

2012

VALUE-BASED PERCEPTION OF FAKE MOBILE PHONES: AN EMPIRICAL STUDY

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Recommended Citation

Chun-Wang, Tsou and Yin-Tsuo, Huang, "VALUE-BASED PERCEPTION OF FAKE MOBILE PHONES: AN EMPIRICAL STUDY" (2012). *2012 International Conference on Mobile Business*. 21.
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VALUE-BASED PERCEPTION OF FAKE MOBILE PHONES: AN EMPIRICAL STUDY

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Abstract

With the recent rapid growth of fake mobile phones in China's mobile market, the objective of this study is to address this important issue by exploring the specific antecedents of consumers' perception of value, as drawn from value-based theory. Perceived risks, which are modelled by four risk dimensions (physical, performance, social, and warranty), and value for money, are highlighted as the two key precursors of the perceived value and, further, relationships among these dimensions are examined by Partial Least Squares (PLS) analysis. The results of this empirical research, as expected, support the dimension of perceived risk consisting of the four types of perceived risk, and the impact on perceived value and value for money. Furthermore, the influence of value perceived as value for money is also confirmed to have a positive correlation.

Keywords: Fake mobile phone, Physical, Warranty, Value for money

1 Introduction

Advances in mobile phone technology and applications have facilitated rapid development, and more new design features built into mobile phones are becoming an increasingly popular medium for enriching the consumer's lifestyle, especially in emerging countries with high consumption power. To further understand the increased demand of China's mobile phone market, the top five mobile manufacturers, in terms of global sales and market share (IDC, 2011) are ranked as follows: Nokia (33.1%), RIM (16.1%), Apple (15.7%), Samsung (7.6%), and HTC (7.1%). All are involved in highly competitive marketing of mobile phones in China in terms of market penetration and revenue.

The more interesting phenomenon is that fake mobile phones from these global companies are being duplicated, but at one-fifth the price; they have been launched and growing rapidly in the mobile phone market over the past several years (CCTV-2, 2009). Most fake mobile phones have some common characteristics that effortlessly copied ideas and design thinking from famous brands without taking any consideration of the risks of copyright infringement; this caused an unequal competition in China's mobile market (The New York Times, 2009). With the lack of governmental authority and management, the unstable quality of fake mobile phones can cause some health hazards; batteries with the potential to overheat or even explode during use have been reported on CCTV-2. Interestingly, these adverse results have increasingly attracted attention to improving or upgraded them to meet the market's needs.

Understanding what drives consumers' motivation to acquire a fake mobile phone is an important topic meriting research attention, especially in terms of the manufacturers' cost advantage and ability to duplicate these devices, which can confound consumers' decision-making in acquiring a mobile phone. There are two major motivations for studying consumers' intentions to acquire fake mobile phones. One is consumers' preferences and personality traits that are related to risk and uncertainty (e.g., physical, performance, psychological, financial, and social). In light of the theory of perceived risk, consumers with a risk-taking propensity will be willing to make a choice at an acceptable level of perceived risk. A second reason for studying consumers' motivation in acquiring them is the important role mobile phones play as an inevitable part of their lifestyle. As a result, some consumers will seek to determine the best way of acquiring a mobile phone because of the short product lifecycle, rather than taking more money to buy a branded gadget. In this article, we will examine the dimension of perceived risk by reviewing the risk literature, combined with various types of risk facets validated through PLS analysis. Then the relationships between perceived risk, perceived value, and value for money are also explored.

