provided with competitors )Lysons, 1996(. The another have given meaning to that “A feature is an attribute of a product that to meet with the satisfaction level of consumers’ needs and wants through the owning of the product, usage, and utilization for a product” )Chow et al., 2012; Kotler and Armstrong, 2007(. Therefore, the significance is how the consumer perceives the wanted benefits into a product with features and perceives the product as satisfying a need )Mullins, Walker JR, 2010(. And the different feature has also affected a various level of customer satisfaction towards demand for smartphone )Chow et al., 2012(. According to previous research, the results indicated that the influence of the factors on the demand for smartphone were different.

The product feature is one characteristics that the consumer are looking for the product such as, appearance, ease of operation and exclusiveness, etc. )Lysons, 1996(. Nowadays, smartphones have a new product feature including touch screen, casing slimmer, and displays are become larger with high-resolution )Hamka et al., 2013; Suki, 2013; Persaud and Azhar, 2012(. According to previous research indicate that the most common product feature of smartphones was affected consumer to influence demand for using a new smartphones is a “product design” )Osman et al, 2012(. And also became to be determinant the product choice of demand when

consumer looking for a new smartphones )Mack and Sharples, 2009(. In addition, the most smartphones was chosen by consumer perception based on the attractive design rather than product quality such as Apple iPhone )Suki, 2013(.

H1. Product features has significantly influence consumer intention to using Android and iOS operating system on smartphone

## Brand image

Brand is a one of the most valuable intangible assets of a firm. The American Marketing Association defines a brand as “a name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors.” )Kotler, Keller, 2012(. Brand is an indicator of the product to the market )Suki, 2013(. Brands may develop sustainable competitive advantage for firms. Different brands have affected toward perceived benefits of consumers particular goods and services )John and Orville, 2010(. If the customers was impressed the brand, the firm will have more competitive advantage in the competition. In addition, brand also may influence the evaluation of consumption of the relationship of features / class rules to include the recognition of the risks and costs to create a set of considerations and decision rules used to create choice in the market.

The other researchers have distinguished that brand name as a significant tool to enhance a product’s value )Dodds et al., 1991(. The main objective of a brand name is to provide information for consumers to perceive quality of a

product. The value of a brand name adds into the product its call “brand equity” )Chow et al., 2012(. In marketing research, brand equity has linked brand value to the price premiums that consumers are willing to pay for accepted brands )Erdem et al., 2002(. Brand equity consists of two distinct components: functional and symbolic. The first, functional was related to the brand product’s performance and involved with functional features about how the product or service meet consumers’ functional need )Kotler and Keller, 2012(. The second is symbolic, it is intangible. It depend on consumer aspect of the brand, such as image association, which link only indirectly to the actual characteristic of the product )Erdem et al., 2002(. Therefore, we combine of two tend of literature to estimate consumer reservation prices that disclose the value of brand name in designed choice testing. It was indicated that brand reservation price can be classified into three components: )1( intangible brand effects, )2( utility due to objective attributes and )3( utility due to perception of brand position )Swani and Yoo, 2010(. Therefore, the price premium for strong brand has been affected with brand on consumer choice.

H2. Brand image has significantly influence consumer intention to using Android and iOS operating system on smartphone

## Social influence

Social influence means the actions, reactions, and thoughts of an individual are influenced by other people or groups such as, friends, family, colleagues (Nelson and McLeod, 2005). Social influence can be interpreted that some

person make another person to change his/her feelings, attitude, individual’s thoughts, behaviors, and intention that results from interaction with another individual or a group (Rashotte, 2007).

Social influence can be identified three broad varieties. (1) Compliance is when people thought to agree with others, but still have own private opinion. (2) Identification is when people are influenced by someone that you’re respected, such as parent or famous people. (3) Internalization is when people accept a belief or behavior, agree both publicly and privately (Kelman, 1961). According to Rashotte (2007), “Social influence is distinct from conformity, power, and authority. Conformity occurs when an individual expresses a particular opinion or behavior in order to fit in to a given situation or to meet the expectations of a given other, though he does not necessarily hold that opinion or believe that the behavior is appropriate. Power is the ability to force or coerce someone to behave in a particular way by controlling her outcomes. Authority is power that is believed to be legitimate (rather than coercive) by those who are subjected to it”.

Another research found that the social influence was important when the consumers are making decision to buying something (Mourali et al., 2007). Hearing from other, its seem to be easier way to make a decision to purchase the product (Kelman, 1961). In a survey of teenager, both male and female reported that they observe from opinion and advice by their friends based on fashion-related item and tend to buy the same clothes that their friends bought (Nelson and McLeod, 2005).

