

# THE RISE OF AN APPARATGEIST: FACTORS AFFECTING BANGKOK-BASED CONSUMERS' PURCHASE INTENTION FOR SMART PHONES

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**Abstract:** *Mobile phones are devices that some of us cannot do without. Indeed, for some of us, a growing legion, it is impossible to imagine a day in our lives without a mobile phone beside us. So, in our era of Internet and Social Networking, the introduction of Smartphones into the mobile industry was bound to happen. Smartphones have brought about changes around us in our daily lives like no other device in our contemporary era. The purpose of this research is to better understand consumers' taste for Smartphones by studying different factors affecting consumer intention to purchase a Smartphone over other mobile phones and study the main factors leading to this change in purchase intention. The dependent variable for this research is Purchase Intention and the independent variables are Perceived Usefulness, Perceived Ease of Use, Brand Image, Price, and Product Knowledge. These factors are based on the Technology Acceptance Model (TAM), the concept of marketing mix, and Kotler's Buyer Decision Process. Five hypotheses were developed. Descriptive Research was used, applying the Survey Techniques and under Quota Sampling Methods. 400 questionnaires were collected from selected outlets in Bangkok Metropolitan. The results show that Brand Image is the main factor that is considered when a consumer intends to buy a Smartphone. Following closely is the Price factor.*

**Key words:** *Smartphone, Purchase Intention, Perceived Ease of Use, Perceived Usefulness, Product Knowledge and Brand Image.*

## 1. Introduction

The mobile phone industry is a highly competitive and fast-evolving industry. Although the global mobile market keeps growing, competition among the leading companies keeps increasing as well. To maintain their competitive edge, it is therefore necessary for companies to understand from a customer's perspective the factors influencing the purchase of their products. Once mere computational devices, they have developed into an expression of lifestyles (Castells, 2006). This study aims to investigate consumers' intention to purchase a Smartphone.

Personal Computer Magazine (PCMAG) defines a Smartphone as a cellular phone with built-in applications

Rabi Singh Thokchom is a graduate from Assumption University, Bangkok. He also finished Bachelors in Engineering from J.N.T.U.C.E.H, India. and internet access. Smartphones provide digital voice services and text messaging and additional features such as emailing, web browsing, still and video cameras, mp3 (Moving Picture Experts Group Layer-3) player, video viewing to name

a few. The four main features in a web enabled phone are Voice, Messaging, Web browsing, Personal Information Management (PIM) functionality, and Miscellaneous. The major players in the Smart phone market are Apple, Research in Motion (RIM), High Tech Computer (HTC), Samsung, Google, Motorola, Sony Ericsson, and Lucky and Goldstar (LG). The most successful brands among these various companies are Apple Iphone, which created a revolution in the history of Smartphones, Blackberry by RIM, and the latest Galaxy tab by Samsung. The major types of Smartphones are PDA, 3G, Android and Touch screen.

Livingstone, A. (2004), argues that in the near future, people will use Smart phones more than computers to access the internet. According to a March 2011 article in the Bangkok Post, 137 million units of Smart phones are projected to be sold in the year 2011 alone. It is estimated that by 2015, 54% of all mobiles sold in Asia will be Smart phones. In 2010, there were approximately 66 million mobile phone users in Thailand (Thailand Business News, 2010)

To conduct this study, various consumers based in the Bangkok metropolitan were surveyed in selected mobile marts in Bangkok. This research seeks to answer the following questions:

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1. Is there any difference in the consumers' intention to select a Smartphone over other mobile phones?
2. What are the main factors that are leading to this change in the Purchase Intention of Smartphones?

After reviewing the relevant literature and articulating the conceptual framework and methodology used, the results will then be analyzed and, on the basis of these findings, some recommendations made.

