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Customer value anticipation, product innovativeness, and customer lifetime value: The moderating role of advertising strategy

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ABSTRACT

Customers are regarded as the key intangible assets of a firm. Therefore, it is necessary for firms to have the capability to anticipate customer value. The study investigates the relationships among customer value anticipation, product innovativeness, and customer lifetime value from the customer's perspective. Empirical evidence from 178 MBA students shows that customer perceived customer value anticipation can significantly influence product innovativeness and the relationship is partially mediated by product innovativeness. In addition, both functional and emotional advertising are found to play a moderating role in the relationship between product innovativeness and customer lifetime value. The paper concludes with a discussion of the theoretical and managerial implications of the empirical study.

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1. Introduction

In today's highly competitive market, customers are regarded as the key intangible assets of a firm (Bayon, Gutsche & Bauer, 2002; Gupta & Zeithaml, 2006). To help manage customer assets effectively and nurture customers' loyal behaviours, marketing scholars, such as Blattberg and Deighton (1996) and Rust, Lemon and Zeithaml (2004), propose the concept of customer equity and address the importance of customer equity in predicting firm's long-term performance. Customer equity usually has been defined as the sum of the lifetime values of the firm's current and future customers (Hanssens et al., 2009). Thus, managing individual customer and maximizing his/her lifetime value is the key to increase customer equity. A substantial body of literature which discusses the drivers of customer lifetime value (CLV) already exists (e.g. Marshall, 2010; Venkatesan & Kumar, 2004). However, several limitations exist.

First, a highly market-orientated firm is supposed to spend resources and attention on tracking market trends as well as monitoring customers' dynamic needs. Thus, the ability to anticipate customer value is critical for firms. Following Flint, Blocker and Boutin's (2011) definition, this paper defines customer value anticipation (CVA) as the firm's ability to sense, foresee, and anticipate what specific customers will value from its offerings. CVA is an anticipation and prediction process from the firm's perspective. But from the customer's perspective,

he/she also has feelings or perceptions about the firm's ability to anticipate his/her need (Flint, Blocker, & Boutin, 2011). However, limited research has focussed on how customers' perceptions of marketers' customer value anticipation influence their attitudes or purchase behaviours, especially under a new product development context.

Second, product innovativeness is a key concept in the innovation literature, which refers to the degree of newness and novelty of the product (Akgun et al., 2007; Cillo et al., 2010; Su et al., 2013). It has been widely acknowledged that product innovativeness generates the growth of firms by increasing sales revenue and creating re-purchase opportunities (Butner & Wilterding, 2006). However, what is less clear is a holistic investigation on the effects of product innovativeness on customer equity from customer behaviour perspectives (Hertenstein & Platt, 1997; Zhang, Ko & Lee, 2013).

Third, recent research indicates that different customer value communication activities/strategies (through marketing campaigns) may jointly influence customer value and firm value (Srinivasan et al., 2009). Among marketing communication strategies, the advertising support can lead to more prosperous outcomes of firm performance (e.g., relative higher prices and customer loyalty). However, whether the advertising support also enhances new product performance is still unclear. Therefore, the research on the impacts of different advertising strategies on the relationship between product innovativeness and customer lifetime value is worthwhile.

Therefore, this study is an initial attempt to address the gaps in the existing literature. It is designed to test a conceptual model that examines the relationship among customer value anticipation, product

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innovativeness and CLV. We also integrate the prior studies of advertising support and product innovation to test the impacts of different advertising strategies on innovation–CLV linkage. From the theoretical background, this study will contribute to recent research in product innovation management and customer relationship management. From the managerial standpoint, this study provides guidelines for firms to implement value communication activities, and to maintain and increase their customer value.

2. Literature review and hypotheses design

2.1. Customer value anticipation

Firms should have the ability to anticipate customers' potential value (Narver et al., 2004). As introduced in the [Introduction](#), customer value anticipation refers to "a supplier's ability to look ahead at what specific customers will value from supplier relationships including their product and service offerings and the benefits they create given the monetary and non-monetary sacrifices that must be made to obtain those offering benefits" (Flint, Blocker & Boutin, 2011, p. 219). From the firm's perspective, it is not only a process for anticipation, but also a process for predicting the outcomes of the product offerings. The marketing department may take in charge of this process, and anticipate the outcomes throughout the whole process of new product development. In order to increase the effectiveness of the anticipation process, firms should pay more attention on their future (Yadav, Prabhu & Chandy, 2007), and involve customers in the new product development process (Ulwick, 2002). The prediction process may guide the new product development and service offerings to facilitate customer value creation. But this study does not focus on firms' customer value anticipation activities per se, but rather focus on customers' perceptions of those CVA activities from their own perspective.

