

Factors Leading to Consumer Perceived Value of Smartphones and its Impact on Purchase Intention

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Abstract

Purpose - The aim of this research is to find the impact of consumer perceived value (CPV) on smartphone purchase intention among Malaysian working professionals. The research intends to find whether or not social value, perceived usefulness, perceived ease of use, economic value and brand image have a direct or indirect effect on smartphone purchase intention.

Design/methodology/approach - Data is collected through an administered online survey with convenience sampling. A total of 302 samples were collected in Kuala Lumpur area. Demographic profile classification, reliability test, sample adequacy, confirmatory factor analysis (CFA) and structural equation modeling (SEM) path analysis is conducted to analyze the data using IBM Amos statistic 22.

Findings - The findings show that social value and perceived ease of use do not have a direct or indirect effect on smartphone purchase intention among Malaysian working professionals. However, perceived usefulness, economic value and brand image have an indirect effect on smartphone purchase intention.

Practical implications – The research is useful for managers and marketers, to understand the consumer perceived value (CPV) of latest generation smartphone among Malaysian working professionals. These type of consumers in the smartphone industry are important and vital for smartphone companies due to their high income and purchase decision making power.

Originality/value – The study proposes and validates a new model by combining Technology Acceptance Model (TAM) and selected CPV variables which may impact Smartphone purchase intention among working professionals.

Keywords: Purchase Intention (PI), Consumer Perceived Value (CPV), Social Value (SV), Economic Value (EV), Perceived Usefulness (PU), Perceived Ease of Use (PEU) and Brand Image (BI)

Introduction

Nowadays, maximizing consumer Perceived Value (CPV) by identifying factors influencing it is one of the biggest challenges that companies are facing around the globe. They have seen their product image that is projected to the public leading to failure and brand unpopularity. Perhaps, this concern is nowhere more evident than in the smartphones Industry where the world global consumers have witnessed the failure of phone industry giants such as Nokia and Motorola due to the inconsistent analysis of consumer perceived value evolution related to new technology (Fishman, 2014; Surowiecki, 2013). A smartphone is a user friendly cellular telephone and is a revolutionized new invention with an integrated computer and other features not originally associated with the telephones such as a web browsing, an operating system and the ability to run software applications (Margaret, 2007). The smartphone has become extremely popular today and still growing, nevertheless, the notion of CPV in the smartphone industry has captured the attention of several smartphone manufacturers.

Several researchers have been interested in the notion of CPV associated with purchase intention. The first author who addressed the importance of the CPV was Zeithaml (1988) as consumer's overall evaluation of the utility of product based on perceptions of what is received and what is given, Monroe (1990) established a simple concepts of the ratio between perceived benefits and perceived sacrifices which drive purchase intention, then Sheth et al (1991) introduces the five dimensions value of consumers viz. social, epistemic, conditional, functional and emotional value), Woodruff (1997) talks about the value hierarchy of the model, Holbrooks (1994) takes about the typology of costumer value, also several other theories have been developed recently such as the theory of personal related value and the perceived value purchase (Sánchez and Iniesta, 2006). According to International Data Corporation (IDC) (2015), 4.8 million units of smartphones were shipped in Malaysia in 2015. The smartphone market in Malaysia grew by 42% in 2015 compared to 2014, obviously in Malaysia the smartphone market is still being dominated by Chinese, South Korean and Taiwanese vendors. Samsung is the market leader in Malaysia, Asus being among the top 5 brands in the country, Apple is still popular and Huawei and Lenovo have been able to stay in competition due to their affordable price (IDC, 2015).

Several researches were done on this field in the past years, the majority of the studies conducted on consumer perceived value of smartphone and purchase intention during the past years were carried out in developing countries (Park, 2006; Rahim et al, 2016; Seung and Dong, 2015; Sata, 2013; Tunmibi et al, 2015). Among them, a large number of studies were conducted in Asia and Africa. But also a handful number of studies were carried out in Europe but limited studies or literatures are found on other countries such as in the South American region, North American region and Middle-East. In India, several studies have been done from different states, the target population which are smartphone users have significant importance, most of their studies tested factors affecting smartphone purchase decision such as price, brand image, functionality and social influence (Christopher et al, 2014; Kamaladevi, 2015; Seth & Chandel, 2015; Vikram & Ramanathan, 2015). On the contrary, the studies done in Pakistan and Bangladesh, most of the researchers emphasize their studies on university students which is limited and does not reflect precisely CPV of smartphones. (Arif et al, 2015 and Arif and Aslam, 2015).

In China, Taiwan, South Korea and Vietnam, researchers have given helpful hands in the field of CPV of smartphone, much of their studies focus first of all on the relationship between brand loyalty and purchase intention, the influence of smartphone apps on purchase intention and also testing models such as the Technology Acceptance Model (TAM) and the Unified Theory of

Acceptance and Use of Technology (UTAUT) (Chaipooirituana, 2014; Chen et al, 2016; Wollenberg, 2014; Xie, Yu & Lee, 2014). Most of these studies findings come from regression, correlation analysis, structural equation modeling, Anova one way analysis and the T-test analysis. The study of Ahmed et al., (2015), Gerogiannis et al., (2012); Nagarkoti (2014) and Stoica et al., (2014) have been helpful studies to understand smartphone consumers perspectives in Europe, comprehensively, their studies emphasize on how smartphones are user-friendly to consumers, understanding the switching behavior of consumers and also factors affecting their purchase intention. In Malaysia several studies have been done targeting different types of market segment such as universities students, general smartphones users and also smartphones users from different states (Bin and Lazim, 2015; Harun *et al*, 2015; Ibrahim *et al*, 2015; Rahim *et al*, 2016; Zahid and Dastane, 2016).

Understandably, among all the researches done around the world including Malaysia, none of the researches have emphasized or take interest of studying the impact of CPV on Malaysian working professional smartphone purchase intention, most of them emphasizes on smartphone customers in general or youth.

In general the smartphone market is rapidly changing, thus there are several threats facing the industry (Felix, 2015). However, in this well demanded market, smartphone companies tend to leverage their own competitive edge in order to secure their market share, a better brand image, explore new revenue streams and ultimately achieve a long-term product differentiation which results to sales boosting (Gartner, 2016). With constant product introductions in the smartphones industry, it is characterized by quickly evolving technology and designs, short product life cycles, aggressive pricing, rapid imitation of product and technological advancements, and highly price sensitive consumers. In this battle of competitive advantage, several companies in the smartphones industry are having issues to cope up with the market needs. This issue occurs in the industry because smartphone companies propose values which may not be satisfying different customers' market segmentation needs and attaining their expectations.

Nowadays, smartphone consumers in general and Malaysian working professionals in particular are better educated and better informed than ever, and they have the tools to verify companies' claims and seek out superior alternatives. Therefore even the best-run companies have to be careful not to take these types of consumers for granted. Therefore, competition and securing market share in Malaysia has been the main problems for smartphone companies; in order to sales their latest generation of smartphone in Malaysia due to the advance of technology, the smartphone industry is in progressive involvement where innovation changed the game of competition and consumer choice every time. This study explores and finds out the critical perceived value of Malaysian working professionals regarding smartphone latest generation. It will be a great amplitude and great importance for smartphone. Moreover, this study will address the problem of Malaysian working professionals why the use of smartphone is very less among Malaysian working professionals and what are the perceived values that drive their purchase intention.

Objectives of the research are to find out:

- the impact of social value on CPV.
- the impact of perceived usefulness on CPV.
- the impact of perceived ease of use on CPV.
- the impact of economic value on CPV.
- the impact of brand image on CPV.

- the impact of CPV on smartphones' purchase intention among Malaysian working professionals.
- the impact of social value on smartphones' purchase intention among Malaysian working professionals.
- the impact of perceived usefulness on smartphones' purchase intention among Malaysian working professionals.
- the impact of perceived ease of use on smartphones' purchase intention among Malaysian working professionals.
- the impact of economic value on smartphones' purchase intention among Malaysian working professionals.
- the impact of brand image on smartphones' purchase intention among Malaysian working professionals.
- the impact of CPV on smartphones' purchase intention among Malaysian working professionals.

Literature Review

Definition of Key Concepts and Terms

According to Monroe (1990), Consumer Perceived Value is a trade-off between the sacrifice they perceived relatively to the benefits and quality they perceived in the product by paying for the product. Sheth *et al.*, (1991) defined to find out the impact of CPV on smartphones' purchase intention among Malaysian working professionals as a function of multiple consumption values. Woodruff and Gardial (1996) defined it as what consumer want to happen in a specific use situation, with the help of a product and service ordering, in order to accomplish a desired goal or purpose, Ravald & Grönroos (1996) supported this definition by saying that CPV is the ratio of perceived benefits and perceived sacrifice. According to Chen & Dubinsky (2003) definition, consumer perceived value is the perception of the net benefits gained in exchange for the cost incurred in obtaining the desired benefits. Purchase intention is the willingness of consumers to buy certain type of product which depends on internal and external factors. A smartphone is a mobile phone with an advanced mobile operating system which combines feature of a personal computer operating system with other features useful for mobile on handheld use (Don, 2012). A working professional is a member of a profession or any person who earns their living from a specified professional activity (Evans and Linda, 2008). A working professional is a career focused individual who is 80 per cent less likely than an average person who wants to see ads on their phone, as they use it mainly for work purposes, while they do not talk about brand's socially or brand highlighted on social sites or by friends and relatives (Kirsty, 2013).

Critical Review of Key Theories and Models

Utilitarian and Hedonic Model: Holbrook and Hirschman (1982) had a notion that value should not only viewed from utilitarian perspective in which the product is valued based on its performance or functions, but also include the experiential perspective in which the product is valued based on the experience or the feeling arouse from consumption, including the symbolic and hedonic aspect. However, this model is still too general in depicting the complexity of customer perceived value. Thus, it is difficult to differentiate these dimensions of value if it is viewed from this perspective, as they are both are part of hedonic value. Moreover, the

subsequent study of Babin *et al.* (1994) who included the utilitarian and hedonic component in developing the scale to measure the value of purchase experience were related to the possessions people already own, which is in contrast with the study that concerned measuring the perception of value in durable goods in order to understand the process of customer choice behavior (Sweeney and Soutar, 2001). Criticism of Utilitarian and Hedonic Model, by far and away the most common criticism of utilitarian and hedonic model is alleged to be faulty in the way it requires consumers to think about kind of actions. Secondly, several researchers have argued that the model when it is used in CPV studies cannot quantify happiness or measured it that there is no way of calculating a trade-off between perceived benefits and sacrifice.

