The role of product newness in activating consumer regulatory goals

ABSTRACT

This paper examines the role that product newness plays in activating consumer regulatory goals. We propose that these fundamental goals may not only be endogenously triggered in the new product evaluation context, but also will be determined by the type of product innovation, as gauged by the extent to which it is incremental (INP) or really new (RNP). More specifically, ad exposure to an INP (RNP) may spontaneously trigger a promotion (prevention) goal (Study 1). Further, we show that consumer perception of the cost to buy the product (that is, whether the price was perceived to be high or low) moderates the relation between the RNP and activated regulatory goal. When consumers perceive the price of the RNP to be high (low), a prevention (promotion) goal is activated. However, the moderating effect of price is not found in the case of goal activation by INPs (Study 2).

Keywords: Regulatory goal; Goal activation; Product innovation

1. Introduction

Consumer decision-making, including the product innovation adoption decision, may be regulated by two distinct goal systems: a promotion system emphasizing the pursuit of advancement and aspirations, and a prevention system ensuring safety and responsibilities (Higgins, 1997; Pham & Higgins, 2005). Considerable research has
investigated the influence of self-regulation on decision-making processes such as choice and post-choice behaviors (e.g., Trudel, Murray, & Cotte, 2012; Som & Lee, 2012) within the context of existing products. However, with a few notable exceptions (e.g., Herzenstein, Posavac, & Brakus, 2007; Fransen, Reinders, Bartels, & Maassen, 2010), product innovation literature has paid lesser attention to consumer self-regulation system. Even so, the limited prior research has largely focused on the exogenous influences of promotion and prevention systems on attitude formation and purchase behavior; the malleability of regulatory systems as states endogenously activated by the objects being evaluated has not yet been examined in the context of product innovations.

Prior research has established that a temporary regulatory focus can be triggered beyond the chronic baseline level (Higgins, 1997; Lee & Aaker, 2004; Kark & Van-Dijk, 2007), by means of experimental manipulations such as priming and message framing (e.g., Pham & Avnet, 2004; Zhu & Meyers-Levy, 2007). Meanwhile, regulatory focus states are also malleable in the presence of contextual triggers. To illustrate, Labroo and Lee (2006) show that products bearing strong associations with promotion (e.g., nutritious hair conditioner) prime consumers’ promotion goals whereas those strongly associated with prevention (e.g., lice-preventing shampoo) prime prevention goals. Zhou and Pham (2004) also demonstrate an association between specific financial products and self-regulatory goals. In particular, heightened promotion (prevention) orientation has been linked to the evaluation of individual stock (mutual fund). Following this research stream, we examine the possibility for
product innovations to summon different goal orientations depending on their degree of product newness. We argue that, similar to a product’s innate or salient regulatory function and symbolic goal orientation, a product’s degree of newness will activate distinct regulatory goals in the new product decision-making context.

Two studies are conducted to verify the presence of goal activation effects of product innovation newness and explore the boundary conditions. The results of the first study (Study 1) show that consumers exposed to an advertisement of an incrementally new product (INP) display an increase in their promotion orientation scores, are more sensitive to positive outcomes of product usage and reveal preference toward product brands that manifest a promotion orientation in an unrelated product preference task, suggesting the activation of a promotion goal (Study 1). By contrast, consumers shown an ad of a really new product (RNP) display an increase in their prevention orientation scores, are more sensitive to negative outcomes of product usage and demonstrate preference for product brands that manifest a prevention orientation in the unrelated product preference task, suggesting the activation of a prevention goal. This goal activation effect is moderated by consumer perception of product price. When a RNP is perceived to be high (low) in price, consumer prevention (promotion) goal may be activated. However, an INP is more likely to trigger a promotion goal, irrespective of consumers’ price perception of this product innovation (Study 2).

2. Theory development
2.1. Regulatory focus and goal activation

Regulatory focus theory distinguishes two fundamental motivational orientation systems that regulate individuals’ decision-making in the process of goal attainment, that is, the promotion system emphasizing advancement needs and pursuit of gains and the prevention system highlighting security needs and avoidance of losses (Higgins, 1997). Further, promotion versus prevention goals can be chronically accessible as stable strategic inclinations, or made temporarily accessible by experimental methods or exposure to contextual cues (Higgins, 2000; Avnet & Higgins, 2006; Lee & Aaker, 2004; Haws et al., 2010; Ramanathan & Dhar, 2010).

The notion that a regulatory goal can be temporarily activated is consistent with theories of goal activation. Goal system theory demonstrates that the structure of a goal is a cognitive network consisting of the goal, the contexts, the actions and the means associated with the goal (Kruglanski, 1996), and exposure to any of the cues in the cognitive structure can spontaneously trigger the goal (Shah, 2003; Shah & Kruglanski, 2003). More relevant to our research, auto-motive theory proposes that contextual cues can spontaneously and non-consciously activate goals which have the similar effects as conscious goals on directing behaviors (Chartrand & Bargh, 1996; Bargh & Chartrand, 1999). Both goal system theory and auto-motive theory indicate that a regulatory goal can be made accessible by contextual cues. Consistent with this notion, Zhou and Pham (2004) find that consumer self-regulatory goals can be momentarily triggered by evaluating financial products. Specifically, financial assets such as individual stocks and trading accounts activate a promotion orientation, while
mutual funds and retirement accounts tend to trigger a prevention orientation.