In the consumer purchasing literature, purchase decisions are usually made based on the evaluation of products or services. In the evaluation process, customers have expectations before they go out searching for products and/or services. Although customer expectations may be influenced by numerous factors (Zeithaml et al., 1993), one of the most dominant factors is their expectation on firms' anticipation activities. To be specific, customers are expecting that firms anticipate their needs and desires, even if sometimes they themselves cannot. But when customers have more knowledge about the product categories and consumption experiences, they will be capable of recognizing whether and to what extent their suppliers have an anticipation capability. Especially in the twenty first century, customers can obtain new product related information through the internet or social media, even before firms launch their new products. For example, after Apple launches five generations of Iphone, customers already have a feeling about how good Apple is at anticipating customers' dynamic needs. This special feeling about the target brand can influence customers' attitudes toward the new products.

2.2. Product innovativeness

To obtain sustainable competitive advantages, firms have to introduce innovative products or services regularly and continuously (Fallah & Lechler, 2008). One indicator of the success of new products is the product innovativeness (Ahlstrom, 2010). The product innovativeness can help firms to distinguish themselves from competitors and build competitive advantages (Ahlstrom, 2010; Jai & Tung, 2015; Seebode et al., 2012). Researchers note that sometimes all customers care about is how and what is new about an innovative product, so they may have strong feelings and perceptions about the product innovativeness (Phau et al., 2015; Zhang, Ko & Lee, 2013). Due to its impact on consumer behaviors and attitudes, the product innovativeness has gained more attention in the customer-related literature (Athanasopoulos, 2000).

2.3. Customer lifetime value

Customer lifetime value (CLV) has been defined as "the present value of the future cash flows attributed to the customer relationship" (Farris et al., 2006, p. 143). It is a financial measure that assesses customer prospecting and firm value (Blattberg, Kim & Neslin, 2008), which has been widely accepted as a metric to measure customer performance in the customer relationship management (CRM) field (Venkatesan & Kumar, 2004).

There are two main methods of calculating CLV: (1) the simple retention model, and (2) the Markov migration model (Berger & Nasr, 1998; Blattberg, Kim & Neslin, 2008; Stahl et al., 2012). Compared to the retention model which assumes that customer acquisition and retention is a stable process, the migration model maintains that some customers may temporarily defect-skip purchases for a period or two and then resume purchasing after the switching period. The migration model addresses the move-in and move-out behaviours of customers (Stahl et al., 2012), therefore, a new dimension of CLV – acquisition rates – is included in the Markov migration model to help explicate the movement of customers' purchasing behaviours. The Markov migration model has been widely accepted and used in a substantial portion of studies (Rust et al., 2004; Venkatesan & Kumar, 2004). Drawn on the existing literature, this study also tends to use the Markov migration model to calculate customer lifetime value.

2.4. Hypotheses design

2.4.1. The relationship between CVA and product innovativeness

From the firm's perspective, new product development process is a process that includes the detection, the development, and the deployment of new products (Yadav, Prabhu & Chandy, 2007). Detection refers to the identification of new technology and recognition of customer value. This is the process in which customer value anticipation capability works to explore potential customer needs and generate new knowledge. From customers' perspective, perceptions on customer value anticipation are usually generated before customer knowing the new products. Therefore, a higher level of customer perceived value anticipation may increase customers' perception on the product innovativeness.

H1. Perceived customer value anticipation positively affects consumers' perception on product innovativeness.

2.4.2. The relationship between product innovativeness and CLV

Innovation may affect both financial (e.g., Blundell, Griffith, and Reenen, 1999; Sorescu & Spanjol, 2008) and non-financial performance of a firm (e.g., Nasution & Mavondo, 2008; Zhang, Ko, & Lee, 2013). Studies have also proved that the more innovative the new product is, the more profit the company gets (Song & Montoya-Weiss, 1998). Kleinschmidt and Cooper (1991) report that compared to the moderately innovative products, the highly innovative products have higher success rates and can lead to a higher level of return on investment. Zhang, Ko and Lee (2013) finds that the degree of product innovation can positively influence the antecedents of customer equity (value equity, relationship equity and brand equity). In other words, the higher the degree of innovation is, the better customer equity will be.