Intrinsic, exchange, use and utilitarian value: Woodall (2003) reviewed the extensive literature on consumer perceived value (CPV) (or as he calls it “Value for the customer). He distinguished four types of value (intrinsic, exchange, use, and utilitarian value), based on whether the value assessment is subject based or object-based (i.e. individual vs. collective), and on whether value should be seen in light of market characteristics and/or consumer sacrifices. According to Woodall (2003), the utilitarian approach is to balance ‘all the good and the bad.’ Here value is seen as the outcome of a personal comparison of sacrifices and benefits, an outcome that is essentially utilitarian in nature. The utilitarian approach assumes that the value derived by one individual is likely to be different from the value derived by another. Value is solely determined by the individual consumer (Holbrook 1999; Woodruff 1997), and only exists on the consumers’ terms (Piercy 1997). Criticism of Woodall (2003) theory, derived CPV is essentially outcomes oriented and aligns very closely to the notion of value-in-use, and where CPV might be considered as delivering either strategic, practical, social or personal benefits, value as mercantile trade-off only (i.e. a statement of cost or price) is considered more a concern of the accountant rather than the marketer.

Perceived Value Purchase: This theory is the extension theory of Sweeney and Soutar (2001), where product related value is referred to the customer perspective that product is a source of value. Since the product is the main focus in purchase activities where customers spend their money for thus they expect benefit from it (Joiner, 1994; Thompson and Huges, 1998). In this regards, Zeithaml (1988) dichotomized the product attribute into two cues: intrinsic cues which comprises the physical attributes of the product such as the design, color, and flavor in which they are consumed along with the product, and the extrinsic cues which comprises the non-physical attributes of the product but they are part of the product such as the name of the product/brand, the price, and the product advertisement. Similarly, the dichotomy of product attribute can also be referred as tangible (physical attribute) and intangible (nonphysical) attribute (Monroe, 1990).

Theory of Reasoned Action (TRA): This theory is one of the three classic persuasion models of psychology and is also used in communication discourse as a theory of understanding persuasive message. This model has a potential benefits for predicting the intention to perform a behavior based on an individual’s attitudinal and normative beliefs (Southey, 2011). The theory of reasoned action (TRA) is an important theory in the field of CPV, because it shows the way consumer evaluates perceived benefits and sacrifice from a reasoned action. Attitude is an individual positive or negative feeling toward something about performing a behavior (Ajzen, 1980; Fishbein, 1966). Smartphones users always have different perception about smartphone’s brand and innovation. Subjective Norm is defined as a person’s perception that most people who are important to him think he should or should not perform a particular behavior in question, in

the case of smartphone this subjective norm is often based on social influence and social needs of smartphone users to purchase which demonstrates the external factors affecting the purchase decision of a smartphone. *Criticism*, TRA has been highly criticized because of its limitations in predicting behavior (Werner, 2004). The first limitation is that intention determinants are not limited to attitudes, subjective norms and perceived behavioral control (Ajzen, 1991), there may be other factors that influence behavior. The second limitation is that there may be a substantial gap of time between assessment of behavior intention and the actual behavior being assessed (Werner, 2004). In that time gap, the intention of an individual might change. Third limitation is that TRA is a predictive model that predicts an individual's action based on certain criteria, however individual does not always behave as predicted by those criteria (Werner, 2004). TRA was modified into Technology Acceptance Model (TAM) to predict user acceptance of new technology.

Technology Acceptance Model (TAM): The objective of this model is to predict the acceptability of information technology to identify the modifications which must be brought to a particular system in order to make it acceptable to users. Davis (1986) technology acceptance model (TAM) proposes that the acceptability of a consumer to an information technology is determined by two main factors: perceived usefulness and perceived ease of use. *Perceived Usefulness*, according to Davis (1986), perceived usefulness is a degree to which a person believes that using a specific smartphone system would improve his or her activity performance in term of efficiency and effectiveness. A smartphone contributes in an instrumental way in enhancing a person's efficiency or performance which means that a user of smartphone has to deploy less efforts with a tool that is easy to use to improve his or her productivity and job performance with a smartphone in order to be able to spare efforts to accomplish other tasks with the smartphone.

Perceived Ease of Use, according to Davis (1986), perceived ease of use influences in a significant way the attitude of an individual through two main mechanisms: self-efficacy and Instrumentality. In the context of smartphones, whenever a user uses smartphone product which make the user feel comfortable and has control over what he is doing, the user of smartphone perceives efficacy which is one of the main factors underlying the intrinsic motivation of purchasing a smartphone (Bandura, 1982; Lepper, 1985). Understandably perceived ease of use and perceive usefulness will lead to a consumer intention to use smartphone which has affected by actual usage of smartphone that will lead to a greater purchase intention level (Wixom and Todd, 2005). *Criticism*, technology acceptance model (TAM) slights the benefits of use and their attainment, therefore in this model, the use-to-end goal attainment gap is neglected. Although, more is needed in TAM explicitly focusing on end-state goals/objectives of technology use (Bagozzi, 1998), as consequence a consumer decision making often focus on trying to adopt an action or acquire a technology, which changes the orientation of decision making in fundamentally different ways than focusing on behavior (Bagozzi, 1992; Bagozzi and Pieters, 1998; Bagozzi and Warshaw, 1990) Technology acceptance model (TAM) has been highly criticized by Venkatesh *et al.* (2003) for considering only factors such as perceived usefulness and perceived ease of use but ignoring the individual characteristics of the user.

Unified Theory of Acceptance and Use of technology (UTAUT): Based on technology acceptance model (TAM), Venkatesh et al (2003) developed the unified theory of acceptance and use of technology (UTAUT), the model takes into consideration four components which are performance expectancy, effort expectancy, social influence and facilitating conditions which

can be affected by gender, age, experience and voluntariness of use. Unified theory of acceptance and Use of technology (UTAUT) try to explain the degree of acceptance of the use of information technology. The important thing about UTAUT is that, it assesses whether the user will be able to accept the new technologies and user's ability to deal with it (Alqudah, 2015). *Criticism*, Van Raaij and Schepers criticized the UTAUT as being less parsimonious than the previous one technology acceptance model (TAM) because its high R² is only achieved when moderating key relationship with up to four variables. They also called the grouping and labeling of items and constructs problematic because a variety of disparate items were combined to reflect a single psychometrics construct. Moreover, this theory does not take into consideration innovation which is very important for the users of smartphone, even though it is a complicated theory it has several aspects that has to be amended such as the behavior of consumers in order to adapt innovation and dramatically evolution of innovation in information technology.

Research Gap

Practitioners and researchers have not studied much on the evolution of smartphone consumer perceived value (CPV) in Malaysia, understanding the fact that smartphone consumer are sophisticated and their perception is changing time to time. Researches done in Malaysia in the topic of consumer perceived value and purchase intention of smartphone do not emphasize on Malaysian working professionals, therefore this research study will explore new angle of CPV and purchase intention.

As Sheth et al, (1991) talks about emotional value, social value, functional value, conditional value and epistemic value, nevertheless in their framework all the five values cannot be applied in this particular study but does not specify economic value of consumers which can drive their purchase intention. Holbrook (1994) typology of customer value and Woodruff (1997) hierarchy of customer needs do not address all customer value of latest generation smartphone, Holbrook (1994) just explained the intrinsic and extrinsic motivation of intend purchase intention. Woodruff (1997) explains the satisfaction of a customer from different hierarchy but not the way they value some factors affecting their purchase decision. Technology acceptance model (TAM) utilization in this study with the combination CPV variables give a head of much understanding of this research literature gap, which will try to demonstrate that from TAM model, perceived usefulness and perceived ease of use can be considered and classified as some CPV variables which can impact purchase intention among Malaysian working professionals.

Bin and Lazim (2015) study in Malaysia regarding factors persuaded by Malaysian consumer to buy smartphone. The findings of this study reveal that multi-purpose function of a smartphone influences Malaysian consumers. However his research found out that the advertisement also influence consumer intention to purchase smartphone. The study of Rahim et al (2016) concerning influential factors affecting purchase intention of smartphones among university students in Malaysia, the independent variables of their study are: product sacrifice, brand name, product features and social influence; the dependent variable is purchase intention. Their findings show that variables such as product features, brand name and social influence have significant relationship with purchase intention except one variable product sacrifice that has no significant relationship with purchase intention. Ibrahim *et al.* (2013) study investigating how price, social influence, relative advantage and brand image impact the demand of smartphones in the northern regions of Malaysia. The findings of their study show that price, social influence, relative advantage and brand image have significant relationships towards demand of

smartphones. The study of Harun *et al.* (2015) aiming to understand the antecedents and the outcome of the smartphones dependency among smartphones consumers. The antecedents' variables were convenience, social needs and social influence and the outcome of dependency on smartphones was expected to be purchase behavior.

For this research study, social needs and social influence are considered as social value of the consumer perceived value; price is a variable is much more referred to an economic entity which is considered in CPV studies as an economic value. Therefore, the variables which are going to be used for this research theoretical framework will be social value derived from empirical evidence that social influence and needs have significant impact on smartphone purchase intention, perceived ease of use and perceived usefulness derived from TAM model and empirical evidences, Brand image, economic value and innovation have significant impact on smartphone purchase intention derived from empirical evidence.

Research Theoretical Framework

According to the previous theory and studies done by practitioners and researchers in the field of consumer perceived value of smartphone and information technology there are certain variables which can affect consumers purchase intention of smartphone which will be used for this research theoretical framework. Variables considered are Social Value (Seth *et al.*, 1991; Suki, 2013), Perceived Ease of Use (Davis, 1986; Hong *et al.*, 2014), perceived usefulness (Davis, 1986; Hong *et al.*, 2014), Economic Value (Ibrahim *et al.*, 2015) and Brand Image (Rahim *et al.*, 2016).

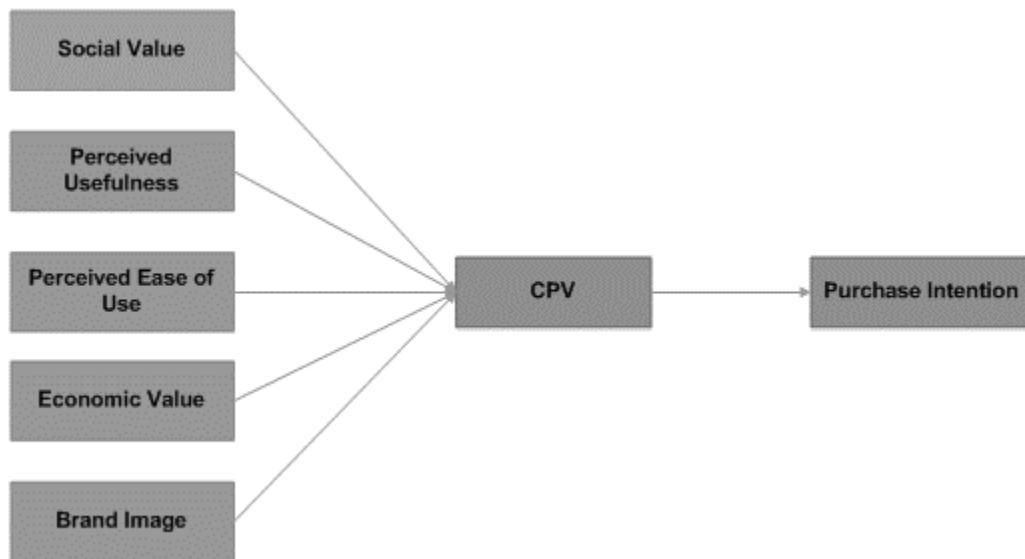


Figure 1: Theoretical Framework

Social Value is defined as the perceived utility acquired from an alternative's association with one or more specific social groups. Social value is acquired via associations with positively or negatively stereotyped demographic, socioeconomic and cultural-ethnic groups (Sheth *et al.*, 1991). This is being met when a person is developing their communication skills and is interacting with others (Rhoads, 2002). In Suki and Suki (2013) study, almost three quarter of the

students stated that they enjoyed with the contract or package provided by the smartphone provider which provides them with unlimited internet access to their smartphone or a limited internet services which is sufficient for their needs.