## 2. Review of the Literature

### - *Purchase Intention*

Purchase Intention can be defined as a consumer's intention to purchase or repurchase (Wang and Tadisina, 2008). It can be quantified by surveying consumer's intentions. And very often these intentions lead to purchase behaviors. However, many articles explain that Purchase Intention may not necessarily lead to purchase behaviors. But in all these articles we see a common feature that Purchase Intention's measurements lead to various predictions on purchase behavior. However, it should be noted that their focus is on the measurement of Purchase Intentions and how different measurements lead to different predictions of purchase behaviors. Hence Purchase Intention is defined as the time only when a customer is happy and willing to purchase the product and is not reluctant or limited in his/her action (Wang and Tadisina, 2008).

Purchase Intention has been widely used as a predictor of subsequent purchase. For example, Dodds and Monroe (1985) stated that Purchase Intention is the willingness to buy and also a behavioral tendency towards purchasing the product by the customer. Hsu (1987) defined Purchase Intention as a certain exchange behavior created after a product has been evaluated by consumers. Purchase Intention, or willingness to buy, has also been described as the consumer's likelihood of purchasing the product (Dodd et al, 1991). Engel et al (1995) suggested that Purchase Intention is a factor for future behavior which is based on subjective judgment. Consumers form preferences among the brands in the choices set of a product so that they might also form an intention to buy the most preferred brand (Kotler, 1999). Predictions are very important contributions for market forecasting and related generalizations (Bird and

Ehrenberg, 1966) for both existing (Morrison, 1979) and new products (Urban and Hauser, 1993).

Buyers' intention scales are used to assess the likelihood of a consumer purchasing a product or behaving in a certain way (Schiffman and Kanuk, 2004). Assael (1981) suggests that after reading an article, a consumer may have an urgent desire to purchase a product. Measuring Purchase Intention is a critical factor for developing marketing strategies.

### - *Perceived Usefulness (PU)*

The Technology Acceptance Model (TAM) describes Perceived Usefulness as a measure of how a person would think about using a particular system and how it would enhance his/her job. In an organization, people perform better to get raises, promotions, bonuses, and other rewards. A study by Tan and Teo (2000) shows that Perceived Usefulness is one of the major factors in terms of adaptation of innovations (how people adjust to a change). Perceived Usefulness is the willingness of a person to transact with a particular system. (Agarwal et al., 2003; Venkatesh, 2000).

### - *Perceived Ease of Use (PEU)*

Rogers (1962) stated that PEU is a measure of how easy an invention can be understood by a person and how to learn and operate it. The TAM defines PEU as the extent to which a person believes that using a certain technology will be free of effort (Davis, 1989). Sometimes PU needs external factors to have an effect on usage.

### - *Impact of PU and PEU on Intention*

The TAM lists Perceived Usefulness and Perceived Ease of Use as factors that determine the attitudes of people towards using a specific system. These attitudes may lead to intentions which may in turn lead to the actual use of the system. Agarwal and Karahanna (2000) and Venkatesh and Davis (2000) stated that PEU and PU, either using direct or indirect forms, may affect behavioral intentions. PU has a direct influence on intention and PEU. Another study by Wu and Wang (2005) concludes that PU and PEU generally impact the use of technology significantly. System usage is impacted by perceived usefulness (Schultz and Slevin, 1975). Expanding the expectance model of Vertinsky et al (1975), Robey (1979) concluded that "a system that does not help people perform their jobs is not likely to be

received favorably in spite of careful implementation efforts" (p. 537).

Bandura's (1982) research on Self-Efficacy explains the importance of PEU and PU behaviors in similar context relating to behavior. Self-Efficacy is distinguished from outcome judgments. Outcome judgments are concerned with behavior outcomes after successful execution and these outcome judgments are similar to perceived usefulness.

According to the behavioral theory, the Cost-Benefit Paradigm is important to PU and PEU. Various decision making strategies (such as linear compensatory, conjunctive, disjunctive and elimination-by-aspects) are effective in explaining strategy choices in response to changes in task complexities.

