



## CONSUMER PURCHASE BEHAVIORS IN RELATION TO DISTINCT CULTURAL FACTORS AND PRODUCT ENHANCEMENT TYPE

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### Abstract

This study surveyed 400 respondents and analyzed the impacts of cultural factor variables such as “self- construal,” “regulatory focus,” and “product enhancement type” (PET) on consumers’ “replacement and purchase” (RP) behaviors. The mediating variables were “difference in enjoyment” and “mental book value”. The following findings were obtained: 1) An analysis of the self- construal type of respondents with distinct cultural characteristics under differing PETs revealed that respondents with independent self- construal were prone to RP behavior. 2) PET analysis showed that the RP decisions of respondents with distinct cultural characteristics were inclined toward general enhancement (GE). 3) When the type of PET was GE, regardless of the self- construal type, respondents with the regulatory focus trait were more prone RP behavior. 4) When the type of PET was focused enhancement, respondents with the regulatory focus trait were more inclined toward RP behavior.

Keywords: Cultural factor, self- construal, regulatory focus, product enhancement type

### Introduction

In world market competition, modern enterprises must cater for Eastern and Western consumers with distinct cultures. Understanding consumer characteristics, properly planning product marketing strategies, and completing the tasks of product development and design are not merely crucial for enterprises in the pursuit of survival and growth but are also tasks that are closely related to business

performance, hence the prudence of enterprises in their responses to these tasks (Claybaugh et al., 2015; Urban & Hauser, 1993; Wu, 2014).

Cultural factors affect consumers’ purchase decision behaviors. According to the self- construal theory, in North American countries where individualism is prevalent such as the United States and Canada, displays of independent self- construal (ISC) tend to be encouraged, whereas in East Asian countries where collectivism prevails such as China, Taiwan, Japan,

and South Korea, people are encouraged to exhibit dependent self-construal (DSC), which emphasizes gregariousness (Eagly & Kite, 1987; Durante et al., 2013; Babin & Griffin, 2015). One study focusing on the United States noted that ISC is positively correlated with purchase behavior, whereas DSC shares a negative correlation with purchase behavior (Kacen & Lee, 2002). In terms of new product acceptance, the self-regulatory focus theory asserts that promotion focus emphasizes profit and ignores risk, whereas prevention focus asserts the opposite (Crowe & Higgins, 1997; Higgins, 1997, 2000, 2005; Zhang & Shrum, 2009). Different self-regulatory focuses have distinct preferences for new products (Chang, 2013), with promotion focus preferring more innovative new products and prevention focus preferring the opposite (Yeo & Park, 2006).

Regarding new product development by enterprises, the cost of continuously launching new products is high, and thus improving existing products and launching them as new products is a common business strategy (Crawford & Benedetto, 2014; Ulrich & Eppinger, 2012). For example, since launching the first-generation iPhone in 2007, Apple has successively introduced a series of new products such as the iPhone 3G, iPhone 3GS, iPhone 4, iPhone 4S, iPhone 5, iPhone 5S, 5C, iPhone 6, 6 plus, and iPhone 7 and has generated expectations toward new product functions and market interest among consumers before launching each new product. Despite some consumers believing that a gap exists between each new product and their prior expectations, the iPhone is

now one of the world's top selling smart phones.

From a business perspective, business results are dependent on continual product enhancement and innovative designs (Urban & Hauser, 1993). In particular, for consumer electronics with a short life cycle and intense market competition, whether new features should be added should be considered in the process of innovative design. If the decision to maintain the properties of existing products without adding new features is made, businesses should consider whether to improve all attributes or only some of them (Claybaugh et al., 2015). In other words, to learn customer preferences, the significance of distinct product innovations to consumers should be understood before enterprises explore product innovations.

This study analyzed the impacts of various new products on the purchase decisions of consumers with distinct cultural characteristics, and referred to psychological costs by using consumers' difference in expected future enjoyment (DEFE) and mental book value (MBV) of existing products as intermediate variables to explore the impact of product enhancement type (PET) on the product purchase decisions of consumers with distinct characteristics. The findings of this study could serve as a reference for cultural factor researchers and product design and development practitioners.

## Literature Review

This study analyzed consumer types from the perspective of two cultural factors, namely self-construal and regulatory focus.