H2. Consumers' perception on product innovativeness positively affects customer lifetime value.

2.5. The moderating effects of advertising strategy

Advertising is firms' attempt to influence the purchasing behaviours of their customers or clients by providing persuasive selling messages about the products and/or services (Pihl, 2013). Over the years, studies on advertising demonstrate that advertising strategies affect consumer

behaviors in different ways, especially when a firm launches its new products (Calantone and Molina-Castillo, 2014). Advertising is the action of directing public attentions on something, especially by paid announcements (Lee & O'Connor, 2003). Well-communicated advertising strategies differentiate the brand from others, and enable firms to reduce consumers' perceived risk, particularly for the radical innovation (Dowling & Staelin, 1994). Advertising appeal aims to influence the way consumers view firms' offerings and to convince them that those offerings are beneficial to them, thus ultimately influencing consumers' purchasing decisions (Zhang, Ko & Taylor, 2010).

Advertising conveys product/service information and builds up brand awareness (Srinivasan et al., 2009). One of the difficulties that consumers may encounter when they make purchasing decisions of the newly developed products/services is that they do not have sufficient knowledge of the offerings. So in order to convince customers to make final purchasing decisions, firms may use different advertising strategies, either to educate consumers or to increase their emotional attachment.

Therefore, based on the content of the messages conveyed by the ads, there are generally two types of advertising strategies: functional ads and emotional ads (Lee & O'Connor, 2003). Functional ads are more related to the communication of product knowledge, while emotional ads are more associated with the provoking of consumers' feelings. When a firm introduces a highly innovative product to the market, functional ads can educate consumers with the product knowledge. Market education is a tactic that takes the most generic approach to attacking the market and is more appropriate when the market is unaware of the existence of certain technologies (Beard & Easingwood, 1996). In other words, under the context of new product development, functional ads spread product information, educate consumers and lead to a first-place advantage. Therefore, when firms launch innovative products, functional ads may improve customer lifetime value.

H3. Functional advertising plays a positive moderating role on the relationship between product innovativeness and customer lifetime value.

Emotional ads are also assumed to have a positive impact on the linkage between product innovativeness and customer lifetime value. When consumers have insufficient product knowledge to process the functional appeals (e.g. information about technical details or sophisticated product features) (Lee & O'Connor, 2003), in addition to using the functional ads, firms can also use emotional ads to evoke consumers' positive feelings about the products through peripheral routes (e.g. family affection, friendship, or respect). In this regard, firms may use emotional ads to convey brand information that is aligned with their consumers' expectations and hidden desires. These emotional ads enable firms to build up their strong bonds with customers and may lead to a higher level of customer lifetime value.

H4. Emotional advertising plays a positive moderating role on the relationship between product innovativeness and customer lifetime value.

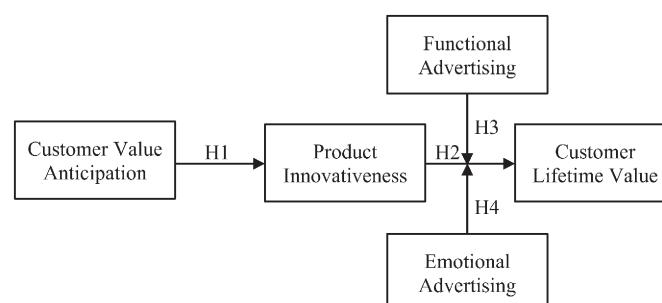


Fig. 1. Research model.

In summary, the conceptual framework of H1 to H4 is shown in Fig. 1.

3. Research methodology

3.1. Measurements

Multi-item scales were adopted from prior research for each of the constructs in the model. All the items were measured by five-point rating scales (1 = strongly disagree, 5 = strongly agree). Customer value anticipation refers to firm's ability to look ahead and understand customers' needs. The items are adopted from Flint et al. (2011). Product innovativeness is the degree of the newness and novelty of the new products. The measurement items are extracted from Akgun et al. (2007) and Su et al. (2013).

Advertising strategy was divided into two types. Functional Ad refers to an advertising strategy that uses rational appeals to demonstrate the functional attributes of new products. Emotional Ad refers to an advertising strategy that uses emotional appeals to demonstrate the symbolic feelings of the new product. The items for measuring functional ad and emotional ad are adopted from Lee and O'Connor (2003) and Zhang, Ko and Taylor (2010). For answering these two parts, two iPhone TV advertisements were showed to the respondents separately. These two TV advertising were selected from all the TV advertising of iPhone 5 by graduate students whose major were marketing or advertising. One which is full of rational appeals represents the functional advertising strategy. The other one which is full of emotional appeals represents the emotional advertising strategy.