2 Literature review

The Technology Acceptance Model (TAM), as developed by Davis (1989), is widely used to explain or predict consumers' adoption and usage of information systems (IS) in an organisational setting. Essentially, the framework of TAM is deriving from the Theory of Reasoned Action. Two salient beliefs of TAM (usefulness and ease-of-use) serve the important role of mediating the differences between external variables and behavioural intentions. Also, because TAM has the specific characteristics of parsimony and is a robust model for analysing the behaviour and perceptions of IS users (Venkatesh & Davis, 2000), its framework has recently been extended to mobile services for individual consumers (Lu et al., 2008; Im et al., 2008). In contrast, TAM has been criticised for its limited application in the workplace, where employees use the technology only for work purposes, and the absence of a broader explanation in a variety of different contexts. For example, in the case of mobile Internet (M-Internet), Kim et al. (2007) argued that, from the consumer perspective, most adopters of mobile Internet simultaneously play dual roles as technology users for both individual and work purposes, rather than simply technology users. Similarly, Turel et al. (2007) suggested that TAM

was not applied in the use of systems and devices that were charged to individual users, but that were available to the user for free. In addition, the lack of variety of constructs for overall assessment of the adopted object can be depicted, with the exception of usefulness and ease-of-use, in TAM. To gain an understanding of consumers' acceptance of innovative technology services, several studies have argued that a value-based adoption model (VAM), driven by the evaluation of M-Internet (benefit and sacrifice), was adopted to explain the respective consumers' choices for value maximisation (Kim et al., 2007).

To illustrate VAM model, perceived value, as defined by Zeithaml (1988) is a 'consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given'. This essentially represents the consumer's net trade-off between all relevant benefits received and costs or sacrifices delivered by supplier offering (e.g., Teas & Agarwal, 2000; Kim et al., 2007; Kleijnen et al., 2007). However, Zeithaml's notion of perceived value is limited to the trade-off between price, quality, and function (Zeithaml, 1988; Dodds et al., 1991; Teas & Agarwal, 2000; Chen & Dubinsky, 2003). Researchers have suggested that consumers' perceptions of value should more precisely reflect to be multidimensional highly involved with a study context in nature, and this could drive the consumer's purchase attitudes and behaviour (Dodds et al., 1991; Sweeney & Soutar, 2001). Specifically, a broader view of value includes not only traditional constructs (quality/monetary) but also emotional, social, and performance considerations (Turel et al., 2007). Recently, perceived value was assessed from two aspects of components. One is an individual's cognitive and affective reaction to the benefits of interaction with the system, such as usefulness and enjoyment (Kim et al., 2007), or service compatibility (Kleijnen et al., 2007), as received benefits in the mobile communication environment.

Perceived risk was conceptually developed in the context of consumer behaviour in the 1960s (Bauer, 1960) and it was described as a two-dimension concept that included uncertainty and negative consequences. On the basis of Bauer's statement of perceived risk, consumer behaviour involving risk is derived from any purchasing action that 'will produce consequences which he cannot anticipate with any approximating certainty, and some of the which at least are likely to be unpleasant' (Bauer, 1960, p. 24). The dimension of perceived risk was further refined by Jacoby and Kaplan (1972) as a multidimensional concept involved with multiple types of risks, including financial, performing, physical, psychological, and social risk. Since then, it has attracted much attention in the marketing literature, and extensive consumer research has confirmed that perceived risk affects consumers' behaviour in using new products or services (Sweendy et al., 1999; Tan, 2002; Featherman & Pavlou, 2003; Snoj et al., 2004; Cunningham et al., 2005; Hirunyawipada & Paswan, 2006; Im et al., 2008).

To precisely reflect what types of risk perceptions were considered aspects of the nature of communication technology, four components of perceived risk presented in the model were a synthesis of perceived risks with a brief literature review, including physical, performing, social, and warranty risk. Of these, performance risk and social risk relative to other two perceived risks were frequently considered as the construct of perceived risk in the mobile communication environment (e.g., Bauer et al., 2005; Im et al., 2008; Snoj et al., 2004; Kleijnen et al., 2007). Furthermore, physical risk was defined as the potential health risk arising from the high levels of radiation emitted by a fake mobile phone. Although physical risk was perceived by prior studies as of high concern for having a potential effect on users of mobile phones (Repacholi, 2001; Burgess, 2002; Elvers et al., 2009), there is, however, no clear scientific evidence to date to support a possible association between mobile phone technology and cancer.