Self- construal: Markus and Kitayama (1991) noted that culture affects an individual's self- construal and believed that an individual consists of two parts, namely him or herself, known as "independent self- construal," and being a member of a group, which refers to how an individual view him or herself within a group and is known as "dependent self- construal." These two parts form the foundation for developing the self- construal theory (Matsumoto & Juang, 2012). ISC and DSC can simultaneously exist in any individual or culture, and the differences in self- construal between individuals are mainly influenced by cultural background (Triandis, 1989). Despite subsequent studies using distinct terms to express the researchers' views on self- construal, their interpretations have echoed the concept (Kelly, 2012) proposed by Markus & Kitayama (1991).

Eagly (1987) investigated self- construal from the perspectives of "region" and "sex" and discovered that displays of ISC and behaviors to reward the self tend to be encouraged in North American countries where individualism prevails. By contrast, the predominant collectivism in East Asia encourages DSC, which emphasizes group sociability. In the long run, both types of self- construal lead to habitual behaviors, and coupled with the social division of labor between the sexes, the distinct roles played by men and women in society result in behavioral differences that affect the dissimilarities in their self- construal and generate distinct values in Eastern and Western countries. (Kelly, 2012; Smith et al., 2014)

Regulatory focus: The regulatory focus theory maintains that an individual's regulatory focus can be divided into promotion focus, which focuses on the pursuit of "gain" and has less regard for risk, and prevention focus, which concentrates on avoiding "loss" and is more cautious about "risk" (Higgins, 2000). Promotion focus is characterized by the pursuit of ideal self- regulation that matches people's expectations and desires as closely as possible. Prevention focus avoids mismatches with individuals' responsibilities and obligations, thereby adhering to ought self- regulation. In addition, in terms of perspectives on risk, promotion focus tends to pursue any potential opportunities for success and avoid the errors of omission that reject opportunities for success and are thus willing to take risks. Prevention focus is inclined to reject any potential chance of failure and avoid the errors of commission that accept the opportunity to fail, hence is particularly risk averse (Crowe & Higgins, 1997; Higgins, 1997).

PET was divided into two types in this study. In terms of new products in relation to their existing counterparts, applying the same level of improvement to all major attributes is known as general enhancement (GE), whereas concentrating on substantial improvement of only some attributes is known as focused enhancement (FE) (Okada, 2006). For example, the first- generation iPad Air launched by Apple in 2013 and its second- generation successor introduced in 2014 were both improvements in terms of weight, computing speed, and capacity, although they were limited to upgrades on the original attributes.

According to mental accounting theory, consumer decisions regarding upgrading and replacing products involve mental costs (Thaler, 1999; Okada, 2001). In other words, when consumers make upgrade and replacement decisions, their main considerations are the comparison of the benefits of new and existing products (Bhat et al., 1998) and overcoming the mental cost generated by owning existing products (Okada, 2006). The more advanced functional attributes of new generation products enable consumers to gain more pleasure from them than from existing products, thereby leading to an increased replacement intention. An MBV is the difference between the price of a product and the pleasure accumulated from previous use of said product. Limited use frequency or less satisfactory perceived quality reduces the accumulated pleasure, rendering it difficult for the MBV to reach the break-even point and producing an inhibitory effect on the replacement decision (Ku et al., 2010). In addition, a consumer's replacement intention could be enhanced if he or she feels fully satisfied with an existing product, or in other words, if products have been worth their money. Consumers should have a higher purchase intention if they feel a smaller difference in enjoyment (DE) between old and new products, or a lower MBV for a product they possess when introduced to a new product (Okada, 2001).

### Research Methods

The outcome variable of the formal experiment was the participants' RP decisions. The independent variables were the NPTs and PLSs. A three-factor between-subjects design

was adopted to manipulate the three variables—NPT structures (i.e., alignable vs. nonalignable), types of new product enhancements (i.e., GE or FE), and PLSs (i.e., product coexistence vs. product exit)—to generate eight experimental scenarios. Consumer MBV and enjoyment were adopted as mediators to analyze their paths of influence on consumer RP intention.

The experiment was performed at various consumer electronics retailers. Convenience sampling was adopted to recruit customers visiting and purchasing items from the stores. Upon recruitment, the details of the experiment were explained to the participants. The age of the participants ranged from 19 to 40 years. A between-subjects design was adopted for the survey, whereas a within-subjects design was adopted for the two target products.

A total of 400 questionnaires were distributed in the formal experiment (8 experimental scenarios × 50 participants). During the survey, assistants explained the purpose, process, and rules for answering the questions to the participants. After granting consent, various experimental scenarios were presented to the participants for them to answer the questionnaires.