3.2. Sampling and data collection

Data were collected by using the purposive sampling technique. Given that this study focuses on the mobile phone industry, 200 part-time MBA Chinese students were selected to finish the survey, and 178 questionnaires were usable. Part-time MBA students are found to have enough financial resource to purchase innovative products. Most of them are young consumers who are more sensitive to product innovativeness than other consumers (Zhang, Ko & Lee, 2013). A self-administrated questionnaire was used to collect data during December 2013. The original questionnaire was in English. To verify the interpretation of the instruments, back translation techniques were used for item comparisons. Three marketing professors/lecturers and six practitioners were interviewed to refine the questionnaire.

As shown in Table 1, among the 178 Chinese MBA students, 90 (50.6%) respondents were male and 88 (49.4%) respondents were female. Most of the respondents are under the age of 40, with 88 from the ages of 25–29, and 86 from the ages of 30–39. 136 (76.4%) respondents had a bachelor degree before joining the MBA program. Most of the respondents' majors were in business (50.0%) and engineering (26.4%). Their annual incomes were distributed in under 8000 USD (21.3%), 8000 to 15,999 USD (34.3%), 16,000 to 24,999 USD (20.2%). Surprisingly 43 (24.2%) respondents' annual income are higher than 25,000 USD (Chinese per capita income is 7476 USD in 2014). This may be because the MBA students usually have better financial condition than normal customers.

NPD practices in emerging economies are widely expected to play an important role in the world's economic growth in the years to come (Ozer and Bayan, 2014). A report from China's Ministry of Industry and Information Technology mentions that there are 1.1 billion mobile phone users in China with 220 million of them using 3G technology in 2012. With the rapid development of mobile internet and the use of 3G/4G technology, smartphone has become a necessity of people's daily life and work. Thus, the competition of smartphone brand in China is extremely intensive. Each brand launches its new products with advanced technologies and promotes its product through all kinds of media channels to gain competitive advantages. Therefore,

Table 1

Demographic and consumption behaviour analysis.

Demographic characteristics	Categories	Freq	%	Consumption behaviour	Categories	Freq	%
Gender	Male	90	50.6	Brand of current mobile phone	Apple	61	34.3
	Female	88	49.4		Samsung	64	36.0
Age	25–29	88	49.4	Expenditure of purchasing	Hawei	15	8.4
	30–39	86	48.3		Lenovo	8	4.5
Education before MBA	Over 40	4	2.3	Expenditure of purchasing	Others	30	16.9
	College	37	20.8		Under 300	18	10.1
	Bachelor	136	76.4		300–699	89	50.0
Major	Master	5	2.8	Place of purchasing	Above 700	71	39.9
	Literature	8	4.5		Department store	48	27.0
Annual income	Business	89	50.0	Place of purchasing	Specialty store	46	25.8
	Engineering	47	26.4		Telecoms operators	40	22.5
	Others	34	19.1	Main communication channel	Internet and others	44	24.7
	Under 8000	38	21.3		TV Ads	68	38.2
	8000–15,999	61	34.3		Internet	50	28.1
	16,000–24,999	36	20.2		Social networks	21	11.8
	Above 25,000	43	24.2		Others	39	21.9

Unit: USD.

smartphone industry is the perfect market for the study. Apple and Samsung are the top smartphone brands in China. In the study, as shown in Table 1, almost 70% of the respondents are using these two brands. Nearly 90% of the respondents spent more than 300 USD on purchasing their smartphones. The purchase place evenly distributes on department store (27.0%), specialty store (25.8%), Telecom operators (22.5%), and other places including the internet (24.7%). Most of the respondents use TV (38.2%) and the internet (28.1%) as the major communication channels to acquire knowledge of the brands and their products.

4. Data analysis and results

4.1. Validity and reliability test

Confirmatory factor analyses were used to test convergent factor validity. After dropping some items that possess either low factor loadings or cross-loadings, the confirmatory model fit the data satisfactorily, as seen in Table 2. Each item loads only on its latent construct. The latent constructs were correlated, whereas we controlled for the measurement items and their error items.