Another consumer perception, about warranty risk, has received very little attention, at least as far as aspects of acquiring a mobile phone and its services are concerned. Murthy and Djamaludin (2002) carried out a review of literature (1992–2002) in the context of a new product, and stated that a warranty signalled a higher product quality and provided greater assurance to consumers. Therefore, perceived adequacy of coverage and the protection of a product warranty offered by manufacturers will decrease consumers' perception of risk in purchasing a product, and should include inquiries about product information, and a refund or replacement for items that fail before reaching the warranty period (Shimp & Bearden, 1982; Ostrom & Iacobucci, 1998).

3 Research model

In an attempt to better understand consumers' adoption of fake mobile phones, four types of risk combined into a dimension of perceived risk were examined, and it was theorized that this dimension not only directly affects consumers' perceived value, but also affects value-for-money. Based on the results of previous studies (e.g., Turel et al., 2007; Hirunyawipada & Paswan, 2006; Johnson et al., 2006), the research model developed a set of propositions after careful consideration of consumer's needs and preferences. This model guided the choice of the most relevant variables for inclusion.

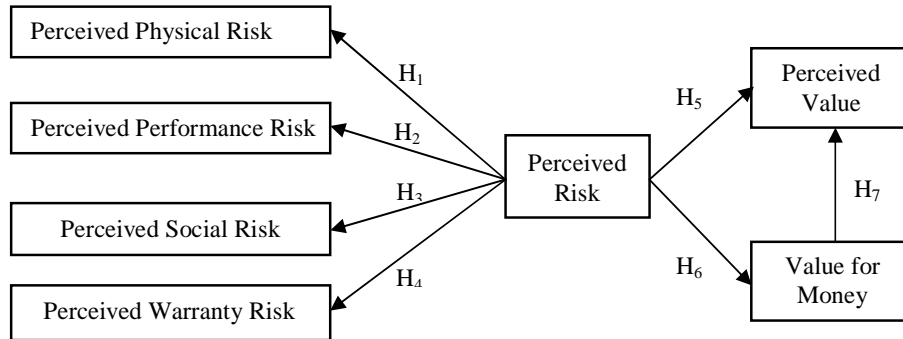


Figure 1. Research model

3.1 Perceived Risk

Prior studies have confirmed this viewpoint that the types of perceived risk have been well documented in various domains (Sweeney et al., 1999; Tan, 2002; Pire et al., 2004; Cunningham et al., 2005; Hirunyawipada & Paswan, 2006). Featherman and Pavlou (2003), further validating perceived risk facets merged as a dimension in the e-services context, typified perceived risk as having five dimensions (performance, financial, psychological, privacy, and social), and each risk facet significantly contributes to perceived risk, using a second-order confirmatory factor analysis. As argued above, empirical evidence of this relationship provides significant support for the hypothesis of this study, namely that perceived risk is a multidimensional construct consisted of four risk facets, which are described as follows:

3.1.1 Perceive physical risk

Perceived physical risk is defined by Jacoby and Kaplan (1972) as 'what the chances that an unfamiliar brand of product may not be safe', which is further predicted as a variable part of the overall perceived risk (i.e., psychological risk, financial risk, performance risk, and social risk). Although clearly defined, physical risk was the least important determinant of intention to acquire a product or service when consumers perceive them as having little health risk or not immediately life-threatening. Interestingly, several studies assessing the various risk facets of innovative products focus their efforts on physical risks that should be considered as a key part of risk facets, such as the risk evaluation of purchasing online (Pire et al., 2004), e-banking services (Cunningham et al., 2005), and adoption of high-technology products (Hirunyawipada & Paswan, 2006).