#### - *Brand Image*

Biel (1993, p.71) defined brand image as "the cluster of attributes and associations that consumers connect to the brand name." Bullmore (1984) argued that a brand's image is what consumers think and feel about. According to Keller (2003,p.70), "a positive brand image is created by marketing programs that link strong, favorable, and unique associations to the brand in memory." White (2003) defined brand image as "the complete mental picture of a brand held by those consumers who are more or less aware of it." A brand is one of the most important assets of a firm. If a firm has high Brand Equity (a brand's goodwill), it will enjoy high perceptions by its customers, high profit margins, less negative reactions to price rise in its products, more support from middlemen, and more effective market promotion and Brand Extension opportunities (Keller, 2008, p. 49). According to Aaker and Keller (1990), "Brand Extension occurs when a firm uses an established Brand Name to introduce a new product into a new product category". Sub-Branding is when the firm chooses to combine a new Brand Name with an existing Brand Name (e.g. Marriott Hotels, Courtyard Inn by Marriott) (Keller, 2008, p. 491). Brand Image is the consumer's mental picture of the product (Dobni & Zinkhan, 1990) linked to the offering. Brand Image has also been defined as "the reasoned or emotional perceptions [business] consumers attach to specific brands" (Low & Lamb, 2000, p.352).

#### - *Brand Image in Business-to-Business Situation*

Consumer research is the main source of business literature for Brand Image. Aaker's (1991) model proposes five sources of brand equity: brand awareness, brand association, other brand assets, perceived quality and brand loyalty. Business customers are influenced using Brand Image, mainly when it is difficult to differentiate between product and service based on quality features. Research shows that Brand Image leads to customer based Brand Equity (more customers with better Brand Image) (Michell, King, & Reast, 2001).

What is the Nature of Brand Image? Feldwick (1996) says that the concept of Brand Image was first used by Gardner and Levy (1955) in a Harvard Business Review paper entitled "The Product and the Brand." The British Account Planning movement later endorsed the concept of Brand Image, but it was not fully taken until David A. Aaker published "Managing Brand Equity : Capitalizing on the Value of a Brand Name," in 1991, in which he described Brand Equity as having five components or assets (Brand Loyalty, Brand Awareness, Perceived Quality, Brand Associations, Other Proprietary Assets).

#### - *Product Knowledge*

Product Knowledge has been defined as "detailed knowledge of a product's features and benefits required by a salesperson to persuade a prospect to purchase" (Don Bradmore, 2004). Product Knowledge comes in various forms - a product's features for its intended purpose, a product's associations (i.e. what goes with what) and product usage (i.e. how a product works).

Research on Product Knowledge has been gaining momentum in recent years, focusing on various stages of consumer behavior. Alba and Hutchinson (1987) concluded that familiarity (the number of product-related experiences that have been accumulated by the consumer) and expertise (the ability to perform product related tasks successfully) are the two main parts of Product Knowledge. They also determined that people with different Product Knowledge have different views on their cognitive structure, analytic capabilities (the ability to make elaborate inferences), and memory capabilities. This causes consumers to differ in their similarities and judgments attitudes (Alba and Hutchinson, 1987).

Petty (1991) suggested that similarities

between two products may be decided on the basis of either surface level or deeper level factors. These two models define ability as the decisive factor of a person engaged in the decision-making process. One of the factors that can determine the perceived usage of an input may be a prior knowledge of it. People with higher Product Knowledge are more selective in the information they look at prior to making a decision, since they have more knowledge and understanding of what attributes are to be examined to make better choices (Alba and Hutchinson, 1987). Past research has also concluded that a product with low product involvement (i.e. motivation to buy the product) would result in minimal engagement in search by consumers, and vice versa (Engel and Blackwell 1982). This may be a result of the hierarchy in the judgment process based on consumers' feelings.