Similarly, Labroo and Lee (2006) indicate that products with salient promotion or prevention functions can prime consumer regulatory goals. Sengupta and Zhou (2007) show that exposure to a chocolate cake triggers a promotion focus among impulsive consumers. Past research has shown that products featuring kindchenschema (baby schema) may trigger consumers’ protective, caretaking, and careful behaviors that are guided by prevention goals (e.g., Sprengelmeyer et al., 2009; Sherman, Haidt, Iyer, & Coan, 2013).

2.2. Mental representation of product innovations

Researches have revealed that the basic motivations underlying promotion versus prevention orientation are motivation for change versus motivation for stability (Kluger, Stephan, Ganzach, & Hershkovitz, 2004; Kark & Van-Dijk, 2007). In line with this notion, a prevention goal aims at assuring individuals’ safety and security and preserving the status quo. In contrast, a promotion goal intends to pursue advancement and change and explore the advantage of creative behaviors (Crowe & Higgins, 1997; Liberman, Idson, Camacho, & Higgins, 1999; Friedman & Förster, 2001).

Consumer goals for a purchase decision can be context-independent. For example, one may buy a car to build a positive self-image or to enhance driving safety and reduce the risk of traffic accidents. However, in situations where the decision-making contexts strongly associate with and make accessible particular
regulatory orientations, the goals may be temporarily triggered by the decision context per se, or become context-dependent. Consumers’ adoption decision for new products may be one of such cases.

Most product innovations are adaptations, refinements, and enhancements based on existing products (e.g., a new model of sports car or an updated version of computer software), namely incremental new products (Song & Montoya-Weiss, 1998). The “newness” of the products, in the eyes of the customers, implies companies’ promise to deliver better product features, functions, and experience that enhance existing products in some way (otherwise companies would just keep to their existing products). Consumers, therefore, may intrinsically connect such new products to the motivation for better change and goals to pursue enhancements (i.e., promotion goals).

At the other end of the spectrum, really new products define a totally new product category, represent new technologies, and require consumer learning and behavioral changes (e.g., PDA, Walkman, and Laser Jet) (Urban, Weinberg, & Hauser, 1996). Such products are characterized by evolutionary innovativeness and technological breakthrough. Their “newness” can arguably be perceived, but more precisely, they are often “too new” to consumers. Because consumers have little prior product experience and knowledge (Gregan-Paxton & John, 1997), are required to learn new techniques and change current behaviors (Urban, Weinberg, & Hauser, 1996), they may perceive the adoption of RNPs as risky. The unexpected low diffusion rate and consumer resistance to such new products (Moore, 2002; Urban,
Weinberg, & Hauser, 1996) have well illustrated the dilemma of RNPs, that consumers’ perception of “newness as risk” tends to prevail over their perception of “newness as benefit”. In the situations where product innovations are regarded as threats, consumer motivation and goals are driven by the need to assure security and preserve the status quo (i.e., prevention goals).

2.3. Decision-making for product innovation adoption

Adoption decision-making relating to an INP displays different characteristics to that for the RNP, which may inherently associate with distinct regulatory goals. First, consumers generally perceive the adoption of highly novel innovations (e.g., RNPs) to be risky (Gatignon & Robertson, 1991). The innovation literature has demonstrated that consumer decision-making for RNPs involves greater uncertainty than that for INPs. Hoeffler (2003) suggests that consumers face greater uncertainty when estimating RNPs compared to INPs. Min, Kalwani, and Robinson (2006) indicate that compared to INPs, consumers perceive higher degree of technological uncertainty and marketing uncertainty, that is, they are unfamiliar with the new technology embodied in RNPs and are more likely to doubt their ability to deliver potential benefits as promised.

By implication, a promotion (prevention) goal may be made more salient when consumers’ perceived risk is lessened (heightened) on exposure to an incrementally (really) new product innovation. To illustrate, Cumulative prospect theory (Tversky & Kahneman, 1992) posits that under lower uncertainty (the case of INPs) individuals
assign more weight to gains (i.e., a gain-salient situation), whereas under high uncertainty (the case of RNPs) individuals assign more weight to losses (i.e., a loss-salient situation). Further, Lee and Aaker (2004) demonstrate that individuals are more sensitive to positive outcomes when perceived risk is low (the case of INPs), whereas they are more sensitive to negative outcomes when perceived risk is high (the case of RNPs). Both gain/loss salience and outcome sensitivity strongly associate with self-regulatory goals. On one hand, a gain- (loss-) salient situation makes a promotion (prevention) goal more accessible; on the other hand, sensitivity to positive (negative) outcomes is a typical consequence of promotion (prevention) orientation (Higgins, 1997). Thus the highly risky characteristic of RNPs may associate more with prevention goals, while the moderate or low degree of risk perception of INPs may associate more with promotion goals.

Thus, we propose:

H1: Decision-making contexts involving INPs may spontaneously activate a promotion goal, while those involving RNPs may trigger a prevention goal.