For the use of fake mobile phones, this study postulates that two aspects of a usage situation are mapped into the construct of perceived physical risk. Firstly, consumers' perception of physical risk focuses on assessing the health risks associated with electromagnetic exposure from a fake mobile phone rather than from a base station (e.g., Siegrist et al., 2005). Secondly, another potential health hazard for consumers using fake mobile phones is derived from the lower quality of mobile phone

parts or materials in order to reduce product cost, because these inferior products may be offered by hundreds of small Chinese manufacturers or underground companies without government regulation (The New York Times, 2009). A study by Cocosila et al. (2007) regarding the perception of health risks in the use of mobile phones was entirely consistent with the reasoning of this study, which perceived that physical risk can reflect the actual decision processes of consumers. Hence, the relationship is hypothesised that physical risk will be high correlated with consumer perceived risks:

H1: Perceived physical risk acts as a risk facet of perceived risk.

3.1.2 Perceived performance risk

Perceived performance risk refers to the likelihood that the product's performance failed to meet consumers' requirements (Jacoby & Kaplan, 1972) and/or will not provide the desired benefits (Bauer, 1960). Several studies (Gemünden, 1985; Tan, 2002; Pire et al., 2004) have described it as consumers' subjective assessment of product performance. These authors have argued to include it as a part of the dimension of perceived risk that substantially reflects concerns as to whether it represents the phenomena that product performance meets consumers' expectations. For example, in the context of Internet-based bill payment services (Featherman & Pavlou, 2003), which were refined to test Cunningham's (1967) proposition that all risk facets were caused by performance risk, results indicated that the effect of perceived performance on perceived risk provides significant support.

Perceived performance risk, as a research context and/or as an appropriate platform in selecting a fake mobile phone, is mainly derived from the functional uncertainty that some attractive features (i.e., touch screen support for fingers and no keypad) installed in a fake mobile phone are copied identically from the original one (i.e., iPhone), because these features may not perform well, e.g., slowly scrolling pages or disconnecting from the web. Hence,

H2: Perceived performance risk acts as a risk facet of perceived risk.

3.1.3 Perceived social risk

Perceived social risk is described as an individual's perception of how others will directly react to his purchase (Jacoby & Kaplan, 1972). It is further represented by an external psychological risk that an individual's shopping behaviour will be reacted to less favourably by others (i.e., consumer or social groups), possibly leading to the individual's potential loss of status in his/her group (Pire et al., 2004).

For this study, consumers' perception of social risk is conceptualised as the extent to which consumers' acquisition of a fake mobile phone will be perceived as having a crucial perceived risk of causing lowered social status in their peer group (i.e., colleagues, relatives, or friends). Therefore, it is posited as a reasonable inference that consumers who are more likely to acquire a fake mobile phone than a branded mobile phone could make sacrifices for benefit (i.e., value-for-money), possibly leading to degraded social status or to loss of others' respect. Hence,

H3: Perceived social status acts as a risk facet of perceived risk.

3.1.4 Perceived warranty risk

Warranties have been depicted as a means to reduce the uncertainty and the negative consequences that the consumer faces if a product failure does occur. Shimp and Bearden (1982) have examined how the presence of a warranty influences some of these types of risk perceived by the consumer. However, warranty perception was less consistently depicted as having a prominent role in several previous studies of perception risk in evaluating consumers' decision-making and purchase behaviour with a specified product, because the role of the warranty was not obvious or was a signal of either product quality or financial loss. Similarly, Pire et al. (2004) directly conceptualised warranty as an operating

definition of financial risk, but not as an independent construct of risk facets in the context of purchasing online.

For Chinese consumers' perceptions about warranty, the study by Erevlles et al. (2001) provided a perceptible distinction between durable goods and service, and indicated that warranty information was seen as a signal of quality for services (e.g., a computer training facility), but not for a durable product (e.g., a colour television). However, an important question for mobile phone users is whether the functions and applications of a fake mobile phone or branded mobile phone are treated as both product and service. Therefore, consumers' perceptions of warranty for a fake mobile phone are that it is expected to have a higher risk and more uncertainties than a branded mobile phone. Hence,

H4: Perceived warranty risk act as a risk facet of perceived risk.