Before the experiment, the participants were required to read the textual and graphic descriptions of the NPTs and then descriptions of the product coexistence and product exit strategies. The assistants answered any questions raised by the participants. Finally, the participants answered the questionnaires about product DEFE, MBV, and RP decisions.

The experiment was conducted through scenario- based simulations. The participants answered the items for each variable after each scenario was described.

The experiment in this study was conducted in several consumer electronics retail stores, where the experiment was explained before a survey was conducted among consumers purchasing smart phones at the stores by using convenience sampling. The respondents were aged between 19 and 40 years and a between- subject design was adopted. For the two target products, a within- subject experimental design was employed.

A total of 400 questionnaires (8 experimental situations x 50 respondents) were distributed. During the experiment, the research assistant was explained the experimental purpose and process, and noteworthy matters for completing the questionnaire. After giving their consent for participation, the respondents were randomly assigned to experimental situations for testing.

The independent variables of the experiment included self- construal, regulatory focus, and PET and a three-factor between- subject design was adopted. The three variables consisting of two types of self- construal (ISC and DSC), two types of regulatory focuses (promotion focus and prevention focus), and two types of new product enhancement (GE and FE) were manipulated to form a total of eight experimental situations. The mediating variables were consumers' pleasure and MBV and the dependent variable was replacement and purchase (RP).

In the experiment, the respondents were first requested to read the description and illustrations for the experimental stimulus, after which they were requested to read the situation descriptions of self- construal, regulatory focus, and PET. The research assistant helped if the respondents had any questions.

### Analysis and Discussion

Table 1 shows the descriptive statistics for the variables of DE, MBV, and RP as perceived by respondents in the case of varying self- construal (ISC and DSC) and regulatory focus (promotion focus and prevention focus) under the experimental stimulus of smartphones and the influence of varying PET (GE and FE). Table 2 shows the overall mean scores for DE, MBV, and RP according to distinct PETs. Table 2 shows the stimulus with FE had a greater DE than did those with GE (mean: 5.75 > 4.80), which indicated that respondents felt greater discontent for FE stimulus. The MBV of FE stimulus was higher than that of its GE counterpart (mean 5.63 > 4.42), thereby demonstrating that the respondents obtained less value from the FE stimulus, and less satisfaction for the money spent. Therefore, the respondents' RP decisions were more inclined toward GE.

Table 3 shows the scores under varying PET (GE or FE) stimuli based on ISC and DSC. DSC respondents perceived a greater DE for the stimuli than did their ISC counterparts (mean: 4.79 > 4.52, 6.05 > 5.56), indicating that DSC respondents felt a higher level of discontent toward the stimuli.

The MBV of the DSC respondents was also greater (mean: 4.57 > 3.98, 6.03 > 5.43), denoting that the

DSC respondents obtained less value from the stimuli, which also showed less satisfaction for the money spent.

Table 1. Descriptive statistics of statistical results for each variable

PET x SC x SR	Sample	DE	MBV	RP
GE x ISC x PmF	50	4.27 (1.13)	3.95 (0.96)	6.18 (0.93)
GE x ISC x PvF	50	4.76 (1.01)	4.01 (1.31)	6.05 (0.95)
GE x DSC x PmF	50	4.27 (0.91)	3.59 (0.98)	5.97 (1.51)
GE x DSC x PvF	50	5.89 (0.95)	6.12 (1.09)	3.91 (1.03)
FE x ISC x PmF	50	6.09 (1.31)*	6.09 (0.93)*	4.11 (1.17)
FE x ISC x PvF	50	5.97 (1.64)	5.93 (0.97)	4.14 (0.92)*
FE x DSC x PmF	50	6.13 (0.87)	5.98 (1.01)	4.08 (1.19)
FE x DSC x PvF	50	6.17 (1.32)	6.05 (0.97)	4.06 (1.02)
total	400	5.44 (1.14)	5.22 (1.04)	4.81 (1.09)

Note: GE: general enhancement, FE: focused enhancement, ISC: Independent self-construal, DSC: Dependent self- construal, PmF: Promotion focus, PvF: Prevention focus; product enhancement type (PET), Self- construal (SC), Self-regulatory (SR), difference in enjoyment (DE), mental book value (MBV), replacement and purchase (RP).