3. Study 1

Study 1 was designed to test the goal activation effect of INPs and RNPs. Three sets of measure were used to examine consumers’ activated regulatory goals. First, we used the Regulatory Focus Questionnaire (RFQ, Lockwood, Jordan, & Kunda, 2002) to directly measure participants’ temporary regulatory focus scores after exposure to
product ad stimuli and compare them with their chronic regulatory focus scores. The RFQ contained two subscales capturing promotion and prevention orientation. If a promotion (prevention) goal is activated, there should be an increase in participants’ temporary promotion (prevention) scores compared with their chronic promotion (prevention) scores. Second, since outcome sensitivity is a typical consequence of regulatory orientation (Higgins, 1997), we used an open-ended question to capture participants’ outcome sensitivity of product usage. Participants were expected to be more sensitive to and express more concerns for positive (negative) outcomes if a promotion (prevention) goal is activated. Third, if regulatory goals are situationally activated, they should carry over to influence consumer decision-making in follow-up tasks. Thus, in an unrelated product preference task, participants were anticipated to display preference for product brands manifesting promotion (prevention) orientation when their promotion (prevention) goals were activated.

3.1. Ad stimuli

The product representing an INP, a RNP and an existing product (as the control) were selected from the same product category. In our case, the product category was transportation vehicles. We designed and used mock ads of an existing car (existing product), a new model of the car (INP) and a car-boat (a vehicle that functions as both a car and a boat, RNP). Each ad consisted of a product name, a picture of the product, followed by brief product description. The size of the ad, the size of the product picture and the length of product description were controlled and held the same.
Brand information was masked by using a virtual brand name to rule out the effect of existing brands. As message framing can induce a temporary regulatory focus, terms and words with strong association to either a promotion focus (e.g., pursue, ambition, aspiration) or prevention focus (e.g., prevent, rejection, mistake) were avoided in the product descriptions (Lockwood, Jordan, & Kunda, 2002). Another pretest was conducted to check the salience of regulatory function of the product descriptions (without the presence of the product picture), and the results showed that neither promotion nor prevention orientation was induced by the product descriptions per se. The mock ads were evaluated by a panel of 3 experts, including an advertising manager and two marketing professors, and face validity was assured. The mock ads were subsequently used as target ad stimuli (Appendix A).

3.2. Procedure

A total of 131 MBA students from an Asian business school participated in two experiment sessions, for which they received partial course credit. The first session captured participants’ temporary regulatory orientation and the second session captured their chronic regulatory orientation.

In the first session, the participants were told that the purpose of this experiment was to investigate their ideas and opinions about certain products and ad campaigns. We used a between-subjects design and the newness of the product innovations (INP versus RNP versus existing product) was the between-subjects factor. Participants were randomly assigned to one of the three experiment conditions and read an ad of
the target product at their own pace. Before reading the target ad, participants in all conditions read the same ad of a printer as a filler ad. After reading the filler and the target product ad, participants were asked to rate on 9-point scales measuring the amount of information conveyed by the ad (1=“very small amount,” 9=“very large amount”), degree of involvement with the advertised product (1=“not at all involved,” 9=“very involved”), and attractiveness (1=“not at all attractive,” 9=“very attractive”) of the ad, followed by an open-ended question as measure of outcome sensitivity asking participants to write down any thoughts or ideas that came to mind concerning the product (e.g., potential positive and negative outcomes of using this product).

Next, participants were told to complete unrelated tasks to help companies gain knowledge about their consumption behavior and lifestyle. They were first asked to indicate their preference between two brands of hair shampoo and between two brands of fruit juice. Brand A of the hair shampoo (promotion-focused brand) was described as “a product with rich nutrients to make your hair shine and look beautiful”, whereas Brand B (prevention-focused brand) was described as “a product with a traditional formula to prevent dry hair and split-ends.” Brand X of the fruit juice (promotion-focused brand) was described as “a juice that is rich in vitamins and increases energy”, whereas Brand Y (prevention-focused brand) was described as “a juice with essential antioxidants and reduces the risk of cardiovascular diseases”. To rule out order effects, the product description of the hair shampoo brand A and B, and that of the fruit juice brand X and Y, was counterbalanced. In half of the questionnaires, the description of product brand A (brand X) appeared first, followed
by that of brand B (brand Y); in the other half, product brand B (brand Y) appeared first. The salience of the regulatory orientation of each product brand was ensured in another pretest. Participants were asked to rate their preference between the two comparable hair shampoo and fruit juice brands on 9-point scales (hair shampoo: 1=“Brand A,” 9=“Brand B”; fruit juice: 1=“Brand X,” 9=“Brand Y”). Since Brand A of the hair shampoo and Brand X of the fruit juice are brands that manifest a promotion focus, a lower (higher) rating on these two preference scales indicates the activation of a promotion (prevention) goal. After the product preference task, participants completed the RFQ ($\alpha_{prom}=.88$, $\alpha_{prev}=.82$) to measure their situational regulatory focus.

Finally, participants were given definitions of INP and RNP and completed three items of product newness measure as manipulation check (“To what extent do you think [the name of the target product] is an existing product / incremental new product / really new product”: 1=“very small,” 9=“very large”). Participants’ student number and other demographic information were recorded.

Two weeks later, the participants returned in the second session for a seemingly unrelated experiment. Participants were invited to fill in a psychological survey including RFQ ($\alpha_{prom}=.87$, $\alpha_{prev}=.84$) and two other filler scales (i.e., social desirability scale and processing style scale). Their student number was recorded again, providing an identifier to match responses from the two experiment sessions.