Four types of perceptions risk refined from various risk facets of previous studies are selected contributed simultaneously to a dimension of perceived risk as the example of fake mobile phone, and further explore the effect of perceived risk on perceived value. This assumption captures a distinct but inseparable facet of perceived risk, different with previous studies (e.g., Chen & Dubinsky, 2003; Snoj et al., 2004; Kleijnen et al., 2007), which highlighted perceived risk as a crucial antecedent construct of perceived value, but its measure is limited on a respective risk facet. Therefore, the combination of the risk perceptions as a multidimensional construct should fully understand the nature of consumers' perceptions of risks acted as a precursor construct of perceive value when acquiring a fake mobile phone. Hence,

H5: Perceived risk is negatively related to perceived value.

In the case of fake mobile phones, a variety of stylish features copied from mainstream mobile phones with famous brand names such as iPhone, Nokia, or Sony Ericsson have been dominating the market share of mobile phones, and attracted much attention from target consumers who enjoy these innovative features. But some of these consumers are not willing to buy the branded phone when an emerging duplicated mobile phone with almost the same features and appearance of a branded mobile phone cannot be distinguished from its branded counterparts. When the product price is focused solely on an inherent component of perceived financial risk, consumers who are willing to pay a higher price will suffer from higher monetary risk than those who are more likely to pay a lower price. Hence,

H6: Perceived risk is negatively related to value for money.

3.2 Value for Money (VM)

In the marketing literature, product price has most often been treated as a silent cue to assess whether consumers are more willing to buy a product or service at the acceptable price (e.g., Monroe, 1990; Zeithaml, 1988). It has been empirical tested to have a negative impact on products' value-for-money, primarily because economical consumers' perceptions about product price are widely rated as a financial sacrifice, leading to a negative value judgment (Dodds et al., 1991; Chen & Dubinsky, 2003). Perceived value-for-money, as a monetary value or price that contributes a salient component to perceived value, was empirically tested and found to have a significant influence on perceived value in evaluating consumer adoption of mobile services (Turel et al., 2007). This study reasonably conceptualises value-for-money as an important component of perceived value, in that the price of a fake mobile phone has gained much attention from marketers, because it can be provided to consumers at about one-third or less of the price of a branded mobile phone (e.g., iPhone), and it has similar features, functions, appearance, style, and colour. Hence,

H7: Value for money is positively related to perceived value.

4 Methodology

4.1 Instrument development and data analysis

The fake iPhone, whose competitive price (500 RMB) is only one-fifth of a real Apple iPhone and was bought from the mobile phone market in Shenzhen, China, is considered as the experiment of the study, since it is by far the most popular, particularly with younger consumers (CCTV-2, 2009). In developing the survey instrument, all constructs composed of multiple measured items were adapted from the literature. The questionnaire consists of a total of 23 questions, and all items are included in Appendix A. Each item of the questionnaire was measured on a seven-point Likert scale with endpoints from 'strongly agree (7)' to 'strongly disagree (1)'. Data was gathered from some special websites that provided a forum for sharing experiences with the new mobile phone for highly involved consumers who would search for more information before purchasing. A questionnaire message used only for academic purposes was posted on the website's forum and attached a dedicated link that allowed respondents to fill in the questionnaire, with double-click linking to an online survey website provided by Google Docs.

A total of 262 Internet users responded to the questionnaire from July to September, 2010. After filtering the incomplete questionnaires and eliminating double responses by comparing access IP (Internet Protocol) addresses, 222 effective user responses were collected for evaluating the research model. As expected, the demographic figures showed that the majority of those in the sample were male, well-educated, and between 20 and 39 years of age. Because the average age of the Internet subscribers was usually perceived to be younger consumers for whom the Internet was highly relevant and who treat it as a major part of their lifestyle, the sample from the Internet was not likely to be fully representative of the Taiwanese population.