H1: Social Value has a significant impact on CPV.

H6: Social value has a significant impact on smartphone's purchase intention among Malaysian working professionals.

Perceived Usefulness is defined as the degree to which a person believes that using a smartphone will enhance his or her job performance (Davis, 1986). Smartphone can be useful to consumer when it demonstrates the satisfaction of consumer by using a particular smartphone. The study of Hong *et al.* (2014) with the technology acceptance model found out that perceived usefulness influence the adaptation of smartphone among young consumers in Malaysia.

H2: Perceived Usefulness has a significant impact on CPV.

H7: Perceived Usefulness has a significant impact on smartphone's purchase intention among Malaysian working professionals.

Perceived Ease of Use contributes in an instrumental way in enhancing a person's efficiency or performance which means that a user of smartphone has to deploy less efforts with a tool that is easy to use to improve his or her job performance with a smartphone in order to be able to spare efforts to accomplish other tasks with the smartphone (Davis, 1986). The study of Hong *et al.* (2014) with the technology acceptance model found out that perceived ease of use influences the adaptation of smartphone among young consumers in Malaysia.

H3: Perceived Ease of Use has a significant impact on CPV.

H8: Perceived Ease of Use has a significant impact on smartphone's purchase intention among Malaysian working professionals.

Economic Value is a measure of the benefit provided by a good or service to an economic agent. It is generally measured relative to units of currency, and the interpretation is therefore "what is the maximum amount of money a specific actor is willing and able to pay for the good or service" (Dodds, 1991); it indicates that price standard is estimated by perceived quality and perceived sacrifice (Monroe & Krishnan, 1985).

H4: Economic Value has a significant impact on CPV.

H9: Economic Value has a significant impact on smartphone's purchase intention among Malaysian working professionals.

Brand Image is what customers think about a particular brand, it can be defined as how existing or potential customers view the brand and associate with it. The views, beliefs and perceptions of the target customers form an image in their minds defining how they imagine or identify the respective brand. Basically, brand image is the overall impression of a brand's total personality in the customers' mind (Daye, 2007).

H5: Brand Image has a significant impact on CPV.

H10: Brand Image has a significant impact on smartphone's purchase intention among Malaysian working professionals.

Consumer Perceived Value (CPV) is the ratio between perceived benefits and perceived sacrifice; several researchers in the field of marketing have used the theoretical construct of CPV in order to find out customer purchase intention. Smartphone Purchase Intention is the willingness of consumers to buy certain type of smartphone which depends on internal and external factors and the consumer willingness to accept the smartphone internal and external factors.

H11: CPV has a significant impact on smartphone's purchase intention among Malaysian working professionals.

Research Methodology

Research Design: Positivism as a research philosophy is used and the information collected for this research study is derived from sensory experience and perspective knowledge of latest generation smartphone consumers which is interpreted through reason and logic forms the exclusive source of all authoritative knowledge. **Descriptive research design** is used for the research and quantitative research method is undertaken. **Data Collection:** The research study makes use of online survey form. Liker Scale questionnaire is used in order to rate the variables of the research or CPV and purchase intention regarding smartphone among Malaysian working professionals in Kuala Lumpur (from 1 to 5). **Sample Size & Sampling Technique:** Convenience sampling is used in order to collect the data from the target population in Malaysia. Malaysian working professionals were chosen in this research study for a population number of 300000 around Kuala Lumpur area, 302 were taken as sample. **Data Analysis Plan:** Demographic profile classification, Reliability test, sample adequacy, confirmatory factor analysis (CFA) and structural equation modeling (SEM) path analysis is used in order to analyze the data.

The research questionnaire is constructed in four major parts:

Part-1: it deals with demographic data of participants which are: gender, age group, educational level, relationship status, race of respondent, smartphone brand used, the income of respondent.

Part-2: it consists of 20 statements to measure social value (SV), perceived usefulness (PU), perceived ease of use (PEoU), economic value (EV) and Brand Image (BI). Each variable is made of four dimensions.

Part-3: It consists of 4 statements measuring consumer perceived value (CPV).

Part-4: It consists of 4 statements measuring smartphone purchase intention among Malaysian working professionals.

Data Analysis
Demographic Profiles

Table 1: Demographic Classification of respondents

Criteria	Category	Number	Percentage
Gender	Male	149	49%
	Female	153	51%
Age Group	25-29	120	40%
	30-34	77	25%
	35-39	48	16%
	40-44	18	6%
	45-49	24	8%
	50-54	15	5%
Education Level	Undergraduate	145	48%
	Master	125	41%
	PhD	32	11%
Marital Status	Married	164	54%
	Single	136	45%
	Other	02	1%
Race	Malay	156	52%
	Chinese	85	28%
	Indian	42	14%
	Others	19	6%
Monthly Income	Below RM5,000	200	66%
	RM5,000 to RM8,000	52	17%
	RM8,000 to RM11,000	33	11%
	RM11,000 and Above	17	6%
Smartphone Brand Used	Samsung	120	40%
	iPhone	77	25%
	Assus	18	6%
	Oppo	10	3%
	Lenovo	35	12%
	Sony	23	8%
	Huawei	14	5%
	Others	5	2%

With the sample size of 302, demographic classification of the respondents is as follows. Females account of 50.7% while males make up 49.3% with a ratio of 1.03%. From age group, 120 data was collected from respondent range from 25-29, almost 80 was from the range of 30-34. 48 respondents were ranging from 35-39 and the remaining was below 40 respondents. From the data collection census, 48% of Malaysian working professionals holds an undergraduate degree, 41.4% hold a postgraduates degree and 10.6% hold PhD. 200 of the respondents earn below RM5, 000 in a month, 50 respondents earn between RM5,000 to RM8,000 in a month and 33 respondents earn between RM8,000 to RM11,000 and remaining 17 respondents earns RM11,000 and above. Marital status more than 150 respondents were married, respondents whom were single was below 150 respondents and 2 others with complicated marital status. 52% of the respondents are Malay working professionals, 28% is Chinese working professionals, and 14% are Indian working professionals and the remaining with other professional workers leaving in Malaysia.

Reliability Test

The Cronbach's Alpha model measured the internal consistency based on average correlation among items and provides the valid sample size for each variable. Cronbach's alpha for establishing the internal consistency reliability: Excellent ($\alpha > 0.9$), Good ($0.7 < \alpha < 0.9$), Acceptable ($0.6 < \alpha < 0.7$), Poor ($0.5 < \alpha < 0.6$), Unacceptable ($\alpha < 0.5$) (Kline, 2000; George & Mallery, 2003). According to Hair et al. (2010) a good standardized loading factor of each measurement latent variable of which quantified from manifest variable should be above 0.5 and ideally 0.7 or higher. Therefore, the Cronbach's alpha of the variables ranges between 0.589 to 0.909 which is acceptable.

Table 2: Reliability Analysis

Variables	Cronbach's Alpha	No. of Items
Social Value	0.862	4
Perceived Usefulness	0.855	4
Perceived Ease of Use	0.909	4
Economic Value	0.589	4
Brand Image	0.834	4
Customer Perceived Value	0.885	4
Purchase Intention	0.635	4

Sample Adequacy

The Bartlett's test is used to test if K samples have equal variances, equal variances across samples is called homogeneity of variances (Shuttleworth, 2008). Applying the Bartlett test rule to the research study, the result found is as follow:

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.887
	Approx. Chi-Square	4988.325
Bartlett's Test of Sphericity	Df	496
	Sig.	0.000

There is significant greater sample adequacy of Kaiser-Meyer-Olkin (KMO) measure with 0.884, and the Bartlett's Test of sphericity is significant at 0.000 which is less than 0.05.

Confirmatory Factor Analysis

The estimate of standard loading was used to determine the validity of CPV dimension and purchase intention in figure 11. The CFA factor loadings range from 0.28 to 0.87.

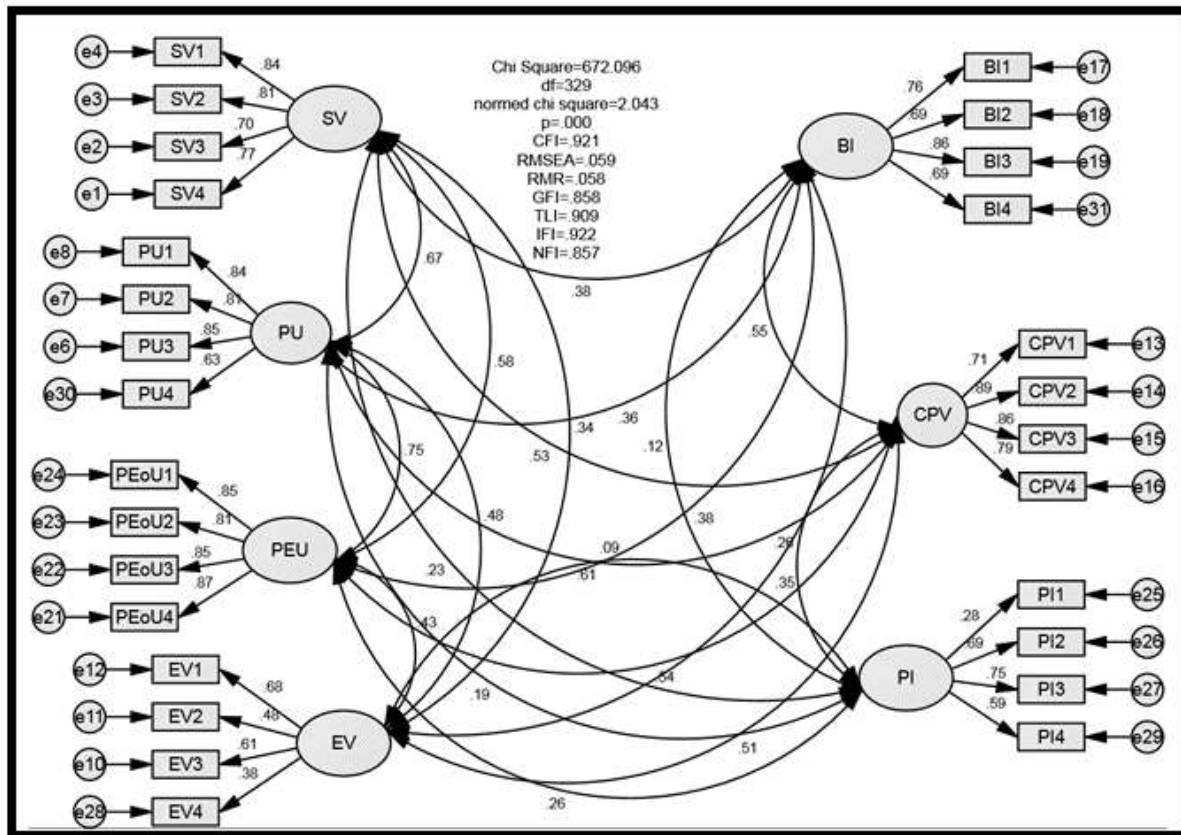


Figure 2 – First Measurement of Latent Variables Construct

Hair et al. (2010) general rule of factor loading is to maintain those items that loads more than 0.7 but includes the values that loaded close to 0.5 and deleted those values which have poor factor loadings. Amos 22 requires minimum three items per construct. A re-run of confirmatory factor analysis (CFA) was carried out again because the measurement model was totally fit, then modification was made with modification indices to ensure that each construct should have 3 items and meet a very good model fit (Hair et al., 2010).

