

Antecedent Stirring Purchase Intention of Smartphone among Adolescents in Perlis

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Abstract

In recent years, mobile phone has evolved from essentially an interpersonal communication device to a multimedia machine known as "smartphone". The usage rate of smartphone in Malaysia is still slow comparing to her neighbour, Singapore. Among all states in Malaysia, Perlis was reported to be the lowest smartphone users. This study attempts to investigate the antecedents that shaped the purchase intention of smartphone among adolescents in Perlis. A total of 379 close-ended questionnaires were distributed among young adults aged 19-26 who lives in Perlis. The questionnaires contained measures of relative advantages, price, social influence, compatibility as well as demographic information. The data were analyzed using correlation and multiple regressions. The study suggests that it is vital for the organization to understand their target market's preferences before embarking on their marketing activities.

Keywords: Purchase intention, Smartphone, Adolescents/Young adult

1.0 Introduction

The term smartphone refers to a programmable mobile phone that offers advanced capabilities and features that help individuals in their daily work and personal life (Euromonitor, 2010). It contains functions such as instant messaging; downloading applications, utilizing information services such as WiFi and global positioning system (GPS) and entertainment (Euromonitor, 2010).

Smartphones have seen an increase in terms of demand due to the popularity and functions offered in the phone. In meeting these demands, several companies such as Apple, Microsoft, Nokia and Google have developed various smartphone operating systems (OS) such as Symbian OS, iPhone OS, Windows Mobile and Android, respectively for the convenience of their users by providing different supports, features and applications (Sharma, 2008).

Adolescents or Young adult generally refer to person within the age range of 19-26 years old (J.Q Chew et al 2012). According to statistic by (Anson 2012), most of the smartphone users in Malaysia are among the younger generation meaning that younger generation can easily adopt to new technological devices or new product faster as compared to the older generation.

According to a survey made by Malaysian Communications and Multimedia Commission (MCMC) in 2011, the state of Selangor tops the list as the state with the most hand phone users followed by Johor, and Federal Territory Kuala Lumpur with double digit percentages of 20.7, 11.7 and 11.0 respectively. Next were Perak tied with Sabah at 8.2% while Sarawak, Kedah, Penang which range from 6.6% to 5.5% in descending order. The remaining states fall below 5%.

As shown in Figure 1 below, in year 2010 and 2011, it was found that only 14.0% and 12.0% respectively were users of smartphones.

	Percentage of hand phone users	
	2010	2011
Smartphone	14.0	12.0
Feature phone	86.0	87.3
Don't Know	-	0.7

Figure 1 Percentage of hand phone users

Source: Hand Phone Users Survey 2011

(Malaysian Communications and Multimedia Commission, 2011)

State	Percentage of hand phone users				
	2007	2008	2009	2010	2011
Johor	13.9	13.8	12.6	11.3	11.7
Kedah	6.6	6.3	6.5	7.0	6.4
Kelantan	4.1	4.6	5.1	4.2	4.8
Melaka	3.1	3.2	3.3	3.0	3.9
Negeri Sembilan	4.0	3.8	4.1	4.6	4.5
Pahang	5.1	5.4	4.9	4.7	3.9
Perak	7.8	8.3	8.9	8.0	8.2
Perlis	0.5	0.9	1.0	0.7	0.8
Pulau Pinang	6.8	6.4	6.2	6.1	5.5
Selangor *	21.6	20.0	19.1	21.4	20.7
Terengganu	3.6	2.8	3.3	3.4	3.7
Sabah **	7.1	7.7	9.0	9.2	8.2
Sarawak	6.0	6.6	6.5	5.6	6.6
W. P. Kuala Lumpur	9.6	10.2	9.5	10.8	11.0

Notes : * Includes W.P. Putrajaya
 ** Includes W.P. Labuan
 Figures may not add up to 100 because of rounding.

Figure 2 Percentage of hand phone users according to state

Source: Hand Phone Users Survey 2011

(Malaysian Communications and Multimedia Commission, 2011)

Based on figure 2, Perlis is identified as having the lowest hand phone users between the years 2007 until 2011 comparing to other states in Malaysia. Therefore, the aims of this study are to examine the factors that shaped the purchase intention of smartphone among adolescents in Perlis based on the statistical information provided by Malaysian Communications and Multimedia Commission.

2.0 Literature Review

This literature review study the intended effects that linked the existing knowledge gaps by investigate the impact between social influence, relative advantages, compatibility, price and purchase intention of smartphone.