3.3. Results
3.3.1. Manipulation checks

The results of an ANOVA on product newness measures showed that participants from the RNP condition displayed higher ratings for the car-boat on the RNP scale than those from the INP and the control condition (Mean_{RNP}=7.83, Mean_{INP}=3.06, Mean_{ext}=2.94, F(2, 128)=93.74, p<.001). The results also ensured successful manipulation of the new model of the car as an INP (Mean_{INP}=7.69, Mean_{RNP}=3.83, Mean_{ext}=3.09, F(2, 128)=73.62, p<.001) and the existing car as an existing product (Mean_{ext}=7.96, Mean_{INP}=2.42, Mean_{RNP}=2.18, F(2, 128)=128.72, p<.001). Finally, results showed that participants’ perception of the amount of information (Mean_{RNP}=4.37, Mean_{INP}=4.96, Mean_{ext}=4.42, F(2, 128)=1.28, p=.270), attractiveness (Mean_{RNP}=4.22, Mean_{INP}=4.09, Mean_{ext}=4.55, F(2, 128)=0.69, p=.542) and degree of involvement (Mean_{RNP}=6.13, Mean_{INP}=5.88, Mean_{ext}=5.69, F(2, 128)=0.60, p=.553) did not differ across the target ad stimuli (participants’ involvement with the ad stimuli were found to be moderately high, thus we conducted another study manipulating participants’ product involvement and the results revealed no effect of product involvement on the hypothesized effect).

3.3.2. Hypothesis testing

Regulatory Focus. Participants’ promotion (prevention) score was calculated by averaging the scores of their promotion (prevention) subscale of the RFQ. The results of an ANOVA on the mean scores of promotion focus captured after ad exposure showed a marginal effect of product newness (F(2, 128)=2.79, p=.064, partial
$\eta^2=.045$. Compared with the control condition, participants assigned to the INP condition displayed marginally higher promotion focus scores ($\text{Mean}_{\text{INP}}=7.12$, $\text{Mean}_{\text{ext}}=6.34$, $t_{86}=1.97$, $p=.053$), while those assigned to the RNP condition showed no significant difference ($\text{Mean}_{\text{RNP}}=6.30$, $\text{Mean}_{\text{ext}}=6.34$, $t_{86}=0.10$, $p=.917$). The difference in promotion scores captured between the INP and the RNP condition is significant ($\text{Mean}_{\text{INP}}=7.12$, $\text{Mean}_{\text{RNP}}=6.30$, $t_{87}=2.15$, $p=.035$). The results of an ANOVA on the mean scores of prevention focus captured after ad exposure showed a main effect of product newness ($F(2, 128)=3.14$, $p=.047$, partial $\eta^2=.047$). Compared with the control condition, participants assigned to the RNP condition displayed significantly higher prevention focus scores ($\text{Mean}_{\text{RNP}}=6.05$, $\text{Mean}_{\text{ext}}=5.17$, $t_{86}=2.23$, $p=.028$), while those assigned to the INP condition showed no significant difference ($\text{Mean}_{\text{INP}}=5.23$, $\text{Mean}_{\text{ext}}=5.17$, $t_{86}=0.15$, $p=.884$). The difference in prevention scores captured between the INP and the RNP condition is significant ($\text{Mean}_{\text{INP}}=5.23$, $\text{Mean}_{\text{RNP}}=6.05$, $t_{87}=2.09$, $p=.040$).

Paired sample t-tests were conducted to examine the difference in promotion and prevention focus scores between the two experiment sessions. Compared with their chronic promotion focus score, participants assigned to the INP condition displayed a significant increase in the promotion focus score after exposure to the INP product stimulus ($\text{Mean}_{\text{chr}}=6.41$, $\text{Mean}_{\text{tmp}}=7.12$, $t_{43}=2.11$, $p=.038$), while those assigned to the RNP ($\text{Mean}_{\text{chr}}=6.43$, $\text{Mean}_{\text{tmp}}=6.30$, $t_{43}=0.38$, $p=.835$) and the control condition ($\text{Mean}_{\text{chr}}=6.40$, $\text{Mean}_{\text{tmp}}=6.34$, $t_{42}=0.42$, $p=.812$) showed no significant difference in the promotion focus scores after ad exposure, supporting the argument
that exposure to INP stimulus activates a promotion focus. In contrast, compared with their chronic prevention focus score, participants assigned to the RNP condition displayed a significant increase in their prevention focus score after exposure to the RNP product stimulus (Mean$_{chr}$=5.18, Mean$_{tmp}$=6.05, $t_{43}$=2.59, $p$=.013), while those assigned to the INP (Mean$_{chr}$=5.17, Mean$_{tmp}$=5.23, $t_{43}$=0.21, $p$=.853) and the control condition (Mean$_{chr}$=5.20, Mean$_{tmp}$=5.17, $t_{42}$=0.09, $p$=.945) showed no significant difference in the prevention focus scores after ad exposure, supporting the argument that exposure to RNP stimulus activates a prevention focus (Figure 1).

Figure 1 here.