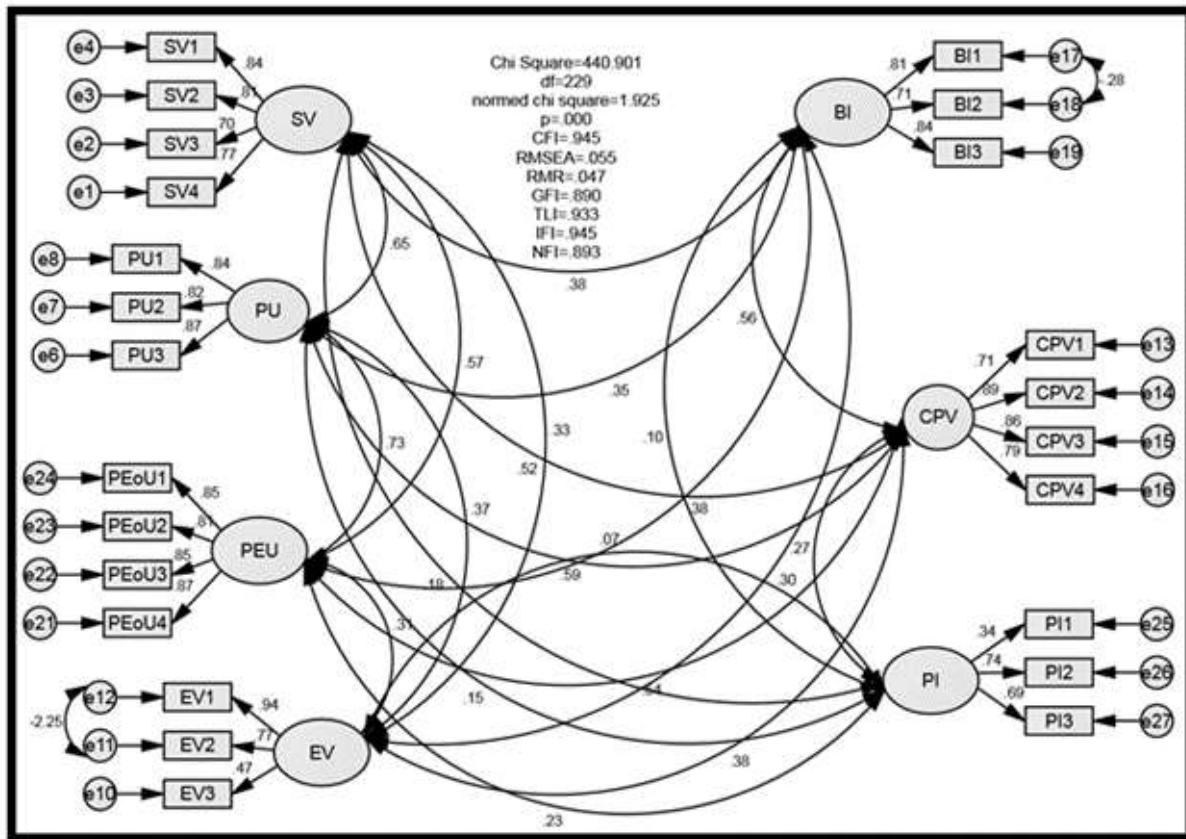


Figure 3 – Confirmatory Factor Analysis (CFA) Final Model

Hair et al. (2010) and Holmes-Smith (2006), model fitness measurement, it shows that the actual re-run of this research confirmatory factor analysis with good. According to Byrne (1994), the comparative fit index (CFI), the incremental fit index (IFI) and the normed fit index (NFI) should be greater than 0.90 in order to have a better model fit. This research study results demonstrates that (CFI=0.945>0.90; IFI=0.945>0.90; TLI=0.933>0.90; NFI=0.893<0.90, GFI=0.890<0.90).

Root mean square error of approximation (RMSEA) and root mean square residual (RMR) avoid issues of sample size to find out better model with smaller sample size by analyzing the discrepancy between the hypothesized model with optimally chosen parameter estimates and the population covariance matrix. RMSEA and RMR ranged from 0 to 1, with smaller value indicating better fit. According to Browne and Cudeck RMSEA and RMR should be less than 0.8 indicating of acceptable and good model fit. The research study results found out that (RMSEA=0.055<0.08 and RMR=0.047<0.08).

Schumacker and Lomax (2004) accept a CMIN/DF to less than 5 due to the index sensitivity to sample size. According to Schumacker and Lomax (2004) acceptance of relative chi-square index (CMIN/DF) this research model can be fit at value less than 5, the result of this research shows that (CMIN/DF=1.925<2) according to the rule of Ullman (2001). And a P-value that should be greater 0.05, nevertheless, this research study p-value is affected by sample size which shows a p-value=0.0000<0.05.

From the re-run CFA analysis in Amos 22, the model proposed has now a very good fit because it reaches 1 or 2 level of acceptance from each category indices (Absolute fit indices, incremental fit indices and parsimonious fit indices) (Hair *et al.*, 2010 and Holmes and Smith, 2006).

Table 4: Confirmatory Factor Analysis (CFA) Model Fitness Summary

Name of Category	Name of Index	Measurement Level	Comments
Absolute Fit Indices	Chi-Square (CMIN)	p-value = 0.000<0.05	Required level is not achieved
	RMSEA	RMSEA = 0.55<0.08	Required level is achieved
	GFI	GFI = 0.890<0.90	Required level is not achieved
	RMR	RMR = 0.47<0.08	Required level is achieved
Incremental Fit Indices	NFI	NFI = 0.893<0.90	Required level is not achieved
	CFI	CFI = 0.945>0.90	Required level is achieved
	TLI	TLI = 0.933>0.90	Required level is achieved
	IFI	IFI = 0.945>0.90	Required level is achieved
Parsimonious Fit Indices	Chi-Square/DF(CMIN/DF)	CMIN/DF=1.925<2	Required level is achieved

Divergent Validity Measurement

The divergent validity measurement is done with factor loadings in order to confirm the reliability of the data from the Cronbach's alpha.

Table 5: Divergent Validity Measurement

Column 1	SV	PU	PEoU	EV	BI	CPV	PI
SV1	0.84						
SV2	0.81						
SV3	0.70						
SV4	0.77						
PU1		0.84					
PU2		0.82					
PU3		0.87					
PEoU1			0.85				
PEoU2			0.81				
PEoU3			0.85				
PEoU4			0.87				
EV1				0.94			
EV2				0.77			
EV3				0.44			
BI1					0.81		
BI2					0.71		
BI3					0.84		
CPV1						0.71	
CPV2						0.89	
CPV3						0.86	
CPV4						0.79	
PI1							0.34
PI2							0.74
PI3							0.69
Construct Reliability	0.862	0.855	0.909	0.589	0.834	0.885	0.635

Discriminant Validity Measurement

Discriminant validity is the extent to which a construct is truly distinct from other constructs, thus high discriminant validity provides evidence that a construct is unique and captures some phenomenon other measures do not (MacQueen, 1967). CFA provides two common ways of assessing discriminant validity first correlation between any two construct and second by the comparison of AVE. However, the most popular test is the correlation between two construct therefore this research will make use of it.

Table 6: Discriminant Validity Measurement

	SV	PU	PEoU	EV	BI	CPV	PI
SV	1.00	0.42	0.33	0.11	0.14	0.28	0.03
PU		1.00	0.53	0.14	0.12	0.34	0.02
PEoU			1.00	0.10	0.14	0.29	0.05
EV				1.00	0.09	0.14	0.52
BI					1.00	0.31	0.92
CPV						1.00	0.07
PI							1.00

Diagonal elements are construct variance and values above the diagonal are squared correlations

In essence, it is the same as specifying that the items making up two constructs could just as well make up only one construct. If the fit of the two construct model is significantly different from that of the one-construct model, then the discriminant validity is supported even though there is high correlation as high as 0.9. Understandably, the data satisfies the discriminant validity samples because only Purchase Intention and Brand Image have face multi-collinearity problem of the correlation surpassing 0.85. Nevertheless, the rest shows good correlations. In brief, from the construct validity, to divergent validity and discriminant validity supported with strong literature demonstrates that the model is good to undertake the SEM (path analysis).

Structural Equation Modeling (SEM)

The analysis has been used to test hypothesized patterns of directional and non-directional relationships among a set of observed measured and unobserved (latent) variables (MaCCallum and Austin, 2000). The structural equation modeling of CPV associated with smartphone and its impact on purchase intention among Malaysian working professionals was conducted to estimate the parameters. In this model, there were five variables from the first-order and second order construct. The real aim of the structural equation modeling in this research study is to test that consumer perceived value (CPV) impact smartphone purchase intention. In the structural equation modeling (SEM), the exogenous constructs of this research study are: social value= SV, perceived usefulness=PU, perceived ease of use=PEoU, economic value=EV, brand image=BI. The endogenous constructs are: consumer perceived value= CPV, purchase intention=PI.