Table 2. Descriptive statistics according to varying PET

PET	Sample	DE	MBV	RP
GE	200	4.80 (1.00)	4.42 (1.09)	5.53 (1.11)
FE	200	5.75 (1.17)	5.63 (0.99)	4.38 (1.14)
Total	400	5.44 (1.14)	5.22 (1.04)	4.81 (1.09)

Note: GE: general enhancement, FE: focused enhancement ; product enhancement type (PET), Self- construal (SC), Self- regulatory (SR), difference in enjoyment (DE), mental book value (MBV), replacement and purchase (RP).

Table 3. Descriptive statistics according to varying PET and self- construal situations

PET x SC	Sample	DE	MBV	RP
GE x ISC	100	4.52 (1.07)	3.98 (1.14)	6.12 (0.94)
GE x DSC	100	4.79 (0.96)	4.57 (1.13)	5.31 (1.16)
FE x ISC	100	5.56 (1.20)	5.43 (0.99)	4.53 (1.16)
FE x DSC	100	6.05 (1.22)	6.03 (0.99)	4.06 (1.07)
Total	400	5.44 (1.14)	5.25 (1.04)	4.84 (1.09)

Note: GE: general enhancement, FE: focused enhancement, ISC: Independent self-construal, DSC: Dependent self- construal, difference in enjoyment (DE), mental book value (MBV), replacement and purchase (RP).



Therefore, the ISC respondents were more prone to RP behavior under differing PETs. Regulatory focus consists of two traits, namely “promotion focus” and “prevention focus.” When the type of PET was GE, regardless of whether self- construal is ISC or DSC, prevention focus had a higher DE mean and MBV than did promotion focus (DE mean: 4.76 > 4.27, 5.89 > 4.27; MBV: 4.01 > 3.95, 6.12 > 3.59), indicating that respondents with promotion focus perceived a lower value from the stimulus and less satisfaction for the money spent. Therefore, in the case of GE, respondents with promotion focus were more prone to RP behavior.

Under the condition where PET and self- construal were FE and DSC, respectively, prevention focus yielded a higher DE mean and MBV than did promotion focus (DE mean: 6.17 > 6.13; MBV: 6.05 > 5.98), indicating that respondents with prevention focus perceived a lower value from the stimulus and less satisfaction for the money spent. Conversely, in the case where self- construal was ISC, promotion focus had a greater DE and MBV mean than did prevention focus (6.09 > 5.97, 6.09 > 5.93; marked with \*), indicating that respondents with prevention focus trait were more inclined toward RP behavior.

### Conclusion

From a consumer perspective, the most significant trait of new products in relation to their old counterparts is their difference; a greater difference between new and old products causes consumers to perceive a higher risk and greater learning cost, although a greater difference could also yield a

greater sense of novelty and more benefits, thereby generating a higher purchase intention (Liu, 2013; Okada, 2006). Although previous related studies have mostly been conducted in countries with Western cultural backgrounds with mainly food- based samples, the present study concluded that cultural factors affect consumers’ purchase decision behaviors, and more research on consumers in East Asian countries with Eastern cultures and more diverse ranges of samples is warranted. This study referenced Kacen and Lee (2002), Zhang and Shrum (2009), and Higgins (1997) in exploring the impacts of various new product types on the purchase decisions of consumers from distinct cultural backgrounds.

This study also referred to the theory of mental costs and used the respondents’ DEFE and MBV scores as mediating variables to investigate the influence of PET on the product purchase decisions of respondents with distinct characteristics. This study discovered the following findings: 1) An analysis of the self- construal type of respondents with distinct cultural characteristics under differing PETs revealed that respondents with ISC were prone to RP behavior. 2) PET analysis showed that the RP decisions of respondents with distinct cultural characteristics were inclined toward GE. 3) When the type of PET was GE, regardless of the self- construal type, respondents with the regulatory focus trait were more prone to RP behavior. In addition to compensating for the lack of studies on applying self- construal and self- regulatory focus theories to Asian markets, the findings of this study can serve as a reference for businesses in enabling them to prop-

erly plan product launching and market strategies in accordance with consumer preferences and cultural factors, thereby enhancing the quality of product development and design. Because these factors can serve as the solution for enterprises pursuing survival and growth and can further enhance busi-

ness performance in specific markets (Claybaugh et al., 2015; Urban & Hauser, 1993; Wu, 2014), the results of the present study are expected to make a substantial contribution to enhancing the innovation value and knowledge establishment of design among enterprises.

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