H3. Social Influence has significantly influence consumer intention to using



Android and iOS operating system on smartphone.

## Perceived usefulness

Perceived Usefulness is defined as the extent to which a person believes that using a particular technology will improve her/his job performance (Davis, 1989). perceived usefulness, which reflects perceptions of the performance-use contingency, has been closely linked to outcome expectations, instrumentality, and external motivation (Davis 1989; Davis et al., 1989). A significant of TAM research has indicated that perceived usefulness is a strong determinant of user acceptance, adoption, and usage behavior (e.g., Davis 1989; Davis et al. 1989; Mathieson 1991; Taylor and Todd 1995a, 1995b; Venkatesh and Davis Forthcoming, 1961). Therefore, perceived usefulness has been defined as a way to make consumers believed in mobile services and useful in daily activities. The figure 2.1 indicated factors obtained from TAM. It explained as when perceived usefulness has increased. The consumer will have attitude toward using a smartphone. This is influenced their intention to use. For example, user intention to play games was affected by user perceived playfulness. A study of physicians' adoption of a mobile system in Finland found that perceived usefulness (PU) was an important role in physicians' intention to use the mobile system (Han et all, 2006; Harkke, 2006). Under a wireless internet communication has affected the consumer acceptance via mobile technologies. User intention is to perform general task by perceived usefulness (Park and Chen, 2007).

H4. Perceived Usefulness has significantly influence consumer intention to using Android and iOS operating system on smartphone.

## Perceived ease of use

Perceived Ease of Use is defined as the degree to which a person believes that using the system will be free from effort (Davis, 1989). Perceived ease of use has been indicated to have an effect on intention via two causal: (1) a direct effect on intention and (2) an indirect effect on intention via perceived usefulness. The direct effect recommends that perceived ease of use could be a possible catalyst to increasing the likelihood of user acceptance. The indirect effect is described as stemming from a situation where, other things being equal, the easier a technology is to use, the more useful it can be (Davis et al.,1989). Therefore, we must interpret differences in both the direct and indirect effects of perceived ease of use on intention. Perceived ease of use can be defined as the issue of navigational easiness on the smartphone services and provide of personalized elements. User also intend to use smartphone in general tasks is influenced by perceived ease of use (PEOU). Perceived ease of use would have an ability impact on attitude toward smartphone. Perceived ease of use is the users' acknowledge that it's easy to deployment. No need a lot of knowledge and ability to use (Park and Chen, 2007).

H5. Perceived ease of use has significantly influence consumer intention to using Android and iOS operating system on smartphone.

## Perceived switching costs

Switching costs are defined as the costs associated with changing from one service provider to another in conceptualized both monetary costs (Ruyter et al., 1998) and non-monetary costs (e.g. time and psychological effort expended) (Dick and Basu, 1994). Furthermore switching costs must be involved in the switching process. Consumer perceive significant barrier with changing from “search costs, transaction costs, learning costs, loyal customer discounts, customer habit, emotional cost and cognitive effort, coupled with financial, social, and psychological risk on the part of the buyer” (Fornell, 1992).

Switching cost also refers to the rising cost that “one-time costs facing the buyer switching from one supplier’s product to another” (Porter, 1980). The costs of switching providers tend to be higher for services. From the customer perceptions have perceived switching cost of the time, money, and effort with changing from one alternative to another. Consumer often feel tentative to switch suppliers after they perceived switching costs composed of search costs, transaction costs, learning costs, loyal customer discounts, customer habits, emotional costs and cognitive effort (Yen et al., 2011). As the customer perceived switching costs of an activity increased, such as the relearning business procedures and developing new personal relationships, it will reduce buyers’ motivation to search for new supplier (Burnham et al., 2003).

Switching cost is also as mediator in linking between satisfaction and loyalty.

It is a one of the strategically advocated for encouraging on customer loyalty through by the supplier will make customer to perceive offers superior value or a more positive brand than its competitors, and make users to remain loyal in their product and services (Wang and Wu, 2012). Switching costs are barriers that make ease or difficult to change the services provider. Therefore, perceived switching costs have positive effect on intention to use android and iOS operating system. H6 is the study proposed the hypothesis as follows:

H6. Perceived switching costs has significantly influence consumer intention to using Android and iOS operating system on smartphone

## Research methodology

### Survey instrument

The instrument in this study consisted of two parts of a questionnaire )see Appendix(. The first part contained the characteristics and demographic data of respondents pertaining to their gender, age, status, occupation, income, the use of a smartphone, and perception on Android and iOS operating system.