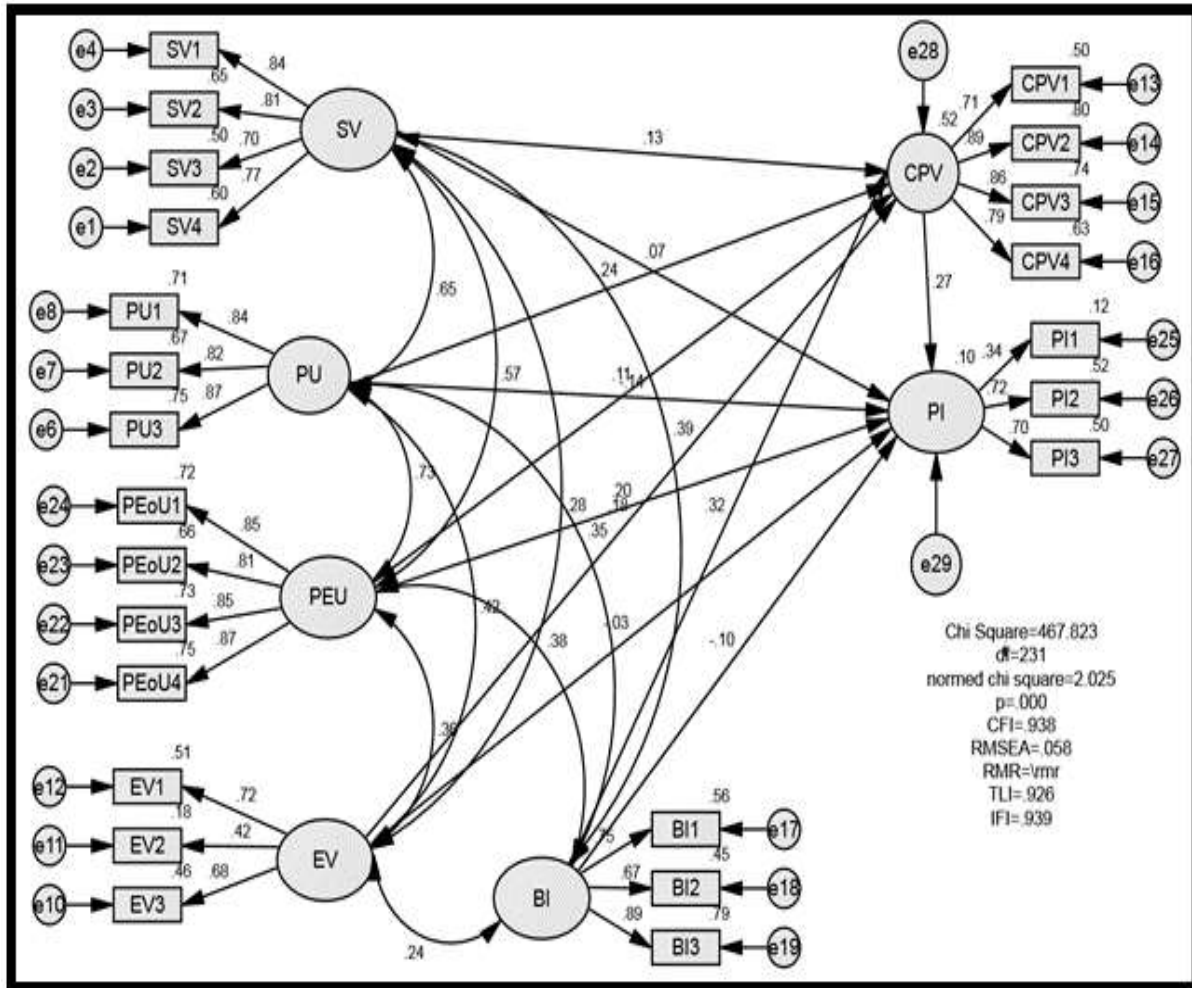


Figure 4 – Structural Equation Modelling (SEM)

SEM Model Fitness and Validity

In figure 13 shows that the chi-square is significant with a p-value=0.0000, the CFI=0.939, TLI=0.928 and IFI=0.940 which are significant at a measurable level greater than 0.9. The RMSEA=0.56 and RMR=0.55 which are significant at a measurable level lower than 0.8. The normed chi-square=1.957 which is significant at a measurable level lower than 3.

Comparison of Factor Loadings

Table 7: Comparison of Factor Loadings

Construct	Indicator	CFA	SEM
SV	SV1	0.84	0.84
SV	SV2	0.81	0.81
SV	SV3	0.70	0.70
SV	SV4	0.77	0.77
PU	PU1	0.84	0.84
PU	PU2	0.82	0.82
PU	PU3	0.87	0.87
PEoU	PEoU1	0.85	0.85
PEoU	PEoU2	0.81	0.81
PEoU	PEoU3	0.85	0.85
PEoU	PEoU4	0.87	0.87
EV	EV1	0.94	0.71
EV	EV2	0.77	0.42
EV	EV3	0.47	0.68
BI	BI1	0.81	0.75
BI	BI2	0.71	0.67
BI	BI3	0.84	0.89
CPV	CPV1	0.71	0.71
CPV	CPV2	0.89	0.89
CPV	CPV3	0.86	0.86
CPV	CPV4	0.79	0.79
PI	PI1	0.34	0.34
PI	PI2	0.74	0.72
PI	PI3	0.69	0.70

Table 8 shows and demonstrates that the factor loading of the measurement model and the SEM model are very similar just few differentiation from the EV construct and PI construct, this shows the model is validated as a good model fit.

Path Analysis Comparison

Table 8: CFA Correlation Estimate

CFA Measurement Model			
Relationship			Estimate
SV	correlates	PU	0.65
SV	correlates	PEoU	0.58
SV	correlates	EV	0.33
PU	correlates	PEoU	0.73
PU	correlates	EV	0.37
EV	correlates	PEoU	0.31
EV	correlates	BI	0.30
PU	correlates	BI	0.35
SV	correlates	BI	0.38
BI	correlates	PEoU	0.38

Table 9: SEM Measurement Model

SEM Measurement Model			
Relationship			Estimate
SV	<-->	PU	0.65
SV	<-->	PEoU	0.58
SV	<-->	EV	0.33
PU	<-->	PEoU	0.73
PU	<-->	EV	0.37
EV	<-->	PEoU	0.31
EV	<-->	BI	0.30
PU	<-->	BI	0.35
SV	<-->	BI	0.38
BI	<-->	PEoU	0.38

In Amos statistic the estimate column measures the correlation strength of the research exogenous construct; the value of correlation is always interpreted between -1 to +1, a

correlation estimate which is above 0.85 demonstrate that there is multi-collinearity problem between two exogenous construct. Therefore the result from the research correlation analysis shows that all the research variables are correlated with no multi-collinearity problem, it shows the relationship among exogenous construct. Thus, this comparison just reinforced the model fit not to deter it in order to undertake the path analysis.

Hypotheses

Before undertaking the test of hypotheses in this research study, it is critical to determine the R-square of prediction from the model, to what extent the exogenous constructs can predict the endogenous construct of the model used in the research study.

Table 10: R-square (path analysis prediction)

	R-Square	Level of Predictability
CPV ← SV	0.52	52%
CPV ← PU		
CPV ← PEoU		
CPV ← EV		
CPV ← BI		
PI ← SV	0.10	10%
PI ← PU		
PI ← PEoU		
PI ← EV		
PI ← BI		

Table 16 demonstrates that the exogenous constructs has a good prediction of the CPV endogenous constructs with 52% prediction and the exogenous constructs of the model has a poor prediction of the PI endogenous construct with 10% prediction.

Table 11: Regression Weights

	Std. Estimate	SE	CR	P-Value	Accepted or Rejected
CPV ← SV	0.134	0.061	1.822	0.068	Rejected
CPV ← PU	0.236	0.089	2.532	0.011	Accepted
CPV ← PEU	0.108	0.068	1.343	0.179	Rejected
CPV ← EV	0.177	0.105	2.511	0.012	Accepted
CPV ← BI	0.324	0.053	5.208	***	Accepted
PI ← CPV	0.27	0.069	2.182	0.029	Accepted
PI ← SV	0.069	0.050	0.633	0.527	Rejected
PI ← PU	-0.142	0.075	-1.01	0.312	Rejected
PI ← PEU	0.197	0.058	1.589	0.112	Rejected
PI ← EV	-0.026	0.082	-0.263	0.793	Rejected
PI ← BI	-0.099	0.045	-1.037	0.3	Rejected

In the hypothesis analysis, the exogenous constructs (Social value, Perceived usefulness, Perceived ease of use, economic value and brand image) was found to contribute well consumer perceived value (CPV) but may have a critical judgment of contributing directly to smartphone purchase intention (PI). The findings suggest that the standard structural model of CPV associated with smartphone purchase intention in Malaysia is a good determinant of satisfaction and loyalty. These regression weights explain the degree of association between the construct and the manifesting variables. Furthermore, the significant path coefficient shown that the CPV

dimension had the positive impact on smartphone purchase intention which make the CPV to play an intermediary role between the exogenous constructs and smartphone purchase intention (PI) endogenous construct. According to Suki and Suki (2013) study on smartphone consumers in Malaysia, This research study hypothesized that social value has a significant impact on smartphone purchase intention among Malaysian working professionals. Then, this hypothesis was not supported based on the standardized estimate of 0.069 with an associated p-value of 0.527. Higher values of standardized estimates are generally more desirable, based on the fact that the standardized estimate is equivalent to beta weights in other forms of multivariate analysis. However, the p-value associated with the standardized weight is a better indicator of the fit. Based on the results of the hypothesis test, it appears that there is no significant impact of social value on smartphone purchase intention either on smartphone consumer perceived value (CPV).

According to Hong et al (2014) study with technology acceptance model (TAM) on smartphone consumers purchase intention found that perceived usefulness and perceived ease of use have direct effect on purchase intention (PI), this research hypothesized that perceived usefulness and perceived ease of use have significant impact on smartphone purchase intention among Malaysian working professionals. The hypothesis of perceived usefulness was not supported because it does not have direct effects on smartphone purchase intention (Std Estimate=-0.142, p-value=0.312) which is not significant at a probability level of 0.05, nevertheless, perceived usefulness has a significant impact on consumer perceived value with a p-value=0.011<0.05. Therefore perceived ease of use does not have direct effect on smartphone purchase intention and significant impact on consumer perceived value (CPV) among Malaysian working professionals (Std Estimate=0.108, P-value=0.179) which is not significant at a probability level of 0.05. According to Qun et al (2014) study on factors affecting purchase intention of smartphone, it was hypothesized that economic value has a significant impact on smartphone purchase intention among Malaysian working professionals. The hypothesis was not supported with a std estimate of 0.026 and p-value=0.793, nevertheless economic value was significant with consumer perceived value (CPV) with a std estimate of 0.177 and a p-value of 0.012 which is significant at a probability level of 0.05. For brand image this research study hypothesize that brand image has a significant impact on smartphone purchase intention which was not supported by the finding of the research with a std estimate of -0.099 and p-value=0.3 which is not significant at a probability level of 0.05. But brand image has a significant impact on consumer perceived value (CPV) with a p-value=0.000 and std estimate 0.324.

Understandably, consumer perceived value (CPV) as a mediator between the exogenous constructs and endogenous construct (purchase intention) has a direct effect on smartphone purchase intention with a standardize estimate of 0.29 and a p-value=0.029 significant at a probability level of 0.05. conclusively, the findings of this research study demonstrates brand image, perceived usefulness and economic value have significant impact on consumer perceived value (CPV) which plays an intermediaries role between these three exogenous constructs and smartphone purchase intention endogenous construct.