*Outcome Sensitivity.* Two external judges who were blind to this research coded participants’ answers to the open-ended question as either being: (1) product concerns depicting positive outcomes (e.g., “Cool, the new look is attractive to me”); (2) concerns about negative outcomes (e.g., “I’m afraid I’m not smart enough to drive this formidable hi-tech device”); (3) irrelevant concerns to one of the above (e.g., “How much is it?”, “I kind of like the design of this ad”). Participants’ positive (negative) outcome sensitivity was generated by calculating the ‘concerns’ (items written down) about positive (negative) outcomes (Posavac, Sanbonmatsu, Kardes, & Fitzsimons, 2004). Correlation between the coding of the two judges was high on both positive outcome ($r$=.89, $p$<.001) and negative outcome sensitivity ($r$=.92, $p$<.001). Disagreements in the coding were settled through discussion until a consensus was
reached between the two judges. The results of paired sample t-tests showed that participants assigned to the INP condition reported significantly greater concerns about positive outcomes than about negative outcomes (Mean\textsubscript{pos}=1.68, Mean\textsubscript{neg}=0.88, \(t_{43}=3.63, p=.001\)), whereas the reverse is true for the RNP condition (Mean\textsubscript{pos}=0.76, Mean\textsubscript{neg}=1.98, \(t_{43}=5.53, p<.001\)). Participants assigned to the existing product condition showed no significant difference in their product concerns about positive and negative outcomes (Mean\textsubscript{pos}=1.49, Mean\textsubscript{neg}=1.15, \(t_{42}=1.50, p=.139\)). These findings suggest that consumers focused more on the positive outcomes of using an INP, indicating the activation of a promotion goal. In contrast, they were more sensitive to negative outcomes of a RNP usage, indicating the activation of a prevention goal.

*Product Preference.* A MANOVA of the two product preferences revealed a significant main effect of product newness (Wilk’s λ=.54, \(F(2,128)=23.05, p<.001\), partial \(\eta^2=.266\)). Univariate analyses of the hair shampoo and the fruit juice preference showed that, compared to those in the RNP and control condition, participants in the INP condition displayed greater preference for the hair shampoo of Brand A with rich nutrients and hair polishing features (Mean\textsubscript{INP}=3.20, Mean\textsubscript{ext}=4.34, Mean\textsubscript{RNP}=6.72, \(F(2, 128)=35.66, p<.001\), partial \(\eta^2=.358\)) and the fruit juice of Brand X with rich vitamins and energy enhancing features (Mean\textsubscript{INP}=2.78, Mean\textsubscript{ext}=4.26, Mean\textsubscript{RNP}=6.43, \(F(2, 128)=39.52, p<.001\), partial \(\eta^2=.382\)). Both Brand A and Brand X were brands manifesting promotion orientation, thus indicating the activation of a promotion goal after exposure to the INP ad stimuli.
3.4. Discussion

The results of Study 1 show that after exposure to the ad for an INP, consumers display a significant increase in their promotion scores, focus more on positive product outcomes, and prefer unrelated product brands that heighten promotion orientation, suggesting activation of a promotion goal by the INP. In contrast, following exposure to the ad for an RNP, consumers show a significant increase in their prevention scores, focus more on negative product outcomes, and prefer unrelated product brands that strengthen prevention orientation, suggesting triggering of a prevention goal by the RNP. Consumers in the control condition (the existing product) did not show significant differences in promotion and prevention scores after ad exposure. Their outcome sensitivity and product preference were also not affected. These findings support H1 that decision-making contexts involving INPs will spontaneously activate a promotion goal, whereas those involving RNPs will trigger a prevention goal.

Study 1 has provided evidence to support the argument that the degree of product innovation newness will activate different regulatory orientations. Next, we examine possible boundary conditions of this effect.

On the one hand, when consumers perceive the gains offered by INPs to be more possible, and hence, accrual of benefits and fulfillment of advancement needs, is perceived to be more likely, a promotion goal may be activated. However, when a product innovation is “too new” and the newness is mainly perceived as risks or
threats to the status quo (often the case of RNPs), a prevention goal is triggered. Though decision-making for highly innovative products is generally perceived to be risky (Gatignon & Robertson, 1991), there is a possibility for consumers’ perception to shift from a predominant focus on the risks to that of the benefits of adoption. In new-product adoption decision-making, a set of benefits may be approached, while the direct cost component in trading of these benefits is usually the monetary cost, or price to pay for the products. The influence of price in product innovation adoption has received much research attention (e.g., Kalish & Lilien, 1986; Kamakura & Balasubramanian, 1988). Thus, we posit that price may also influence consumers’ risk perception and evaluation of product newness. If the price of the RNP is low, consumers’ risk perception may decrease, the cost to adopt this innovation falls and net benefit rises. Consumers may perceive its newness mainly as benefits, and a promotion goal should be activated. If the price of the RNP is high, consumers’ risk perception is increased and a prevention goal is expected to be triggered. In the case of INPs, as perceived risk is modest or low and benefits to be delivered are outweighed (Mukherjee & Hoyer, 2001; Zhao, Hoeffler, & Zauberman, 2007), changes in product price may not be the first concerns, within an acceptable price range. In other words, consumers mainly perceive the newness of INPs as benefits irrespective of the price, and a promotion goal should be activated.

Thus we propose,

H2: Price may moderate the effect of product newness on goal activation.
Specifically,

H2a: RNPs with a high price will activate a prevention goal, whereas RNPs with a low price will activate a promotion goal.

H2b: Irrespective of the price, INPs are more likely to activate a promotion goal.

The next study examines the moderating effect of price on regulatory goal activation.

4. Study 2

4.1. Manipulation

The method of product newness manipulation was similar to that in Study 1. The product were selected from the same product category, computer devices. A new model of laptop computer and an all-in-one desktop computer were selected as target product respectively for the INP and the RNP. The procedure of generating the mock ads and the control factors across ad stimuli were exactly the same as that in Study 1.