2.1 Purchase Intention

Purchase intention can be defined as an advance plan to purchase certain good or service in the future, this plan may not always lead to implementation, because it is affected by ability to perform (Warshaw & Davis, 1985). In other word, what the consumer think and will buy in their mind represents the purchase intention (Blackwell, Miniard, & Engel, 2001). Besides that, purchase intention can also determine the possibility of a consumer's action leading to actual purchase, and through identifying the intensity of purchase intention, there is a high possibility to purchase certain particular product when the purchase intention is stronger (Dodds, Monroe, & Grewal, 1991; Schiffman & Kanuk, 2000). Purchase intention shows that consumers will follow need recognition, information search through external environment, evaluation of alternatives, make purchase decision and post-purchase experience (Zeithaml, 1988; Dodds, Monroe, & Grewal, 1991; Schiffman & Kanuk, 2000).

Furthermore, consumers' perception on relative advantages of smartphone and efforts required to obtain a smartphone have significant influence on purchase intention. The effort required to obtain a smartphone includes price, search time, availability and so on. Perceived value is one of the factors may trigger the purchase intention, the perceived value

come from the relative advantage and product compatibility as compared to efforts needed to obtain a product, the efforts can be product price and search time, the greater perceived value is, the greater possibility leading to purchase intention and purchase action (Monroe & Krishnan, 1985; Zeithaml, 1988).

Moreover, purchase intention can also be treated as metric for prediction of consumer purchasing behavior (Bonnie D, Teresa A, Yingjiao, & Raul, 2007). Besides that, the intention to purchase is known as consumers' tendency to behave towards an object; it is usually measured in terms of intention to buy (Kim & Kim, 2004). The idea of intention to purchase toward certain particular products or services is the final cognitive step in the decision making process of purchase intention, this statement is agreed upon by most previous researchers (Agarwal & Teas, 2002; Erevelles, 1993; Fishbein M. , 1967 ; Han, 1990; Pecotich, Pressley, & Roth, 1996).

In addition, marketers are interested in purchase intention, because it can help them in segmenting the market and at the same time supporting their decision making such as where the product should be launch (Sewall, 1978; Silk & Urban, 1978). Other than that, purchase intention can be used for future demand prediction (Armstrong, Morwitz, & Kumar, 2000). Lastly, there exist a positive relationships between relative advantage, price, social influence and product compatibility with purchase intention (Joep W, Ruud T, & Tammo H, 2011; Juha, 2008; Yue & Stuart J, 2011).

2.2 Relative Advantage

Relative advantage is the degree to which an innovation is perceived as better than the product it supersedes, or competing products (Tidd, 2010). The nature of an innovation determines what specific type of relative advantages is important to the people, although the potential adopter's characteristics also affect which sub dimensions made up the relative advantages (Rogers E. M., 1995).

Besides that, the degree of relative advantage is often expressed as an innovation that appears far superior to previous idea which offers greater relative advantage such as reflected in lower price, physical improvements, or eases of use and that increases the product's adoption rate. (L.Kurtz, H.F.MacKenzie, & Snow, 2009).

Relative advantage can be measured in terms of economic factors, such as social status, convenience, economic gains, and low cost. An innovation that offers greater advantage is believed to have greater acceptability and higher diffusion speed (Ho & Wu, 2011). The current innovation literature has established that relative advantage is one of the best and most consistent predictors of innovation adoption (Roach, 2009).

Users perceive advantages in style, design, status and dependability relative to other comparable innovations. In the context of mobile phone marketing, relative advantage is conceptualized as the degree to which consumers perceive this channel to be better than its alternatives (Roach, 2009).

2.3 Price

The issue of price has been discussed as critical factor requiring consideration with limited budget on purchase intention (Erickson & Johansson, 1985). A set of acceptable price range is established when consumers purchase products. Purchase intention tends to be reduced when the actual price on products is higher than the acceptable price range and vice versa (Dodds W. B., 1991). If the price is lower than the acceptable price range, consumers are believed to lack confidence towards the products quality (Peter, 1969).

With reference to (Jacob & Olson, 1977), this paper argued that the price is a cue to simulate consumer's perception on purchasing products and the price can reflect psychology response on consumers' mind after contacting price. It also proves that Jacoby's model in advance, it indicates that price standard is estimated by perceived quality and perceived sacrifice (Monroe & Krishnan, 1985). It means high price results in high product quality and eventually enhances purchase intention directly. In terms of Monroe's concept, the role of price which influenced purchase intention was not only includes perceived quality but also perceived sacrifice (Lefkoff-Hagius & Mason, 1993).

2.4 Compatibility

Compatibility is how the consumer perceives certain new product or service into the person's lifestyle choices. When the product or service closely matches the individual's needs, wants, beliefs, values, and consumption patterns, the innovation can be considered highly compatible with the consumer (Joep W, Ruud T, & Tammo H, 2011). Compatibility is also an important issue in

market with demand externalities and the purchase intention of customers (Gatignon & Robertson, 1991).