*- Price*

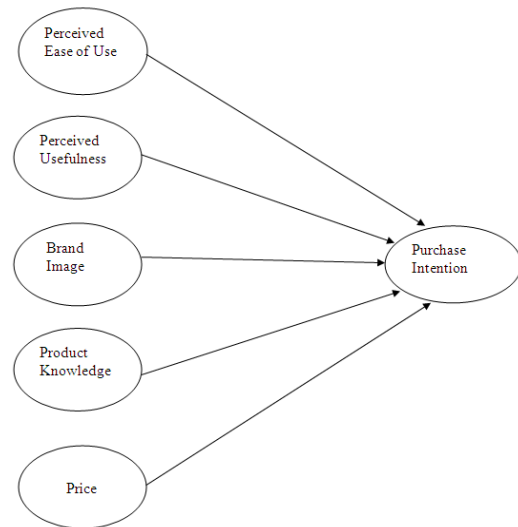
Price is defined as the amount of money customers have to pay to obtain the product (Kotler, 2004). Price is an important variable because it has a direct impact on company's profitability. The distinction has been made between Price Deals and Price. Some researchers have concluded that there is a negative effect of Price Deals on consumers' behavioral intentions (e.g. Aaker, 1991). Price Deals attract customers in a retail store but it often compromises on quality and internal reference Price of the brand. Price Deals often lead to lower quality perceptions

Another concept related to price is Fixed Price Strategy. Some companies adopt fixed a Price strategy to sell their products. Some researchers concluded that they do so because some consumers can be confused by some complex Price strategies and, as a result, have difficulty in figuring out the best deal. Certain types of Price strategies are only effective to promote sales (e.g. Berkowitz and Walton, 1980).

Another element of import is Price Inelasticity. Products with price-inelastic demand remain constant. Boote (1992) suggested that a price should be set according to the positioning of the product. If priced inappropriately, sales may be effected and may also have long term adverse effects.

Other Price related factors that might influence consumers' choices are: brand name, suspicion of low price points, perception of substitutes and social connotations.

### 3. Conceptual Framework and Research Methodology



Source: created by the author for this study

The above framework was designed, taking into mind the factors most likely to influence a consumer to purchase a Smartphone after considering a host of factors that might have a behavioral influence on a purchaser's mind. One main concept used for this Conceptual Framework is the Technology Acceptance Model (TAM). The framework was also developed and the variables selected on the basis of the Model of Buyer Behavior and Kotler's Buyer Decision Process (Kotler and Armstrong, 1989).

The researcher applied descriptive research. As Zikmund (1997) explained, descriptive research determines the answers to 'who, what, when, where, and how' questions. The researcher chose the survey techniques to collect data from the respondents and distributed questionnaires to respondents who have an intention (and also the potential) to buy a smart phone in the near future.

According to Zikmund (1997), population is any complete group of entities that share some common set of characteristics. Davis and Cosenza (1989) also mentioned that a population refers to the complete set of unit of analysis under investigation. The target population of this research is both males and females who know Smartphones, are between 20 and 40 years and reside in Bangkok metropolitan at the time of this research. This population was also selected for this research because most of the people are working, have

seen the product through friends and media and are most likely to have the ability to purchase a Smartphone.

The research uses the Quota Sampling Method. The total number of samples to be collected is 400. Four locations have been selected: the DTAC outlet in Siam Paragon, True outlet in Siam Paragon, MBK Shopping Center and AIS outlet in The Mall, Bangkok, where each place had 100 samples distributed. The convenience Sampling Method, one of the non-probability sampling methods, was used with questionnaires as a medium to collect data. This method is applied because it is less time consuming and involves less cost.