Mediating Effects

In the context of this research study, CPV plays an intermediary role between exogenous constructs and endogenous construct (purchase intention) because it is a causal pathway that

causes variation in the endogenous constructs and is the cause to vary by the exogenous constructs (independent variables).

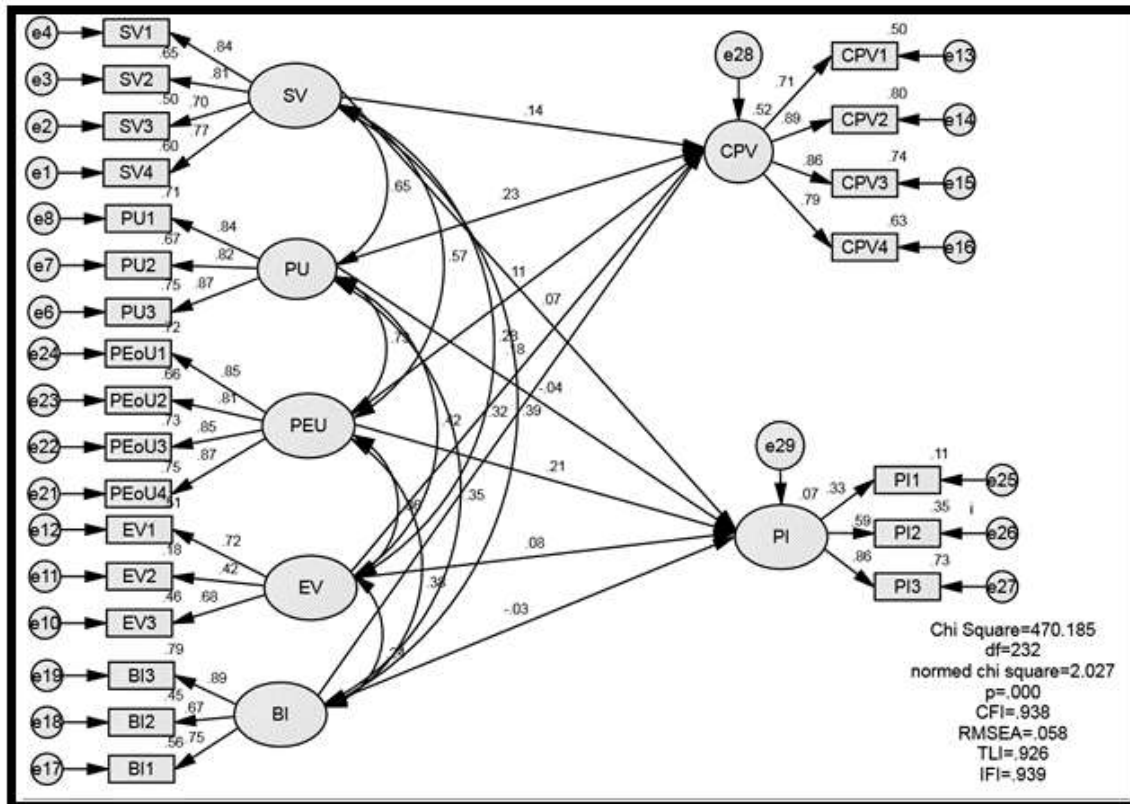


Figure 5: Exogenous Constructs Direct Effect on Endogenous Constructs

The above figure shows a good model fit, since the CFI=0.938, TLI=0.928 and IFI=0.939 meet the expected bench mark value above 0.9, and the RMSEA also meet the bench mark value below 0.08 (0.058).

Table 12: Exogenous construct direct effect on the endogenous constructs

			Estimate	SE	CR	P-Value
PI	←	SV	0.07	0.046	0.698	0.485
PI	←	PU	-0.04	0.066	-0.309	0.758
PI	←	PEoU	0.211	0.055	1.738	0.082
PI	←	EV	0.08	0.075	0.859	0.391
PI	←	BI	-0.034	0.037	-0.429	0.668
CPV	←	SV	0.135	0.061	1.839	0.066
CPV	←	PU	0.233	0.089	2.502	0.012
CPV	←	BI	0.323	0.053	5.192	***
CPV	←	EV	0.178	0.105	2.529	0.011
CPV	←	PEoU	0.11	0.067	1.373	0.17

In this hypothesis table, it demonstrates that SV, PU, PEU, EV and BI do not have direct effect on purchase intention, by looking at the table, it shows that BI, EV and PU has a direct effect on CPV. Therefore, if the CPV plays a role of intermediary between the exogenous constructs (SV,

PU, PEU, EV and BI) as an endogenous construct and exogenous construct for purchase intention in Figure 6. The exogenous constructs could have indirect effect on purchase intention.

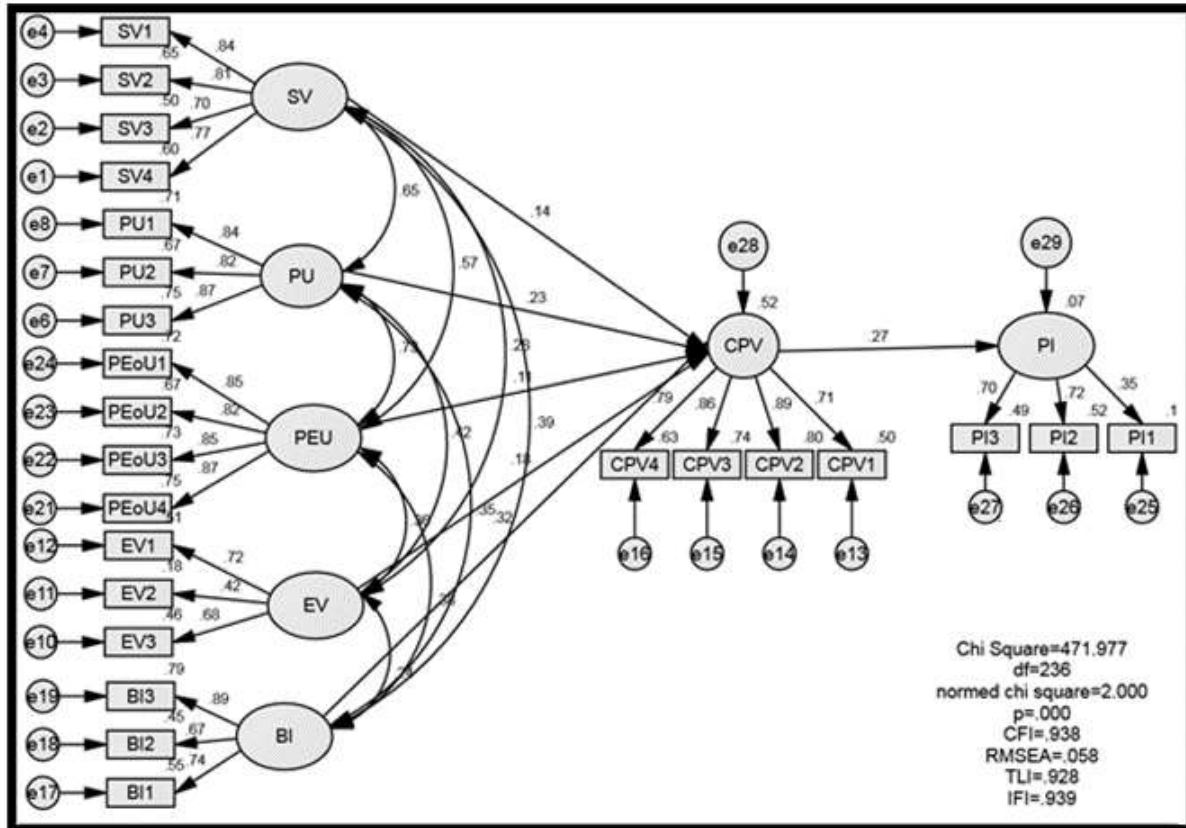


Figure 6: Intermediary Role of CPV to Purchase Intention

Table 13: Regression Weights: Mediator Analysis with Intermediary Role (CPV)

		Estimate	SE	CR	P-Value
CPV ←	PEoU	0.095	0.068	1.395	0.163
CPV ←	EV	0.264	0.105	2.504	0.012
CPV ←	BI	0.277	0.053	5.179	***
CPV ←	PU	0.223	0.089	2.505	0.012
CPV ←	SV	0.112	0.061	1.844	0.065
PI ←	CPV	0.15	0.05	30.21	0.003

When CPV is tested as complete intermediary variable role between exogenous construct and endogenous construct. Therefore, the Table 18 shows that brand image (BI), economic value (EV) and perceived usefulness (PU) have significant impact on consumer perceived value and indirect effect on smartphone purchase intention as CPV plays an intermediary role impact purchase intention.

Summary of Key Findings

Table 14: Summary of Key Findings

Hypothesis	P-Value (<0.05)	Accepted or Rejected
H1: Social Value has a significant impact on consumer perceived value (CPV).	0.068	Rejected
H2: Perceived Usefulness has a significant impact on consumer perceived value (CPV).	0.011	Accepted
H3: Perceived Ease of Use has a significant impact on consumer perceived value (CPV).	0.172	Rejected
H4: Economic Value has a significant impact on consumer perceived value (CPV).	0.012	Accepted
H5: Brand Image has a significant impact on consumer perceived value (CPV).	0.000	Accepted
H6: Social value has a significant impact on smartphone's purchase intention among Malaysian working professionals.	0.527	Rejected
H7: Perceived Usefulness has a significant impact on smartphone's purchase intention among Malaysian working professionals.	0.312	Rejected
H8: Perceived Ease of Use has a significant impact on smartphone's purchase intention among Malaysian working professionals.	0.112	Rejected
H9: Economic Value has a significant impact on smartphone's purchase intention among Malaysian working professionals.	0.793	Rejected
H10: Brand Image has a significant impact on smartphone's purchase intention among Malaysian working professionals.	0.3	Rejected
H11: Consumer perceived value (CPV) has a significant impact on smartphone's purchase intention among Malaysian working professionals.	0.029	Accepted

In brief, the research study findings show that brand image, perceived usefulness and economic value have significant impact on consumer perceived value and indirect effect on smartphone purchase intention among Malaysian working professionals, thus social value and perceived ease of use do not have significant impact on Malaysian working professionals purchase intention and consumer perceived value (CPV).