Product compatibility is a unique outcome of symmetric perfect and firm should decide whether to make their product compatible before competing in prices (Farrell & Saloner, 1985). When a firm focus a lot on their product compatible, product compatibility can enable consumers to build their system that is closer to their ideal, preference and expectation. This can shift the demand curve upwards and makes the market more profitable. Moreover, compatibility of a product can weaken each firm's incentives to cut prices, when a company sell incompatible components, a decrease in one firm's price will increase its sales at the expense of its rivals (Farrell & Saloner, 1985).

2.5 Social Influences

Virtual communities can be an important source of social influences on purchase intentions (Bickart & Schindler, 2001). They are based on social interactions, where some kind of relationships are built and interests are shared (Lin, 2008). Members within these communities seek and share information that is related to the product brand and stores. Because of this lack of insights within the area of virtual consumer communities, it enhances better knowledge regarding which social influence have an effect on purchase intention within these customers. The concept of customer intention is dominantly based on the TRA (Fishbein & Ajzen, 1975). TRA accounted for social influence effects on intentions by the inclusion of the subjective norm concept.

The notion that humans are influenced by the choices, behaviors and also belief of others has become something that goes without saying across social sciences; the sheer number of terms used to describe this process is indicative of its ubiquity, it starts from social influence to social proof to peer pressure to bandwagon effects to conformity to herding (Cialdini & Goldstein, 2004).

The impact of social influence has been demonstrated in countless domains, including littering (Cialdini, Reno, & Kallgren, 1990), voting (Gerber, Green, & Larimer, 2008), donating to charities (Reingen, 1982), expressing prejudice (Apfelbaum, Sommers, & Norton, 2008), choosing jobs (Higgins, 2001), investing in the stock market (Hong, Kubik, & Stein, 2004), and, most relevant to the current investigation, both adoption and rejection of consumer products (Berger & Heath, 2007).

In social influence settings, changes in meaning potentially emerge as people try to understand, relate to others, and being themselves. Thus, any one of the influencing motives might yield changes in the meaning of an issue, product, or brand. However, most of the research on meaning change to date has focused on one particular motive, the desire to align with valued reference groups and differentiating them from devalued ones. As we explain, people shift the meaning of a variety of issues and consumer judgments when social identity concerns are salient (Asch, 1951).

2.6 Hypotheses Statement

H1: There is a relationship between relative advantage and purchase intention of smartphone among young adults in Perlis.

H2: There is a relationship between price and purchase intention of smartphone among young adults in Perlis.

H3: There is a relationship between compatibility and purchase intention of smartphone among young adults in Perlis.

H4: There is a relationship between social influence and purchase intention of smartphone among young adults in Perlis.

3.0 Methodology

This study utilized questionnaires adapted from J.Q. Chew et al., (2012). There are three sections in the questionnaire. Section A is on factors that trigger purchase intention of smartphone that consists of: Relative Advantages, Price, Compatibility, and Social influence. Whereby Section B is on purchase intention of smart phone, and Section C is on respondents' demographic information. There are a total of 25 items in the questionnaire. The reliability of the questionnaire ranges from 0.761 to 0.895 which indicates that they are appropriate for use (Nunnally, 1978). The mean value for all dimensions shows that most respondents agree with the statements offered in the questionnaire. Table 1.0 depicts the alpha value and mean for each of the sections.

Table 1.0 The reliability result of the questionnaires

Relative advantage (5 items)	Price (5 items)	Compatibility (5 items)	Social influence (5 items)	Purchase intention (5 items)
$\alpha=0.893$ ($\mu=4.0000$)	$\alpha=0.814$ ($\mu=4.0745$)	$\alpha=0.895$ ($\mu=3.7818$)	$\alpha =0.761$ ($\mu=3.4818$)	$\alpha=0.777$ ($\mu=3.3364$)

According to the Department of Statistics Malaysia (2011), the current population aged 19 to 24 years old for the State of Perlis was 27, 600 people. Hence, the sample size is 379 (Krejcie & Morgan, 1970). Therefore, in order to ensure good feedback of the questionnaire, a total of 379 sets of questionnaire were distributed randomly to the targeted respondents around Perlis.

4.0 Finding and Discussion

The study was conducted in June 2013 to young adult aged 19 to 26 who lives in Perlis. The response rate is 29% of sample size (379 young adult). Among those who participated,

50.9% is female, 67.3% was students with the preferences of web browsing (35.5%), and most (70%) of the respondents are in the range of 20-23 years old. The details of the respondents are shown in Table 2.0.