The second part contained items used to measure the independent variables. There were adapted from previous literature and measured on a 5-point Likert scale from strongly disagree to strongly agree. Product features was measured by seven items adapted from Suki )2013( and Hsiao )2013(, Brand image was measured by four items adapted from Suki )2013(, Hsiao )2013(, and Salinas and Perez )2009(, Social influence was measured by four items adapted from Suki )2013(, Perceived



usefulness was measured by six items adapted from Park and Chen )2007(, Perceived ease of use was measured by six items adapted from Park and Chen )2007(, Perceived switching cost was measured by three items adapted from Wang and Wu )2011(, and the intention to use was measured by five items adapted from Suki )2013(, Park and Chen )2007(, and Hsiao )2013(.

## Data Collection

The main data techniques used in this research study will survey a sample of 400 smartphone users by contribution the paper questionnaires and online questionnaires via Face-to-Face, Online and Social Network. Before contribute the questionnaire need to screen the respondents that's important. The researchers usually inquired respondents first to ensure that they use or using Android's smartphone and iOS's smartphone by asking them. The Cronbach's alpha for reliability analysis is 0.78.

This study investigated the factors that effect on the intention to use Android and iOS operating system from the total 400 questionnaire surveys separated by the Android users of 175 people and iOS users of 225 people. For the demographic population was shown the result of gender that female are higher than male from the respondents by their status are almost a singer. The summary of age categories has found that the majority was in 26-35 years old range, which more than an a half were the

private officer by having the average of income in 15,000-20,000 baht range. In addition, the research found that the result from the sample of brand has the majority in Apple brand, follow by the Samsung brand while has the minority in other brands. In the total, the majority respondents have the average smartphone usage time around 6-10 minutes per time and the most popular function is chatting. It has got the highest rating among the other functions while the sms/mms function has got the lowest rating in use. Beside that the result from all questionnaire has found that the almost a half of respondents have had an experiences of using both operating systems. The evaluation of Android OS satisfaction has shown the rating in "satisfy" level and iOS as well. Regarding from the majority of Android respondents who have experience on iOS have given the reason that if iOS has more application than Android OS, their will switch back to iOS while the iOS respondents also have given the reason that if Android OS has the ease of use system than iOS, their will switch back to Android OS.

## Analysis and results

### Summary results

Prior to assessing model fit and testing the hypotheses, the validity of the characteristics and demographic data, the use of a smartphone, and perception on Android and iOS operating system contained in the following.

**Table 1**

<b>Characteristics (N = 400)</b>		<b>Android OS</b>	<b>iOS</b>	<b>Total</b>
		Percent	Percent	Percent
<b>Gender</b>	Male	38.9	30.2	34
	Female	61.1	69.8	66
<b>Age</b>	22-25 years old	32.6	38.7	36
	26-35 years old	37.1	44.4	41.3
	36-45 years old	14.9	12.0	13.3
	46-55 years old	10.9	4.9	7.5
	Over 55 years old	4.6	0.0	2.0
<b>Status</b>	Single	67.4	80.4	74.8
	Married	30.9	18.7	24
	Divorce	1.7	0.9	1.3
<b>Occupation</b>	Government officer/ State enterprises officer	28.0	18.7	22.8
	Private officer	54.3	61.8	58.5
	Entrepreneur/ Business owner	6.9	14.7	11.3
	Hirer	10.3	4.0	6.8
	Housekeeper	0.6	0.9	0.8
<b>Income</b>	Lower 15,000 baht	18.3	12.4	15.0
	15,000-20,000 baht	23.4	28.9	26.5
	20,001-30,000 baht	20.0	24.0	22.3
	30,001-40,000 baht	16.6	10.7	13.3
	40,001-50,000 baht	5.1	8.0	6.8
	Over 50,000 baht	16.6	16.0	16.3
<b>OS</b>	Respondents	43.8	56.3	100
<b>Brand</b>	Apple (iPhone)	0	56.3	56.3
	Samsung	69.1	0.0	30.3
	LG	6.3	0.0	2.8
	Lenovo	4.0	0.0	1.8
	Other	20.6	0.0	9.0
<b>Avg. usage/time</b>	less than 1 minutes	1.7	0.0	0.8
	1-5 minutes	18.3	16.0	17.0
	6-10 minutes	21.1	20.9	21.0
	11-15 minutes	14.9	17.8	16.5
	16-30 minutes	18.9	18.2	18.5
	31-60 minutes	7.4	14.2	11.3
	Over 1 hour	17.7	12.9	15.0
<b>Experienced on both OS</b>	Used to	40.6	44.9	43.0
	Never	59.4	55.1	57.0
<b>Rating</b>	Not very satisfy	2.9	1.7	
<b>Satisfy from both respondents</b>	Not satisfy	4.7	4.1	
	Medium satisfy	37.2	18.6	
	Satisfy	37.2	39.0	
	Very satisfy	18.0	36.6	
<b>Total</b>		100.0	100.0	