Product price was manipulated by varying the price of the INP and the RNP. In another pretest, forty MBA students from the same sample pool as the main study were recruited. They were invited to read the ads of the new model of laptop and the all-in-one desktop, and asked to decide the highest price they are willing to pay for the products and to estimate the raw cost of the products. The means of the highest acceptable price and raw cost were set as the high and low level of the price spectrum.
The mean price was rounded off to the nearest hundred and a number slightly below this whole hundred was used as the product price, that is, an odd-pricing strategy was adopted (Gendall, Holdershaw, & Garland, 1997). For the new model of laptop, the high and low price is 1899 and 899 dollars respectively. For the all-in-one desktop, the high and low price is 2399 and 1099 dollars respectively. The price information was then added to the mock ads (see Appendix B).

4.2. Procedure

One hundred and sixty MBA students participated in Study 2, in which the procedure entails two sessions.

In the first experiment session, we adopted a 2 (product newness type: INP versus RNP) × 2 (product price: high versus low) between-subjects design. The participants were randomly assigned to one of four experiment conditions and read ads of a filler product (a mug) and the target product at their own pace. After each product ad, they were asked to rate on 9-point scales measuring amount of information conveyed, degree of involvement and attractiveness of the ad. All scales are the same as those used in Study 1. They were also asked to rate their purchase intention on three items (“What is the likelihood that you will buy this product”: 1=“very small,” 9=“very large”; “Will you buy this product in the future”: 1=“very likely,” 9=“very unlikely”, reverse coded; “What is the degree of your intention to purchase this product”: 1=“very low,” 9=“very high”). The purpose of the purchase intention measures is to examine whether the regulatory foci activated would affect
consumers’ willingness to adopt the product innovations.

Next, participants were asked to complete a seemingly unrelated task of friendship strategy choice (Higgins et al., 1994). They were asked to choose three out of six preferred friendship strategies that were designed to capture either promotion (three items, e.g., “Be generous and willing to give of yourself”) or prevention orientation (three items, e.g., “Stay in touch and don’t lose contact with friends”), after which they completed the RFQ ($\alpha_{\text{prom}}=.85, \alpha_{\text{prev}}=.79$).

In the end, participants completed measures for the manipulation check. The items measuring product newness were similar to that in Study 1 (except that the item measuring newness of existing product was removed). Price perception was measured with a single item ("How do you perceive the price of [the name of the target product]": 1="very low," 9="very high"). Participants’ student number and other demographic information were recorded.

Two weeks later, the participants were recruited to fill in a psychological survey including RFQ ($\alpha_{\text{prom}}=.83, \alpha_{\text{prev}}=.81$) and two other filler scales. Their student number was recorded again to match their feedback for the two experiment sessions.

4.3. Results

4.3.1. Manipulation checks

The results of an ANOVA on product newness measures showed that, compared to participants in the INP conditions, those in the RNP conditions displayed higher ratings for the RNP scale ($\text{Mean}_{\text{RNP}}=7.82, \text{Mean}_{\text{INP}}=2.03, F(1, 158)=381.30, p<.001$).
Compared to participants in the RNP conditions, those in the INP conditions displayed higher ratings for the INP scale (Mean\textsubscript{INP}=7.95, Mean\textsubscript{RNP}=2.24, F(1, 158)=370.85, p<.001). Thus successful manipulation of product newness was ensured. The results of an ANOVA of the price perception scale showed that participants perceived the price of the target products from the high-price conditions was significantly higher than those from the low-price conditions (Mean\textsubscript{high}=6.93, Mean\textsubscript{low}=3.80, F(1, 158)=111.55, p<.001), suggesting the manipulation of product price was successful. Finally, results showed that participants’ perception of the amount of information, degree of involvement, and attractiveness of the target product ad stimuli did not differ across the experiment conditions (all p>.05).

4.3.2. Hypothesis testing

**Regulatory Focus.** A 2 × 2 ANOVA of promotion focus captured after product exposure in the first experiment session revealed a main effect of product newness (F(1, 158)=4.25, p=.041, partial $\eta^2=.027$), that the INP displayed higher scores for promotion focus than the RNP (Mean\textsubscript{INP}=7.25, Mean\textsubscript{RNP}=6.75, F(1, 158)=4.00, p=.047). The effect of product price was significant (F(1, 158)=5.43, p=.021, partial $\eta^2=.034$), that the high-price conditions yielded lower scores for promotion focus than the low-price conditions (Mean\textsubscript{high}=6.72, Mean\textsubscript{low}=7.28, F(1, 158)=5.15, p=.025). As expected, the interaction between product newness and price was found significant (F(1, 158)=6.35, p=.013, partial $\eta^2=.039$).

In the RNP conditions (all-in-one desktop), a significant difference in mean
scores for promotion focus captured after ad exposure was found between the high- and low-price condition. The participants assigned to the low-price condition displayed significantly higher promotion focus scores than those in the high-price condition (Mean$_{low}$=7.34, Mean$_{high}$=6.16, F(1, 158)=12.21, p=.001). Paired sample t-tests were conducted to examine the difference in promotion scores between participants’ chronic and temporary promotion focus. Compared with their chronic promotion focus, participants assigned to the low-price condition displayed a significant increase in their promotion focus after exposure to the RNP (Mean$_{chr}$=6.37, Mean$_{tmp}$=7.34, t$_{39}$=4.16, p<.001), indicating the activation of a promotion goal; participants assigned to the high-price condition showed marginal decrease in their promotion focus score after exposure to the RNP (Mean$_{chr}$=6.37, Mean$_{tmp}$=6.16, t$_{39}$=1.89, p=.066).