4.2 Analysis

To examine the research model, PLS-Graph Version 3.0 was used to access the measurement model and the structural model, because it was less sensitive to small sample size (<250) and residual distributions (Chin, 1998; Chin, 2002). Also, PLS is perceived to be a useful way of quickly exploring a large number of constructs to identify the sets of constructs that could predict some outcomes (Hair et al., 2006, p. 879). Following these reasons, the measure of the multidimensional aspect of perceived risk consisting of four types of risk facets was conducted by this approach, as suggested by Agarwal and Karahanna (2000). Therefore, the analysis strategy for the model adopts a two-stage approach. Firstly, the psychometrics of the properties of all the scales was assessed by confirmatory analysis factor (CFA), including reliabilities and discriminant validation. Secondly, the PLS technique was adopted to examine all hypothesised paths, including the factor scores of each risk facet on perceived risk.

4.3 Measurement model

To purify the measures and further access content validity, exploratory factor analysis (EFA) was conducted to judge each measured item that was highly loaded on one specific underlying factor by a factor loading estimate before confirmatory factor analysis (CFA). Subsequently, CFA was employed to examine an initial assessment of scale reliability, unidimensionality, and convergent and discriminant validity. The guideline and recommendations of analytical stages for scale development were to item reduction and assessment of the resulting factor structure, as suggested by Anderson and Gerbing (1988) and Hair et al. (2006). The result of EFA shows a six-factor model extracted by principle factor analysis, and reliabilities ranging from 0.81 (value for money) to 0.93 (perceived value) are assessed using Cronbach's alpha coefficients; thereby all constructs could be used with some confidence.

In assessing the discriminant validity, the average variance extracted (AVE) was conducted by

computing the total of all squared standardised factor loadings divided by the number of items, and an AVE of 0.50 or higher was considered a good rule of thumb suggesting adequate convergence (Fornell & Larcker, 1981; Hair et al., 2006). As can be seen from the CFA results in Table 1, all squared roots of the AVE for all constructs displayed on a diagonal of a correlation matrix were greater than the squared correlation between the two constructs presented in the corresponding rows and columns, indicating that the variance captured by the construct was more than the variance captured by other constructs, thereby fully satisfying the requirements for discriminant validity of the model constructs.

Table 1. Correlations and square roots of average variance extracted of the constructs

	Reliability	PV	PR:PPR	PR:PSR	PR:PWR	PR: PFR	VM
PV	0.94	.81^a					
PR: PPR	0.91	-.34 ^b	.83				
PR: PSR	0.90	.61	.68	.88			
PR: PWR	0.86	.53	.21	.49	.76		
PR: PFR	0.84	.21	.16	.34	.62	.79	
VM	0.82	-.37	.45	-.42	.27	-.09	.81

Note: PR = Perceived Risk; PV = Perceived Value; PPR = Perceived Physical Risk; PFR = Perceived Performance Risk; PSR = Perceived Social Risk; PWR = Perceived Warranty Risk; VM = Value for Money

^aThe diagonal element (in bold) represent the average variance extracted (AVE) by the construct.

^bThe off-diagonal element represent the variance shared (squared correlation) between constructs.

4.4 Structural model

PLS-Graph 3.0 provides a friendly graphic interface for drawing the model and resampling module (jack-knife and bootstrap). For this, the bootstrapping module with 200 resamples, which would lead to more reasonable standard error estimates (Chin, 1998; Chin, 2002), was performed to derive *t*-statistics, corresponding p-value, and path coefficients for all hypothesised paths. To gain an understanding of the influence of individual characteristics on the hypothesised model, gender, respondents' mobile experiences, and average time of using mobile phones were included in the analysis as control variables. Since no significant effects of these control variables were found on the hypothesised relationships, they were dropped from the model. The standardised path coefficients associated with explained variances for the model are shown in Figure 2.

Table 2. PLS outer model loadings

Manifest variables	PLS outer model loading
Perceived risk (PR)	
Perceived physical risk (PPR)	0.71
Perceived performance risk (PFR)	0.82
Perceived social risk (PSR)	0.80
Perceived warranty risk (PWR)	0.73
Perceived value (PV)	
PV1	0.82
PV2	0.84
PV3	0.77
PV4	0.72
PV5	0.83
PV6	0.52
Value for money (VM)	
VM1	0.78
VM2	0.70
VM3	0.76

Note: All loading are significant at 0.01.