The sample size was calculated based on a formula developed by Zikmund (2003) and came up to 385 people. However, 400 questionnaires were distributed to the target population. The questionnaire was prepared in English and translated into Thai for the convenience of respondents and also to reduce errors. The questionnaire includes three parts: Part 1, which consists of screening questions, allows the researcher to ensure at first glance that the respondents met the requirements of the research. Part 2 (independent and dependent variables) was developed to understand how the respondents felt about the various factors that may effect their intention to purchase Smartphones. The questions are measured, using a 5-point interval Likert Scale, where 1, means "this does not represent how I feel at all"; 2, "this represent a little how I feel"; 3, "I have no feelings about it"; 4, "this represents how I feel" and 5, "this represents strongly how I feel". Part 3 (demographic Questions) was used to identify personal characteristics such as gender, age, education level and income level of the respondents.

Since it is necessary to pretest a questionnaire before actually using it because it helps to determine the effectiveness of the survey questionnaire, a pretest for this study was conducted with 30 probable consumers on a random basis around the DTAC and True Outlets.

The data collected were then processed using the SPSS program to find the reliability value of the research questionnaire. The Cronbach's Coefficient Alpha Test measured the reliability of each variable. According to Sekaran (2000), the questionnaire is reliable and acceptable if the reliability value is 0.6 or

higher.

Descriptive statistics were applied to convert the raw data for further analysis (Zikmund, 1997) and Pearson Product Moment Correlation Coefficient was used to measure the co-variation or association between two variables. The correlation coefficient ( $r$ ) ranges from +1.0 to -1.0. If the value of  $r$  is +1.0 there is a perfect positive linear (Straight-line) relationship. If the value of  $r$  is -1.0, a perfect negative linear relationship or a perfect inverse relationship is indicated. No correlation is indicated if  $r = 0$  (Zikmund 1997).

#### 4. Results and Discussion

The researcher used the software analysis program SPSS (Statistical Package for the Social Sciences) to code and analyze the results from the set of 400 questionnaires. Descriptive analysis was utilized to clarify its frequency and percentage and the correlation coefficient of the five sets of hypothesis was measured using Pearson Product Moment Correlation Coefficient.

Based on the data collected from the 400 respondents; 208 males (52%) and 192 females (48%) responded. A majority of the respondents were between 20 and 29 years old (204) representing 51% of the total population. 196 respondents (49%) were between 30-40 years old. The highest education level stated by the respondents was a master degree which 221 people have (55.2%). 101 hold a Bachelors Degree (25.2%). 9 (2.2%) have a diploma of some sort and 3 have a secondary degree. 66 people (16.5%) stated others as their education level, meaning they were language learners, technical skill learners or had less than secondary schooling.

According to the results of hypothesis testing (Table 1 below) brand image is the highest factor that influences a consumer to buy a Smartphone. Price is the next one, following brand image very closely. Other factors like Perceived Usefulness, Perceived Ease of Use and Price have also been concluded to have an influence on the consumers' purchase intention towards Smartphones in Bangkok.

The table indicates whether the hypotheses have been rejected or failed to reject and shows the statistical relationships between the dependent and independent variables.

**Table 1:** Hypothesis Testing results

Hypothesis	Statistics Test	Pearson r	Level of Significance	Result
H1o: There is no relationship between Perceived Ease of Use and Purchase Intension	Pearson Product Moment Correlation Coefficient	.577	.000	Reject Ho
H2o: There is no relationship between Perceived Usefulness and Purchase Intension	Pearson Product Moment Correlation Coefficient	.660	.000	Reject Ho
H3o: There is no relationship between Brand Image and Purchase Intension	Pearson Product Moment Correlation Coefficient	.794	.000	Reject Ho
H4o: There is no relationship between Product Knowledge and Purchase Intension	Pearson Product Moment Correlation Coefficient	.678	.000	Reject Ho
H5o: There is no relationship between Price and Purchase Intension	Pearson Product Moment Correlation Coefficient	.791	.000	Reject Ho

#### 4. Conclusion and Recommendations:

As the results show, Perceived Ease of Use of Smartphones has an influence on Purchase Intention. It can be said that the more user friendly a Smartphone, the more willing a consumer is to buy or repurchase the same product (in a different version) again. The Perceived Ease of Use of Smartphones improves the quality of life of consumers and using these kinds of phone makes it easier to make purchases online as well.