The model also provides a satisfactory fit to the data, which resulted in $\chi^2(84) = 119.69$, which is statistically significant ($p < .001$). The fit indices are as follows: normed fit index (NFI) = .93; incremental fit index (IFI) = .98; comparative fit index (CFI) = .98; goodness-of-fit index (GFI) = .92; and root mean square error of approximation

(RMSEA) = .05, indicating the unidimensionality of the measures (Hair et al., 1998). All of the factor loadings were highly significant ($p < .01$). Thus, the measures of the data demonstrate adequate convergent validity. Average variance extracted (AVE) was used to test the discriminant validity. The results indicated that for each construct, the AVE was higher than 0.5. Then, following the procedure of Fornell and Larcker (1981), the shared variance was calculated between all possible pairs of constructs to determine whether they were lower than the average variance extracted for the individual constructs. The results show that for each construct, the AVE was much higher than its highest shared variance with other constructs, providing additional support for the discriminant validity.

Cronbach's α was used to test the reliability of the measures. Based on the benchmark built by Bagozzi and Yi (1988), a Cronbach's α higher than .60 indicates high construct reliability. In this study, all of the Cronbach's α values are higher than .70, which demonstrates that the measures are reliable.

4.2. Hypotheses test

According to Forbes, Apple IS one of the most innovative companies in the world. For each year, Apple launches new products in the smartphone market. The result shows that less than 10% respondents would not consider Iphone when they purchase the next smartphone, which indicates that almost every respondent will consider Iphone as an option, no matter what his/her final decision is. Thus, Apple's Iphone

Table 2

Validity and reliability test for measurement items.

Latent variables	Items	Loadings	Cronbach's α	AVE
Perceived customer value anticipation	Apple successfully anticipates changes in my needs.	0.70	0.85	0.54
	Apple seems to be one step ahead of its competitors in predicting our needs.	0.72		
	Apple is able to understand our changing needs.	0.77		
	Apple presents new solutions to us.	0.71		
Product innovativeness	Apple regularly attempts to modify its products in line with our changing needs.	0.77	0.92	0.73
	Apple offers unique advantages over competitors' products.	0.86		
	Apple is more creative than competitors' products.	0.88		
	Apple's new products always use advanced technologies.	0.87		
Functional ad	Apple's new products always have new functions.	0.81	0.88	0.71
	The advertising emphasizes the technological superiority of the brand.	0.85		
	The advertising provides detailed information about product attributes.	0.88		
Emotional Ad	The advertising emphasizes the firm's technological competence.	0.79	0.87	0.70
	The advertising attempts to persuade customers by using emotional appeals.	0.77		
	The advertising attempts to persuade customers that after using the products they will feel better (e.g. less guilt, happier, healthier, more fashionable).	0.89		
CLV	The advertising attempts to persuade consumers by creating a mood or situation.	0.85	-	-
	Calculated following Rust et al.'s (2004) study	-		

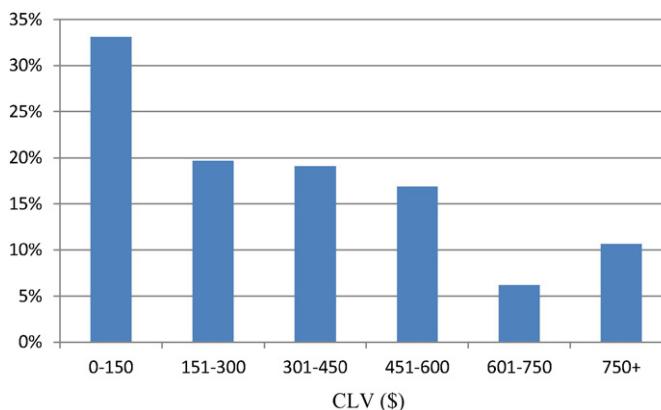


Fig. 2. Percentage of respondents' distribution by CLV category: Iphone.

was chosen as the target brand to calculate the CLV. To calculate CLV, this study follows Rust et al.'s (2004) equation and procedure. To operationalize the equation, we assumed a time horizon of 24 months, a discount rate of 10% for each year, and a contribution margin of 40%. The 35% figure was approximately equal to the average operating margin, according to annual reports of Apple. Purchase frequency is calculated by the months that the respondents expect to change the phone divided by 24 months. Purchase probability is measured by the probability that the customer buys such a brand in his/her next purchase. The customer distribution by CLV category has been shown in Fig. 2. It shows that the less than 150 category includes more than 30% of the respondents, the 151 to 300, 301 to 450, 451 to 600 categories equally include nearly 20% of the respondents for each, and only 15% of respondents' CLV is more than 600 USD, indicating that the vast majority of Chinese's smartphone customers cannot be considered monogamously loyal.