Discussion of the findings

The reason of few studies done in the field of consumer perceived value (CPV) is that it has become an interest topic since decade ago, yet the consensus regarding its definition and concept has not been obtain and remain unclear which resulted to several research gap that practitioners and researchers have to fulfill (Sanchez-Fernandez and Iniesta Bonillo, 2007). It has been proven that the use of the concept of consumer perceived value (CPV) does not only result in creating more satisfied customer but more importantly it is also found to have direct effect on purchase intention (Lin et al, 2005). Conclusively, based on the outcome of this study that emphasizes its research philosophy on a new angle of CPV "consumer perceived value impact on smartphone purchase intention among Malaysian working professionals" demonstrates the perceived value in use of Malaysian working professionals is useful for smartphone companies. The result of the study has accomplished the thought doubted of this topic; the analysis of this research study has answered the research questions and objectives, first of all by identifying CPV dimensions that might impact Malaysian working professionals purchase intention of smartphone, second of all by determining what are the reel CPV dimensions affecting Malaysian working professionals purchase intention of smartphone and what is the manner it affects smartphone purchase intention, which has been explained as:

Social Value. However, this research study found the contraire that social value does not have an impact or an effect on Malaysian working professional purchase intention of smartphone. The outcome of this research study can be supported by Kirsty (2013) study on US mobile marketing where they found that social value and people influence does not impact working professionals because 80 per cent are less likely than an average person who wants to see ads on their phone, as they use it mainly for work purposes, while they do not talk about brand's socially or brand highlighted on social sites or by friends and relatives. Perceived Usefulness In doing so, this research outcome found that this particular perceived has an impact on their smartphone purchase intention among Malaysian working professionals but indirect impact on their purchase intention because they should perceived it useful before purchasing it. Perceived Ease of Use According to several studies done on consumer perceived value (CPV) it is known that perceived ease of use has a significant impact on smartphone purchase intention (Hong et al., 2014). Therefore, the result of this study found the contraire for Malaysian working professionals. It found that Malaysian working professionals do not value the usability of smartphone functionality as whether it is easy to manipulate or not.

This study found that economic value has an indirect influence on smartphone purchase intention among Malaysian working professionals because these type of customers compare and make a tradeoffs between the smartphone value and the economic value. Therefore, Malaysian working professionals may face fairness that involves the monetary costs to obtain a service. Although they do not always want low prices, they consistently want the service to be worth the money they spend (Martín, 2008). This make price had direct effect on latest generation of smartphone among Malaysian working professionals. Brand image is judge by consumer regarding the popular brand people use in the smartphone industry which is making more sales and can be recognized by their innovation impact Malaysian working professionals purchase intention of smartphone latest generation. Brand image is the added value endowed to products and services with customers. It may be reflected in the way consumers think, feel and act with respect to a particular brand as well as the product quality. Therefore, the outcome of this research study shows that brand image does have an indirect effect on smartphone purchase intention among Malaysian working professionals. Conclusively, the indirect effect of economic value, perceived usefulness and brand image are based on an intermediary variable which Malaysian working professionals perceived value that impacts their smartphone purchase intention.

Conclusion and Recommendation

The demographic profile shows that the research datasets was well distributed with convenience sampling technique and sample size of 302 respondents. The Cronbach's alpha showed the reliability of the data which was reliable and acceptable for a research study from 0.589 to 0.90 (George & Mallery, 2003; Hair et al. 2010; Kline, 2000), none of the constructs were below 0.5. So the reliability figures are above 0.5 and one value is closer to 0.6. In addition to this, the factor loading already shows that the items are reliable and valid as those factors highlighted loaded more than 0.5 on each. This way is considered as more robust than Cronbach Alpha values. The KMO and Bartlett's test shows sample adequacy of the research study which was great. Moreover, in this research study, confirmatory factor analysis (CFA) was undertaken in order to find out the research model fit and validity through several steps such as the discriminants validity and convergent validity with several other model fit indices. Then, the structural equation modelling (SEM) was undertaken later in order to answer the research

questions and objectives with path analysis by testing eleven hypotheses. The conclusive findings shows that social value whether it increases or decreases does not have direct and indirect effects on smartphone purchase intention among Malaysian working professionals and CPV. Perceived Usefulness does have direct effect on CPV and indirect effect on smartphone purchase intention among Malaysian working professionals. Perceived ease of use does not have direct or indirect effect on CPV and purchase intention of smartphone among Malaysian working professionals whether it increases or decreases. Economic value does have direct effect on CPV and indirect effect on smartphone purchase intention among Malaysian working professionals. Brand image does have direct effect on CPV and indirect effect on smartphone purchase intention. In other words consumer perceived value (CPV) plays an intermediary role between perceived usefulness and purchase intention; brand image and purchase intention also economic value and purchase intention of smartphone among Malaysian working professionals.

It is recommended that smartphone companies should take attention not to neglect this type of consumers due to their economic status, they are more likely to purchase an expensive phone if they find it valuable and useful for their work. Based on the findings of the research, it is important to emphasize on how a smartphone can nowadays improve productivity of professional not much focus on how it can entertain them, innovative direction of building new generation for smartphone particularly in Malaysia should produce available functions for professionals, such as accounting software for accountants, coding materials for software engineers, reading application for law articles destined to lawyers and several other application for managers and business owners to improve their business performance and job performance (Sharlyn, 2016).

Moreover, this research study is in great amplitude because it will help smartphone companies' marketers, market researchers, managers and CEO to take a better decision from their strategic direction for these types of consumers (Malaysian working professionals). In the light of this research, there are two factors that all the smartphone companies should not take for granted which are perceived usefulness, economic value and brand image (Gheorghe, 2015; Tuggle, 2014). Smartphone companies should produce which is multi-functional that will help working professionals in their daily jobs with fair price. For the research carried out in multi ethnic markets like Malaysia, stratified or quota sampling is recommended. Selecting PAN Malaysia locations to collect data can result in stronger representation of population. However current research is based on convenience sampling and data is collected only from the capital city of Kuala Lumpur. Noting the fact that perceived value for working professionals from other markets may change, similar research can be done for other leading smartphone markets like India, Korea and also for the regions like ASEAN. Researchers can look at other market segment or target markets such as young people or also generation Y. Researches can be done on analyzing the evolution of Malaysian working professionals' perceived value from a trend of five years, for the purpose of understanding changes in their value they perceived.

Some limitations of the study include time constraints, in order to undertake this research as primary data collection, it required a lot of time to have access to the right target population in order to collect the right data. Sample size, this research study might be impacted by sample size because 302 respondents answered the online survey, and the survey do not cover all the location of Kuala Lumpur, therefore the researcher cannot generalize the findings of this research study. At the end, due to difficulties to get access to the right people the researcher did not use a random sampling method, he used a convenience sampling method to choose his respondents.

The non-delimitation of the research study is that the research was only limited in Kuala Lumpur area of Malaysia in Selangor state. In future, there much scope to extend this study by employing stratified sampling by considering races in Malaysia. Similar study can also be conducted for generation Y and also moderating factors can be analyzed by modifying developed framework.

References

- Ahmed, Z., Gull, M. and Rafiq, U. (2015). Factors affecting consumer switching behavior: Mobile phone market in Manchester-United kingdom, *International Journal of Scientific and Research Publications*, 5(7), 1-7
- Ajzen, I. (1980). Influencing attitudes and behaviour, *PsycCRITIQUES*, 26(12)
- AlQudah, A.A. (2015). Unified Theory of Acceptance and Use of Technology (UTAUT) Retrieved from <https://www.linkedin.com/pulse/unified-theory-acceptance-use-technology-utaut-ayman-alqudah> (accessed 24 September 2016).
- Arif, I. and Aslam, W. (2014). M P RA Munich personal RePEc archive students' dependence on smart phone and its effect on purchase behavior, Retrieved from https://mpr.aub.uni-muenchen.de/58919/1/MPRA_paper_58919.pdf (accessed 24 September 2016).
- Babin, B.J., Darden, W.R. and Griffin, M. (1994). Work and/or fun: Measuring Hedonic and utilitarian shopping value, *Journal of Consumer Research*, 20(4), 644-658.
- Bagozzi, R.P. (1984). A Prospectus for Theory Construction in Marketing. *Journal of Marketing*, 48, 11–29.
- Bagozzi, R.P. and Pieters, R. (1998). Goal-directed emotions, *Cognition & Emotion*, 12(1), 1–26.
- Bagozzi, R.P. and Warshaw, P.R. (1990). Trying to consume, *Journal of Consumer Research*, 17(2), 127.
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122–147.
- Bin, H. and Lazim, D.S. (2015). What Factor Persuade Malaysians Consumer To Purchase Smartphone?, *Journal of Technology and Operations Management*, 10(2), 38–50.
- Byrne, B. M. (1994). *Structural equation modeling with EQS and EQS/Windows*. Thousand Oaks, CA: Sage Publications.
- Campbell, A. and Tanzeem, C. (2012). From Smart to Cognitive Phones, Retrieved from: <http://www.cs.dartmouth.edu/~campbell/cognitivephone.pdf> (accessed 24 September 2016).
- Chen, Y. S., Chen, T. J. and Lin, C. C. (2016). The analyses of purchasing decisions and brand loyalty for Smartphone consumers, *Open Journal of Social Sciences*, 4(7), 108–116.
- Chen, Z. and Dubinsky, A.J. (2003). A conceptual model of perceived customer value in e-Commerce: A preliminary investigation, *Psychology & Marketing*, 20(4), 323-347.
- Christopher, A., John, F. S., Sudhahar, C. and Karunya. (2014). Influence of peer in purchase decision making of smart phone: A study conducted in Coimbatore. *International Journal of Scientific and Research Publications*, 4(8), 2250–3153.
- Davis, F. (1986). Perceived usefulness, perceived ease of use, user acceptance of information technology, *MIS Quarterly*, 13(3), 319–440.
- Daye, S. (2007). The influence of brand mark types on brand image and brand preference, *Journal of Digital Design*, 7(3), 57–66.