Perceived Usefulness also influences a consumer's Purchase Intention to buy a Smartphones which is based on the fact that it can improve the performance of consumers and its many functions with respect to daily life are made easier. As the results from the analysis show, consumers perceive that a Smartphone is useful in their lives

Brand Image is the highest factor considered when a consumer intends to buy a Smartphone. A consumer intends to buy a Smartphone if it brings exclusivity and makes a statement on his/her image. A consumer will also buy the phone if it is appreciated and lauded by other people for example by his/her family and friends. The prestige that a phone brings is therefore one of the reasons why consumer intends to buy a Smartphone.

Price is the second highest factor that influences consumers' intention to buy or not buy a Smartphone. The consumer determines if the Price is competitive or lower than other brands. So, reasonable costs of Smartphones influence the Purchase Intention of the consumer.

Consumers try to find out as much as possible about a Smartphone when she/he has an intention to buy one. Besides, the material and packaging of the product play a role in the purchase intention. Obviously, whether the style that consumer prefers is available and its practicality also influences his/her intention. Overall, consumers look at the Product Knowledge of Smartphones as one of the main factors influencing their intention of making a purchase.

What can be concluded is that Brand Image is the most important factor motivating the Purchase Intention toward smart phones. The Brand Image of a Smartphone is also found to have a more significant influence than all the other factors in deciding the Purchase Intention of consumers.

- *Recommendations:*

Since the samples were collected from selected DTAC and True outlets in Siam Paragon, MBK Shopping Center and AIS outlet in The Mall Bangkapi, all the potential consumers from other areas could not be considered. The sample size is very small (400 respondents) compared to the huge market of Smartphones and consumer base in Bangkok. The researcher recommends that in a future research, a bigger sample size be used to have fewer errors and more accuracy in the research.

Smartphones producers should consider building and maintaining a good Brand Image to attract potential consumers while also making sure that the consumers are educated and made aware of the values and services of a Smartphone and not just of its cost. A Smartphone with complicated technology (in terms of usage) and specifications confuses the consumer, hence user friendliness and usefulness are critical determinants of the intention of consumers to make a purchase.

This research wholly ignores the age group above 40 years old. The potential consumers of these higher age group maybe senior management or senior citizens. Had this age group been taken into consideration, the results of hypothesis might have been different. Also the teenage segment, those between 13 and 19 years old, has also been left out of this research. The teenage group is known to be the most volatile when it comes to choosing Smartphones, mainly because they have almost no income and Price has different

meanings in this group.

- *Further Research:*

Other major cities in Thailand and outside could be studied for a comparative study. Also, fast-changing technology can lead to major changes in the design and features of Smartphones. Those factors could be the subject of a specific study. Another factor that can be researched is the Purchase Intention of business consumers since this research only involved general consumers. Given that the Brand Image of Smartphones plays a major role in Purchase Intention, more detailed research on different brands available would be an interesting topic to study. Furthermore, with the introduction of tablet PCs in the recent technological markets, a comparative study can be made about demand, comparing Smartphones to tablet PCs.

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**Appendix A : Reliability Test Results**

Variables	Cronbach's Alpha
Perceived Ease of Use	0.640
Perceived Usefulness	0.734
Brand Image	0.684
Price	0.610
Product Knowledge	0.617
Purchase Intension	0.621

**Appendix B: The Degree of Relationship Between Variables.**

Correlation Between:	Are Said To Be:
0.81 and 1.00	Very strong
0.61 and 0.80	Strong
0.40 and 0.60	Moderate
0.21 and 0.40	Weak
0.00 and 0.20	Very weak

Source: Salkind (2000), Business Research Methods. Statistics for People Who (Think They) Hate Statistics. Sage Publications. pp. 55-69.