## The levels of agreement

The levels of agreement of all variables from Android OS and iOS operating system respondents are almost described

as agree except the switching cost and social influence. The following data analysis results are presented in terms of mean and standard deviation from the respondents on table 2.

**Table 2**

Item	Mean	Std. Deviation	Level of Agreement
Product Features	3.79	0.7134	Agree
Brand Image	3.95	0.7284	Agree
Switching Costs	3.22	0.9290	Neutral
Social Influence	3.06	1.0158	Neutral
Perceived Usefulness	3.56	0.9324	Agree
Perceived of use	3.81	0.8790	Agree
Intention to use	3.68	0.8914	Agree

## Hypothesis testing

The analysis outcome of t-test found that the gender hypothesis is dependent on intention to use on both operating systems respondents. It means that a difference genders have an effect on the intention to use Android OS and iOS. Meanwhile, the hypothesis of who are experienced in both operating systems is independent on intention to use. It means that the respondents who are experienced in difference operating system have no effect on the intention to use Android OS and iOS.

The analysis result of Anova among the demographic factors has found that all demographic factors are independent on the intention to use which included age,

occupation, and income. It means that a difference of age, occupation, and income have no effect on the intention to use Android and iOS operating system. In addition, the result of brand found that a different brand have an effect on the intention to use which are between Samsung's brand and Apple's brand. The result of the average usage per time found that a different average usage per time has no effect on the intention to use Android OS and iOS. Regarding to the respondents who are experienced on both operating system, a different response from switching to another OS variable and not switching to another OS variable have not effect on the intention to use Android OS and iOS.

**Table 3**

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	-.502	.139		-3.600	.000
Product features	.284	.064	.227	4.465	.000
Perceived ease of use	.281	.043	.277	6.535	.000
Perceived usefulness	.166	.037	.173	4.493	.000
Social influence	.110	.027	.125	4.069	.000
Brand image	.227	.062	.185	3.640	.000
Perceived switching cost	.067	.029	.070	2.267	.024

$R = 0.850$   $R^2 = 0.723$  *Adjusted R Square* = 0.719  $F = 171.088$  *Sig.* = 0.000

Hypothesis testing is based on regression analysis using SPSS. H1-H6 test the intention to use Android OS and iOS operating system on smartphone. Table 3 provides the results of hypothesis testing with  $R^2$ , standard coefficient, and significance. Regarding to the result, this study confirms that all factors hypotheses was supported on attitude toward the intention to use Android and iOS operating system on smartphone. Perceived ease of use and Product feature had significant effects on intention to use (Standardized Coefficients = 0.277 and 0.227; below the level of significant or the alpha level ( $\alpha = 0.05$ )).

## Conclusion, discussion and implication for business

Empirical analysis across a sample of 400 respondents via regression analysis was executed in examining the effect of product features, brand image, perceived

switching cost, social influence, perceived usefulness, and perceived ease of use on the intention to use Android OS and iOS operating system on smartphone among Thai users. Results disclosed that product features affected the positive intention to use Android OS and iOS operating system on smartphone among Thai people, thus supporting H1. The first is confirmed as the most determinant factor, followed by the perceived ease of use, perceived usefulness, social influence, brand image, and perceived switching cost.

As expected, product features was found to have a significant effect on the intention to use Android OS and iOS operating system on smartphone among Thai people. This portends that smartphone users who are particular about product features are more likely to have positive intention toward using Android OS and iOS operating system. The finding result is consistent with preceding discovery by Chow et al., 2012 and Kotler and Armstrong, 2007 opinioned that “A feature is an attribute of a product that to meet with the satisfaction level of consumers’ needs

and wants". Most of the users are likely to select operating system of smartphone that are multi-functions and useful. Besides that, they will only choose their favorite operating system of smartphone. For example, Android and iOS are the most preferred operating system of smartphone.