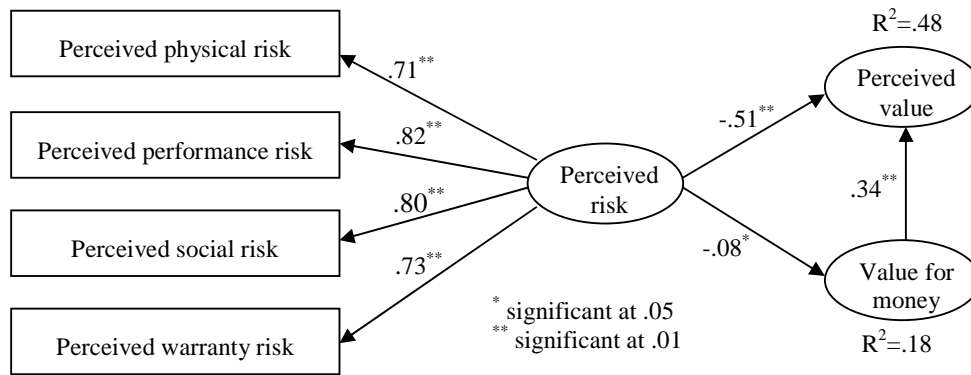


Figure 2. Partial least squares results

Since PLS analysis did not directly support the second-order factors, where a second-order manifest factor accounted for multiple first-order factors, the estimation of the perceived risk dimensions consisting of four types of perception risks was performed by the approach of Agarwal and Karahanna (2000), where the influences of all manifest variables on the latent variable were represented by factor scores. The outer model loadings of all other items on their respective manifest variables are shown in Table 2. The path coefficients relating some manifest variables to some others were determined in a manner similar to standardised beta weights in the multiple regressions (Agarwal & Karahanna, 2000).

5 Implications and Conclusion

This research offers important theoretical and pragmatic implications for researchers and marketers. The study argues for the value-added model as a concentric framework that is useful for understanding the adoption of mobile-related services, because consumers were perceived as having the dual role of service consumer and technology user (Kim et al., 2007). In addition, the value-added model applied in the marketing research (Zeithaml, 1988) was focused mainly on consumers' choices and behaviour as determined by the perceived value of the choice object (e.g., Kleijnen et al., 2007; Chen & Dubinsky, 2003).

The scales of perceived risk developed here captures the individual's perception of the riskiness of buying 'a fake mobile phone' across the mobile phone class, and reflects the perceived risk of specific alternatives being considered. In an attempt to address the risk of acquiring a fake mobile phone, perceptions of specific risk facets drawn from the theory of perceived risk, validated on consumer evaluation of such services (Featherman & Pavlou, 2003), are successfully refined, and a new direction is taken from the empirical results. The current findings should encourage further consideration of both warranty and physical risk as the domain of risk theory continues to develop. Both indicate significant load scores from perceived risk, respectively. Physical risk, which is designated as one of the risk facets for consumers' adoption of a fake mobile phone, arose from the lack of official approval and regulations, and resulted in potential harm to consumers from unsafe batteries or the side effects of long-term use, such as radiation-related problems. Another risk factor, warranty risk, which is perceived as a post-sale factor and reflects the lurking cost-added of products for manufacturers is viewed as insurance against unsatisfactory product performance for the risk-averse consumer who is willing to pay more money for a warranty (Murthy & Djameludin, 2003). On the contrary, the risk attitude of consumers of fake mobile phones tends to prefer no warranty, such as post-sale maintenance or full money-back guarantees, possibly because Taiwan's consumers would not expect to gain any guarantees from manufacturers in China.

A possible explanation for specific consumers who are more likely to buy a fake mobile phone than a real one is that they perceive the mobile phone as a stylistic product with a rapid product lifecycle. They expect to acquire a fake mobile phone at a relatively low price long after some newly designed mobile phones are launched by some famous global companies. Another possible explanation facilitating consumers' engaging in adoption of fake mobile phones is value-for-money acting as a facilitator, in which its price is relatively lower than a real one, and acquiring a fake mobile phone is associated with varieties of risk that adequately make up for the pricing of a fake mobile phone. When a product with a relatively competitive price is considered by specific consumers as a monetary value driving their motives for acquiring it, the importance of value-for-money can be differentially weighted for most consumers who are more involved in the product category may experience in lower price than those who are not involved.