- Don, R. (2012). Smartphone users, Retrieved from: [http://Worldwide smartphone user base hits 1 billion](http://Worldwide%20smartphone%20user%20base%20hits%201%20billion) (accessed 23 Sep. 2016)
- Evans and Linda. (2008). Professionalism, Professionality and the development of education professionals introduction, *British Journal of Educational Studies*, 56(1), 20–38.
- Felix, R. (2015), “The state of the global Smartphone market. Statista Infographics”, Retrieved from: <https://www.statista.com/chart/2512/smartphone-market-share-q2-2014> (accessed 24 September 2016)
- Fishman, T. C. (2014). What happened to Motorola, Retrieved from: <http://www.chicagomag.com/Chicago-Magazine/September-2014/What-Happened-to-Motorola/> (accessed 24 September 2016).
- Gartner, (2016). Gartner says worldwide Smartphone sales grew 9.7 percent in fourth quarter of 2015, Retrieved from: <http://www.gartner.com/newsroom/id/3215217> (accessed 24 September 2016).
- Gerogiannis, V., Papadopoulou, S. and Papageorgiou, E.I. (2012). Identifying factors of customer satisfaction from Smartphones: A fuzzy cognitive map approach, *Thessaloniki*, 13, 133-42
- George, D., & Mallery, P. (2003). SPSS for Windows step by step: A simple guide and reference 11.0 update (4th ed.). Boston: Allyn & Bacon
- Gheorghe, A. (1997). Are employees’ smartphones putting your business at risk?, Retrieved from: <http://businessinsights.bitdefender.com/organizations-putting-more-money-cybersecurity-0> (accessed 25 September 2016)
- Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E., (2010). *Multivariate Data Analysis. Seventh Edition. Prentice Hall*, Upper Saddle River, New Jersey.
- Harun, A., Soon, L. T., Kassim, A. W. M., & Sulong, R. S. (2015). Smartphone dependency and its impact on purchase behavior, *Asian Social Science*, 11(1), 196–211.
- Hirschman, E.C. and Holbrook, M.B. (1982). Hedonic consumption: Emerging concepts, methods and propositions, *Journal of Marketing*, 46(2), 92–101.
- Holmes-Smith, P. (2006). *School socio-economic density and its effect on school performance*. MCEETYA, CA
- Holbrook, M.B. (1999), *Introduction to consumer value*. In M.B. Holbrook (Eds). *Consumer value. A framework for analysis and research*. Routledge, London, pp: 1–28.
- Hong, Y.H., Teh, B.H. and Soh, C.H.. (2014a). Acceptance of smart phone by younger consumers in Malaysia, *Asian Social Science*, 10(6), 34-39.
- Ibrahim, I.I., Subari, K.A., Kassim, K.M. and Mohamood, S.K.B. (2013), Antecedent stirring purchase intention of Smartphone among adolescents in Perlis, *IJARBS*, 3(12), 84-97.
- International Data Corporation. (2015), “Malaysia Smartphone and tablet market remains firm amidst GST implementation and weakening Ringgit in 2015H1”, available at: <https://www.idc.com/getdoc.jsp?containerId=prMY25891415> (accessed 24 September 2016).
- Joiner, M.C. (1994). Evidence for induced Radioresistance from survival and other end points: An introduction. *Radiation Research*, 138(1), 5.
- Kamaladevi, M. (2015). A Study on Consumer Behavior and Factors Influencing the Purchase Decision of Smartphone in Chennai City, *Global Research Review in Business And Economics*, 1(4).

- Kirsty, S. (2013). Are you a social butterfly or working professional? - mobile marketing, Retrieved from <http://mobilemarketingmagazine.com/are-you-social-butterfly-or-working-professional/> (accessed 24 September 2016).
- Kline, p. (2000). The handbook of psychological testing (2nd ed.). pp.13. London:Routledge
- Lee, H.S., Kim, T.G. and Choi, J.Y. (2012). “ A study on the factors affecting smart phone application acceptance” *3rd International Conference on e-Education, e-Business, e-Management and e-Learning*, 27 Retrieved from: <<http://www.ipedr.com/vol27/6-IC4E%202012-F00009.pdf>> (accessed 24 September 2016).
- Lepper, A.M. (1985). Computers: Concepts and uses, *Data Processing*, 27(10), 39-52
- Lim, K., Lay-Yee, Kok-Siew, H. and Chan, B. (2013). Factors Affecting Smartphone Purchase Decision Among Malaysian Generation Y. *International Journal of Asian Social Science*, 3(12), 2426–2440
- MacCallum, R. C. and Austin, J. T. (2000), Applications of structural equation modeling in psychological research, *Annual Review of Psychology*, 51, 201–226.
- MacQueen, J. (1967), "Some Methods for classification and Analysis of Multivariate Observations, Proceedings of 5-th Berkeley Symposium on Mathematical Statistics and Probability", *Berkeley, University of California Press*, 1, 28 1-297.
- Margaret, R. (2007). “What is smartphone?” available at: <<http://searchmobilecomputing.techtarget.com/definition/smartphone>> (accessed 24 September 2016).
- Marsh, H., Balla, J. and McDonald, R. (1989). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size, *Psychological Bulletin*, 103, 391-410.
- Mohd Suki, N. (2013). Dependency on Smartphones: An analysis of structural equation Modelling. *Jurnal Teknologi*, 62(1).
- Monroe, K.B. (1990). *Pricing: making profitable decisions*. 2nd edition ed. McGraw-Hill, CA
- Monroe, K. (1990). *Pricing: Making Profitable Decisions*. 2nd ed. New York, 46.
- Nagarkoti, B. (2014), “Factors influencing consumer behavior of Smartphone users”, Retrieved from: <http://theseus32-kk.lib.helsinki.fi/bitstream/handle/10024/70466/Nagarkoti_Bishal.pdf?sequence=1> (accessed 24 September 2016).
- Park, C. (2006). Hedonic and utilitarian values of mobile internet in Korea, *International Journal of Mobile Communications*, 4(5), 497.
- Piercy, C. (1997). “Review: Heparin-induced osteoporosis in pregnancy”, *Lupus*, 6(6), 500–504.
- Qun, L., JIn, C., Howe, J., Chee, L., Loke, T., Wong, W.W. and Kheng, T. (2012), “Exploring The Factors Affecting Purchase Intention Of Smartphone: A Study Of Young Adults”, available at: <http://eprints.utar.edu.my/697/1/MK-2012-1004230.pdf> (accessed 24 September 2016).
- Rahim, A., Safin, S.Z., Kheng, L.K., Abas, N. and Ali, S.M. (2016), Factors influencing purchasing intention of Smartphone among university students, *Procedia Economics and Finance*, 37, 245–253.
- Ravald, A. and Gronroos, C. (1996). The value concept and relationship marketing, *European Journal of Marketing*, 12, 19-30.
- Rhoads, K. (2002), Introduction to social influence, persuasion, compliance & propaganda, Retrieved from: <http://www.workingpsychology.com/intro.html> (accessed 24 September 2016).

- Richter, F. (2015). The state of the global Smartphone market, Retrieved from: <https://www.statista.com/chart/2512/smartphone-market-share-q2-2014/> (accessed 24 September 2016).
- Sánchez-Fernández, R. and Iniesta-Bonillo, M. (2007), The concept of perceived value: a systematic review of the research, *Marketing Theory*, 7(4), 427–451.
- Sata, M. (2013). Factors affecting consumer buying behavior of mobile phone devices *MJSS*, 4(12), pp. 2039–2117.
- Schumacker, R.E. and Lomax, R.G. (2004). *A Beginner's Guide to Structural Equation Modeling*. Mahwah, Lawrence Erlbaum Associates, Publishers. New Jersey
- Sheth, A. and Chandel, A. (2015). Consumer Buying Preference Towards Entry Level Smartphone, *IJABER*, 13(3)
- Sheth, J., Newman, B. and Gross, B. (1991). Why we buy what we buy: a theory of consumption values, *Journal of Business Research*, 22, 159-170.
- Seung, I.L.C. and Dong, I.L.K. (2015). An Empirical Study on the Smartphone Consumer Choice Factors - Comparison of Korea and Chinese Consumers, *Indian Journal of Science and Technology*, 8(26), 974-992.
- Sharlyn, T. (2012). “Could employees’ Smartphones harm your business?”, Retrieved from: <https://www.americanexpress.com/us/small-business/openforum/articles/9-tips-for-implementing-a-bring-your-own-device-byod-program-at-work/> (accessed 25 September 2016).
- Shuttleworth, M. (2008). “Descriptive research design - observing a phenomenon” Retrieved from: <https://explorable.com/descriptive-research-design> (accessed 24 September 2016).
- Southey, G., (2011). The theories of reasoned action and planned behaviour applied to business decisions: A selective annotated bibliography, *Journal of New Business Ideas & Trends*, 99(91), 43–50 .
- Stoica, I., Vegheş, C. and Orzan, M. (2015). Statistical exploratory marketing research on Romanian consumer’s behavior regarding Smartphones, *Procedia Economics and Finance*, 32, 923–931.
- Suki, N.M. (2013). Modelling factors influencing early adopters’ purchase intention towards online music, *International Journal of Technology and Human Interaction*, 7(4),.46–61.
- Surowiecki, J. (2014). “The new yorker, Retrieved from: <http://www.newyorker.com/business/currency/where-nokia-went-wrong> (accessed 24 September 2016).
- Sweeney, J.C. and Soutar, G.N. (2001). Consumer perceived value: The development of a multiple item scale, *Journal of Retailing*, 77(2), 203–220.
- Thompson, D. and Hughes, D.R. (1998). Holonic modelling, *Manufacturing Engineer*, 77(3), 116–119.
- Tunmibi, S., Aregbesola, A. and Asani, E.O. (2015), Factors influencing the adoption of smart phones by university students – A cross-border approach, *African Journal of Computing & ICT*, 8(1), 1–16.
- Tuggle, K. (2015), Lessons of companies that let employees bring Smartphones in, *Personal Finance*, 1–4.
- Ullman, J. (2016), *Structural equation modeling*. In B. G. Tabachnick & L. S. Fidell. (2001), *Using Multivariate Statistics*. 4th ed. Needham Heights: MA: Allyn & Bacon.,653- 771.

- Venkatesh, V., Morris, M.G. and Davis, F.D. (2003), User acceptance of information technology: toward a unified view, *MIS Quarterly*, 27(3), 425–478.
- Vikram, K. and Ramanathan, K.V. (2015). A Study Of Perception And Preference Towards Smart Phone Users. *International Journal of World Research*, 1(14), 14–20.
- Werner, F. (2004), Theory of Reasoned Action Applications, *Zeitschrift für Gastroenterologie*, 42(2), 198–198.
- Wixom, B.H. and Todd, P.A. (2005), A theoretical integration of user satisfaction and technology acceptance, *Information Systems Research*, 16(1), 85–102.
- Wollenberg, A. (2014). Consumer behaviour in the Smartphone market in Vietnam, *International Journal of Innovation, Management and Technology*, 5(6). 22-30
- Woodall, R. (2003), John Woodall. *BMJ*, Woodruff, R.B. and Gardial, S.F. (1996), *Know your customer: New approaches to customer value and satisfaction*. Blackwell. Cambridge, MA
- Woodruff, R. (1997). Customer Value: The Next Source of Competitive Advantage, *Journal of the Academy of Marketing Science*, 25(2), 139-153.
- Xie, X. and Chaipoopirutana, S. (2014). A study of factors affecting towards young customers purchase intention of domestic branded smartphone in Shanghai, Republic of China, *International Conference on business, law and corporate social responsibility*, 31-35
- Yu, Y. and Lee, K. (2014b). A Study on Factors Influencing Purchase Intention of Smartphones on Chinese University Students, *The Journal of Digital Policy and Management*, 12(1), 253–261.
- Zahid, W., & Dastane, O. (2016). Factors Affecting Purchase Intention of South East Asian (SEA) Young Adults towards Global Smartphone Brands. *ASEAN Marketing Journal*, 8(1). Retrieved January 3, 2017, from <http://journal.ui.ac.id/index.php/amj/article/view/5486>
- Zeithaml, V.A. (1998). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2–22.

To cite this article:

Fassou Haba, H., Hassan, Z., Dastane, O. (2017). Factors Leading to Consumer Perceived Value of Smartphones and its Impact on Purchase Intention. *Global Business and Management Research: An International Journal*, 9(1), 42-71.