Table 2.0 The demographics of respondents

Characteristics	Percentage (n=110)
Gender:	
Male	49.1
Female	50.9
Age:	
18-19	25.5
20-23	44.5
24-26	30.0
Preferences:	
Web browsing	35.5
Social Networking	31.8
Text Messaging	10.9
Taking Pictures	12.7
E-mailing	9.1
Status:	
Student	67.3
Working	32.7

In order to achieve the researchers' objectives of investigating the relationship between relative advantages, price, compatibility and social influence with purchase intention of young adult in Perlis, the data were analyzed using Pearson Moment correlations. The results show that there is a significant relationship between each of the independent variables with the dependent variable. However, the strength of the relationship is deferred. For the relationship between relative advantage and purchase intention, it is low, $r=0.355$ at 99% significant level. Similar results is discovered with the relationship between price and purchase intention; the relationship is also low ($r=0.369$, $p=0.01$). Meanwhile, for the relationship between compatibility with purchase intention, and social influence to purchase intention, the strength is moderate at 0.432 and 0.463 respectively. The information is summarized in table 3.0.

Table 3.0 Pearson correlation between the variables

	Relative advantage	Price	Compatibility	Social influence
Purchase Intention	0.355	0.369	0.432	0.463

Significant level = 0.01, two tailed

Next, multiple regression test was conducted in order to understand the predicted power of the factors that affect purchase intention of smartphone among adolescences in

Perlis. The result shows the adjusted r^2 is 0.264, with a different weightage of the standardized coefficient. It signifies that the chosen variables only explained 26 percent of the identified dependent variable while the other 74 percent are by other independent variables. Among all, only social influence or H4 is accepted ($\beta=.287$, $p < .01$) while all other alternative hypotheses are rejected.

Hence, it can be concluded that social influence significantly influence purchase intention of smartphone among young adults in Perlis. Findings in previous studies support this hypothesis. The notion that humans are influenced in their beliefs, preferences, and behaviors by the beliefs, preferences, and behaviors of others has become nearly axiomatic across the social sciences (Cialdini & Goldstein, 2004). Unfortunately in this study, relative advantage, price and compatibility are insignificant toward purchase intention of smartphone among young adult in Perlis.

Table 4 The Multiple Regression Result

Variables	B	t-value	Sig.
Relative advantage	0.129	1.326	0.188
Price	0.093	0.917	0.361
Compatibility	0.182	1.719	0.089
Social influence	0.287	2.905	0.004**
** $p < 0.01$			
Adjusted r^2	0.264		
Significant F change	0.000		
Durbin Watson	1.707		

5.0 Discussion and Conclusion

This study found that social influence does have a significant relationship with purchase intention as perceived by the adolescence in Perlis. Product Moment Pearson discovered that they are all significantly correlated with purchase intention, even though their strengths differ. Theory of materialism explain the consumer will perceived high value on all luxury product, which including high innovative or new technology product, because this kinds of products are usually charge at unreasonable high price (Vitzthum, 1995 ; Lange, 1925).

Moreover, smartphone may affect the purchase intention of consumer, but it must charge an abnormal high price. As an example, the luxury product like smartphone will become a normal good or even an inferior good, if the purchasing power of overall consumers

increased, which mean that everyone can possess the smartphone, thus it no longer can be the badges of social status (Moser & J.D, 1995; Jee Han, Joseph, & Xavier, 2010).

From the above discussion on purchase intention of smartphone among young adults in Perlis, it can be concluded that the social influence has high impact compared to other factors such as relative advantage, price, and compatibility in attracting young people to make a purchase of smartphone. Thus,

- i. Smartphone companies such as Apple, Samsung and HTC can obtain information about the factors affecting young adults demand for smartphone and understand the kind of smartphones attributes prefers by young including size, color, functionality, components and features that affect the product's appeal or acceptance in the market (J.Q Chew et al 2012).
- ii. The firm in the process of understanding how do consumer perceive certain product via knowledge, past experience of using similar product, value, belief, and need (Lewis, 2012). The more the innovation is perceived to be consistent with existing procedures, belief and value systems, the greater the chances are for its adoption (Brummans, 2006). Consumers will have a positive perception of the company's products as the company has make it according to the market preferences, besides this product provides many benefits as they wish.
- iii. The firm may benefit from understand how social influence the buyers. Most consumer behavior models recognize social influence as an important component of the decision-making process (Mourali, Laroche, & Pons, 2005). Word of mouth is an important driver of consumer behavior on such as the adoption of a new technology products, the decision to see a movie, or the preferences of which laptop or smartphone to purchase. It may affect awareness in some cases, or preferences in others (Godes & Mayzlin, 2004). Therefore, the organization not only can focus on their specific target market, but also can deliver the message to the target market's social networks such as friends and family.

Even though this study presented that those factors have a significant relationship, but that does not reflect the actual marketplaces as a whole. As for that, it is recommended that future studies include a larger sample to get more accurate explanation in regard to this issue. Furthermore, it is also recommended for future studies to incorporate other independent variables that can determine the factors affecting consumer purchase intention of smartphone. Interview also could be conducted to reduce misunderstanding of the people's interpretation towards the questions asked.

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