A number of newly-designed mobile phones will be continuously emerging and are expected to replace current mobile phones, because some of distinct features will be promoted by marketers to make their phones competitive. This result is helpful to infer that consumers will not spend more money to enjoy these features provided by new mobile phones, but will rather try to purchase a counterfeit mobile phone. To highlight the viewpoint of distinct features, the fake Apple iPhone in this study was chosen as a research context, and the results indicated that all of the hypothesised relationships in the model were confirmed. Overall, by developing various irreplaceable features embedded in branded mobile phones, at least in part, makers of fake mobile phones may incur high duplicating cost to produce counterfeit mobile phones. As a result there will be no differentiation in price between the two counterparts. In such a situation, consumers who have been using fake mobile phones will accept a real mobile phone with normal risk-reduction activity, rather than a counterfeit mobile phone with any additional risk-reduction activity.

6 Limitations

This study was without any limitations in light of developing the research model in the fake mobile phone environment, and an online survey was conducted for the sake of a convenient sample. Although respondents gathered from the Internet did not represent the generalisability of the survey, they were acknowledged as an accepted sample by many studies (e.g., Forsythe et al., 2006; Kim et al., 2007), because today's Internet is closely linked with most respondents as an inevitable part of their lifestyle.

Some different types of risk facets as predictor of consumers' risky decision-making, such as security risks or psychological risks that could drive more expositions of consumers' perceived risks, were excluded from the estimation of the perceived risk due to a coherent and parsimonious research model. Finally, a cross-sectional study, rather than a longitudinal study, was conducted to investigate whether or not causality can be inferred from the results.

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Appendix

Perceived Risk

Perceived physical risk (Adapted from Jacoby & Kaplan, 1972)

- PPR1. Using the XXX will be harmful because it is not certified by the government. (*)
- PPR2. The electromagnetic radiation of XXX will cause some uncomfortable physical side effects.
- PPR3. The XXX's battery will cause it to overheat or explode when using it.
- PPR4. Using the XXX will cause physical harm or injury because its materials will be unsafe.

Perceived performance risk (Adapted from Jacoby & Kaplan, 1972; Chen & Dubinsky, 2003)

- PFR1. Using the XXX would frustrate me because of its poor performance.
- PFR2. Using the XXX will cause unsuccessful access to the Internet.
- PFR3. The XXX's built-in features will not work properly.

Perceived social risk (Adapted from Jacoby & Kaplan, 1972; Featherman & Pavlou, 2003)

- PSR1. Using the XXX will negatively affect the way others think of me.
- PSR2. Using the XXX will cause negative impression by other people.
- PSR3. Using the XXX will lead to social loss because my friends or relatives will think less highly of me.
- PSR4. Using the XXX will not improve the way I am perceived. (*)

Perceived warranty risk (Adapted from Erevelles et al., 2001)

- PWR1. It is likely that XXX will not provide the length of warranty in one month.
- PWR2. It is likely that XXX will not work in one month.
- PWR3. It is likely that XXX will not provide maintenance services.

Perceived value (Adapted from Sweeney & Soutar, 2001; Turel et al., 2007)

- PV1. Using XXX was beneficial.
- PV2. Using XXX was helpful.
- PV3. Using XXX was important.
- PV4. Most features of XXX meet my requirements.
- PV5. XXX's full features let me enjoy the same features as a real mobile phone.

Value for money (Adapted from Sweeney et al., 1999; Turel et al., 2007)

- VM1. I think XXX is much cheaper than the actual mobile phone.
- VM2. XXX is reasonably priced.
- VM3. XXX offers value for the money.

Note: XXX presents the fake mobile phone; * presents reverse scoring.