To test the hypotheses H1 and H2, structural equation modeling by using PLS was employed using the model without a moderator. Based on confirmative factor analysis results, the model was tested with standardized coefficients. To assess the differential effects, standardized coefficients as path coefficients are reported. The results show that CVA has positive effect on product innovativeness ($\beta = .71$, $t = 7.89$), thus, H1 is supported. Product innovativeness is also found to significantly influence CLV ($\beta = .29$, $t = 2.55$), thus, H2 is supported. The mediating effect of product innovativeness on the relationship between CVA and CLV was also tested. It turned out that product innovativeness partly mediates the relationship between CVA and CLV, because the coefficients of CVA changes from 0.54 to 0.35.

For testing the moderating effects of different advertising strategies, two models with moderating variables were tested. The interaction variables were created by multiplying product innovativeness and advertising. The results show that functional ads and emotional ads play positive roles in the relationship between product innovativeness and CLV ($\beta = .60$, $t = 7.87$; $\beta = .76$, $t = 13.02$, respectively), thus, H3 and H4 are supported (Table 3).

5. Discussions and implications

This study empirically investigates the relationships among CVA, product innovativeness, and customer lifetime value. The study reaches to three important conclusions. First, the perceived ability of anticipating customer value significantly influences product innovativeness. The higher the consumers perceive that the company is capable of anticipating customer value, the better the new product performance they will perceive. Second, product innovativeness has a significant effect on customer lifetime value, and it can partly mediate the effect of CVA on customer value. Third, no matter if it is functional advertising or emotional advertising, both of them can be positive moderators that enhance the effects of product innovativeness.

The empirical findings provide two theoretical contributions to the existing literature. First, this study finds that firms' ability to anticipate customer value is also a driving factor of customer equity. This study extends the research on customer lifetime value and customer equity by incorporating customer value anticipation into the antecedents of CLV. Second, this study also enriches the research on marketing communication strategies. In addition to the existing argument that advertising strategies influence customer attitudes, this study provides more insights into how advertising strategies influence customer equity through their moderating effect on the product innovation-customer equity linkage.

This study also provides guidelines for practitioners in terms of how to increase customer lifetime value. First, the results show that firms should not only be better than their competitors at innovating and creating new products, but also be good at anticipating customers' value. Customer value anticipation capabilities can be an important resource for firms to enhance their competitive advantages (Flint, Blocker, & Boutin, 2011) and create development sustainability (Kim et al., 2015). For developing new products, only the investment on R&D is not enough. Firms also need the ability to anticipate customer needs. Second, firms' communication strategies are also important when launching new products. For mobile phone companies, advertising is still an effective way to promote their new products. Different types of advertising can be integrated to help customers to understand the newness of the product and increase their lifetime value.

Admittedly, the study also has limitations that present opportunities for future research. First, we only calculate customer lifetime value by using Iphone as a sample. A comparison among different brands can help fully understand the customer lifetime value for all smartphone customers. Second, mobile phone industry is limited by the cross-sectional nature. Mobile phone industry is a high-tech industry featured by high levels of innovation. Each generation of the products has a remarkable performance. For other industries, the conclusions need to be further validated and empirically proved. Third, although the moderating effect of advertising strategy has been proved, the question regarding which one is more effective needs more discussion. Fourth, the sample used in the current study also limits the generation of conclusions. Most MBA students have sufficient financial ability to purchase new products. Their purchasing decision patterns and behaviours

Table 3
Path coefficients of hypotheses test.

	PI (model 1)	CLV (model 2)	CLV (model 3)	CLV (model 4)	CLV (model 5)
CVA	0.71 ***	0.54 ***	0.35 ***	–	–
Product innovativeness (PI)	–	–	0.29 **	.04	–.13 **
Functional advertising (FA)	–	–	–	–.02	–
Emotional advertising (EA)	–	–	–	–	–.31 ***
PI * FA	–	–	–	.60 ***	–
PI * EA	–	–	–	–	.76 ***

** $p < .01$.

*** $p < .001$.

may be different from other customers given that prices may not be a key influential factor for them. Further research should consider a wider range of samples.

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