According to this study, the smartphone users in Thailand have chosen the operating system by his/her perspective. Further investigation of the study uncovered that the increasing intention to use Android OS and iOS operating system among Thai people is also affected by perceived ease of use, perceived usefulness, social influence, brand image, and perceived switching cost respectively.

**Perceived ease of use** – The researcher found that respondents have a willing to use an easy operating system by the questionnaire result so the perceived ease of use is one of the factor have affected consumer and this is a common opinion. Perceived ease of use is the users' acknowledge that it's easy to deployment. No need a lot of knowledge and ability to use (Park and Chen, 2007). Perceived ease of use would have an ability impact on attitude toward smartphone.

**Perceived usefulness** - Perceived Usefulness is defined as the extent to which a person believes that using a particular technology will improve her/his job performance (Davis, 1989). A significant of TAM research has indicated that perceived usefulness is a strong determinant of user acceptance, adoption, and usage behavior (e.g., Davis 1989; Davis et al. 1989; Mathieson 1991; Taylor and Todd 1995a, 1995b; Venkatesh and Davis forthcoming). All these factors indicating respondents will insist to using the OS

which they think is useful in their job and also improve their job performance that is fit for our result from research.

**Social influence** – Researcher found that social influence also is a main factor for consumer select operating system, consumer is affecting by their friends and family. Another research found that the social influence was important when the consumers are making decision to buying something (Mourali et al., 2007). Hearing from other, its seem to be easier way to make a decision to purchase the product (Kelman, 1961). In a survey of teenager, both male and female reported that they observe from opinion and advice by their friends based on fashion-related item and tend to buy the same clothes that their friends bought (Nelson and McLeod, 2005).

**Brand image** – In particular, on price premium research indicated that brand name has influenced with high price, but It is not effect with consumers, consumer are willing to pay for high price to get the high quality brands or positive brands (Erdem et al., 2002) that is mean the brand image is more important than other aspects and researcher have got the same conclusion from questionnaires which is consumers prefer the recognize brand even the operating system.

**Perceived switching cost** - That is making it difficult to switch to another service, such as mobile phone number may have to be kept in touch with the business or switching your smartphone is required to re-learning in each function and feature. Switching costs should consider both past investments lost and the potential adjustment costs in establishing a new relationship (Burnham et al., 2003). Therefore, respondents feel inconvenience to switch to another operating system.

They will keep to using the original system as our researched.

According to the result of hypotheses testing, perceived ease of use is the most effect on the intention to use operating system on smartphone. Smartphone users prefer to switch operating system if they perceived that another operating system is easier than their used. This research has provided information for service provider and developer/programmer that they should pay more attention to improve and develop their operating system to be easy to use and user friendly. This is according from the standardized coefficients value in regression analysis. And the result of analysis of the level agreement from questionnaire insists that most respondents have interested in from two questions as follows: "Android OS/iOS is quickly to start learning on usability" and "I found that Android OS/iOS is easy to use". How to make the operating system being more well-known in the smartphone users, especially the users who have a little knowledge in operating system. Therefore, company should increase the channels introduce a new technology and create opportunity that consumer can try and learn more about operating system.

In addition, product feature also has effect on the intention to use operating system on smartphone. The most respondents have more concern two points in questionnaire as follows: "I like the functions on Android OS/iOS" and "The features and applications on Android OS/iOS are useful". Company should pay more attention to improve functions, features, and applications to be suitable for consumer and more attractive. Beside that conclusion from questionnaire release the intention to use operating system also depend on the

brand image. The most respondents have a same opinion about Android and iOS operating system are reliable and internationally recognized. This is according from the level of agreement analysis. So, company should keep a good performance and continue to expand the brand influence.

Moreover, this research discovered that gender have effect on the intention to use operating system by males are more intention than females. Therefore, males are a big target of operating system market. The company or operating system service providers should to be focus on the male. And differences of age, occupation, and salary income have no effect on the intention to select operating system. Further information from this study found that 172 respondents who have experienced in using both operating system by having 71 of Android users and 101 of iOS users. A statistically discovered that 39 of Android users would like to return to iOS operating system by giving the reason that "iOS has more application supported", meanwhile 32 of Android users left still would like to keep continue using Android OS by giving the reason that "iOS or iPhone have a high price." On the other hand, 92 of iOS users would like to return to Android operating system by giving the reason that "Android operating system is easy to use.", at the same time 9 of iOS users left still would like to keep continue using iOS by giving the reason that "Android OS is difficult to use and have a slow response system. Therefore, researcher has opinion that this information will be useful on both service providers of operating system to improve their operating system to meet the needs of smartphone users.



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