In the INP conditions (new model of laptop), the difference in mean scores for promotion focus captured after ad exposure between the high and low price condition was insignificant (Mean$_{low}$=7.23, Mean$_{high}$=7.27, F(1, 158)=0.02, p=.895). The results of paired sample t-tests showed that compared with their chronic promotion focus, participants assigned to the low-price (Mean$_{chr}$=6.38, Mean$_{tmp}$=7.23, t$_{39}$=3.73, p=.001) and high-price condition (Mean$_{chr}$=6.39, Mean$_{tmp}$=7.27, t$_{39}$=3.24, p=.002) both displayed a significant increase in their promotion focus after exposure to the INP, indicating the activation of a promotion goal.

A 2 × 2 ANOVA of prevention focus captured after product exposure in the first experiment session revealed that the effect of product newness was insignificant (F(1,
The effect of product price was found significant (F(1, 158)=5.04, p=.026, partial η² =.031), that the high-price conditions yielded higher scores for prevention focus than the low price conditions (Mean_high=5.87, Mean_low=5.32, F(1, 158)=4.88, p=.031). As expected, the interaction between product newness and price was significant (F(1, 158)=4.06, p=.046, partial η² =.025).

In the RNP conditions, significant difference in mean scores for prevention focus captured after ad exposure was found between the high- and low-price condition. The participants assigned to the high-price condition displayed significantly higher prevention focus scores than those in the low-price condition (Mean_low=5.29, Mean_high=6.33, F(1, 158)=9.42, p=.003). Paired sample t-tests were conducted to examine the difference in prevention scores between participants’ chronic and temporary prevention focus. Compared with their chronic prevention focus, participants assigned to the high-price condition displayed a significant increase in their prevention focus after exposure to the RNP (Mean_ch=5.37, Mean_tmp=6.33, t39=8.44, p<.001), indicating the activation of a prevention goal; participants assigned to the low-price condition showed no significant difference in their prevention focus score after exposure to the RNP (Mean_ch=5.36, Mean_tmp=5.29, t39=0.30, p=.769).

In the INP conditions, the difference in mean scores for prevention focus captured after ad exposure between the high- and low-price condition was insignificant (Mean_low=5.35, Mean_high=5.41, F(1, 158)=0.03, p=.872). The results of paired sample t-tests showed that compared with their chronic prevention focus,
participants assigned to the low-price (Mean\textsubscript{chr}=5.38, Mean\textsubscript{tmp}=5.35, t\textsubscript{39}=0.29, p=.775) and high-price condition (Mean\textsubscript{chr}=5.37, Mean\textsubscript{tmp}=5.41, t\textsubscript{39}=0.14, p=.890) both displayed no significant difference in their prevention focus after exposure to the INP.

Taken together, in the case of RNP, when the price of the product is perceived to be low, consumers’ promotion goal is activated; when consumers perceive the price to be high, a prevention goal is activated, suggesting the moderating effect of product price, thus H2a is supported. In contrast, in the case of the INP, irrespective of whether the price is perceived to be low or high, consumers’ promotion goal is activated, thus H2b is supported.

**Friendship Strategy Choice.** An ANOVA of the number of prevention strategies chosen revealed a significant effect of product newness (F(1, 158)=16.67, p<.001, partial $\eta^2=.097$) and product price (F(1, 158)=12.21, p=.001, partial $\eta^2=.073$). The interaction between product newness and price was also significant (F(1, 158)=7.26, p=.008, partial $\eta^2=.044$). Participants in the RNP condition who perceive the product price to be high chose a greater number of friendship strategies that manifested prevention focus than those either in the INP condition or who perceived the product price to be low (Mean\textsubscript{RNP/high}=1.88, Mean\textsubscript{RNP/low}=1.14, Mean\textsubscript{INP/high}=1.08, Mean\textsubscript{INP/low}=0.98, F(3, 156)=12.04, p<.001), indicating the activation of a prevention goal. The reverse is true for the choice of promotion strategies as reflected by the activation of a promotion goal in the RNP/low price, INP/high price and INP/low price conditions.

**Purchase Intention.** We averaged participants ratings on the three items
measuring purchase intention ($\alpha=.91$). An ANOVA of purchase intention revealed a significant effect of product newness ($F(1, 158)=28.89$, $p<.001$, partial $\eta^2=.156$) and product price ($F(1, 158)=22.95$, $p<.001$, partial $\eta^2=.128$). The interaction between product newness and price was also significant ($F(1, 158)=15.97$, $p<.001$, partial $\eta^2=.093$). In general, participants are more willing to buy INP compared with RNP ($\text{Mean}_{\text{INP}}=6.52$, $\text{Mean}_{\text{RNP}}=4.59$, $F(1, 158)=23.42$, $p<.001$), and prefer products with lower price ($\text{Mean}_{\text{low}}=6.41$, $\text{Mean}_{\text{high}}=4.69$, $F(1, 158)=18.05$, $p<.001$). More interestingly, in the purchase decision for the RNP, participants’ price perception affected their willingness to buy in that a lower product price significantly increased their purchase intention ($\text{Mean}_{\text{low}}=6.17$, $\text{Mean}_{\text{high}}=3.01$, $F(1, 158)=38.61$, $p<.001$), shifting from a possible resistance to purchase to likely adoption of this product. However, in the case of the INP, participants’ price perception did not influence their purchase intention in that the willingness to buy the INP did not differ between the high and low price condition ($\text{Mean}_{\text{low}}=6.66$, $\text{Mean}_{\text{high}}=6.38$, $F(1, 158)=0.32$, $p=.576$) (Table 1). Mediation analyses using bootstrapping methodology (Preacher & Hayes, 2004; Preacher & Hayes, 2008) were performed to further test the effect of regulatory focus on purchase intention of the product innovations. We first created an interaction variable that is the product of product newness and product price as the independent variable, and used purchase intention as the dependent variable, product newness and product price as covariates, and promotion focus and prevention focus as mediators (Hayes, 2013). The model produced a 95% bias-corrected and accelerated bootstrap confidence interval (1,000 bootstrap resamples) of (.07, .42) and (.02, .38), when
promotion focus and prevention focus were considered as the mediator respectively. Since zero was excluded in the lower and upper bound of both confidence intervals, these results confirmed that both promotion and prevention orientation mediated the effect of the interaction between product newness and price on consumers’ intention to purchase product innovations.

Table 1 here.

4.4. Discussion

Study 2 examines the boundary conditions of goal activation by product newness. The results suggest that the price of the product, as a primary component of consumer cost to adopt product innovations, moderates the effect of product innovation newness on goal activation when such an innovation appears in the form of an RNP. When the RNP is perceived to have a high monetary cost, consumers displayed an increase in their prevention focus scores after ad exposure to the RNP compared with their chronic prevention focus scores. They chose more friendship strategies that manifested prevention focus, indicating the activation of a prevention goal. They further expressed lesser intention to buy, or higher inclination to resist this product innovation. However, when the potential loss from adopting the RNP is reduced through lowering the product’s price, the goal activation effect is reversed. Consumers displayed an increase in the promotion focus scores after ad exposure to the RNP compared with their chronic promotion focus scores, and chose more
friendship strategies that manifested promotion focus, indicating the activation of a promotion goal. More interestingly, their willingness to adopt this new product was greatly enhanced, from possibly resisting to likely adopting this product.

In contrast, when a product innovation appears in the form of an INP, consumers appeared less concerned with the monetary cost and the moderating effect of price on goal activation was not found. Irrespective of the change in perceived price of the product, consumers displayed an increase in the promotion focus scores after ad exposure to the INP compared with their chronic promotion focus scores, and chose a greater number of friendship strategies that manifested promotion focus, indicating the activation of a promotion goal. Their purchase intention became less price-sensitive and was equally positive in both conditions of low and high perceived price (within a reasonable range). The results of the mediation analyses suggest that regulatory focus mediates the effect of the interaction between product newness and price on purchase intention. To illustrate, RNPs triggering a prevention focus lead to a lower purchase intention than those triggering a promotion focus, consistent with prior findings that promotion-focused consumers are more likely than prevention-focused consumers to purchase new products (Herzenstein, Posavac, & Brakus, 2007). Further, price perception moderates whether a promotion or prevention focus is activated and thus different purchase intention between the high and low price conditions for RNPs. In contrast, the moderation effect of product price on regulatory focus is not found for INPs that a promotion focus is consistently activated, leading to the indifference in purchase intention between the high and low price.
5. General discussion

The current research takes a first step toward addressing the role that product newness plays as a contextual cue that can induce consumers’ regulatory goals. Our findings contribute in several ways. Extensive research has extended RFT to studies of consumer satisfaction or choice behavior in the context of existing products (e.g., Trudel, Murray, & Cotte, 2012; Som & Lee, 2012). Although fundamental goals and motivations that guide consumers’ adoption of product innovations may differ from those that influence the purchase of existing products, prior literature has paid relatively little attention to examining the influence of regulatory goal systems in consumer decision-making for product innovations. The limited innovation literature that draws on RFT (e.g., Herzenstein, Posavac, & Brakus, 2007; Fransen, Reinders, Bartels, & Maassen, 2010) tended to focus on the influence of self-regulatory goals on consumer behavior, whereas the possibility that regulatory goals can be contextually primed by the newness of a product innovation (i.e., really or incrementally new product) has received lesser attention. Our paper fills this gap by demonstrating that product newness heightens consumers’ self-regulatory goals.

We show that ad exposure to INPs and RNPs spontaneously activates promotion and prevention goals respectively (Study 1), and this goal activation effect is moderated by the price of the product innovation (Study 2). The two studies together contribute to understanding of consumer innovation adoption.
decision-making. Consumers regard a modest or incremental degree of newness positively and naturally associate INPs with a mental representation of benefits to be approached, activating a promotion goal. In contrast, when a product innovation embodies radical newness, their decision-making is dominated by heightened risk or potential losses where they spontaneously evoke the need for safety and to preserve the status quo, activating a prevention goal. However, we suggest a possible way to change this pattern by reducing the price of the product innovation. As monetary cost is often the major component of the cost to adopt an innovation, lowering the price of RNPs helps to reduce consumers’ perceived risk and shift their focus from risk (or potential losses) to benefits, thus triggering a promotion goal, as in the context of INPs.

Product innovations, especially highly novel ones, have consistently suffered frustrating diffusion rates and consumer resistance (Moore, 2002; Urban, Weinberg, & Hauser, 1996). Our research provides implications on new product pricing for innovation marketers to facilitate the success of their new product launch. As revealed by the results of Study 2, when the price of a RNP is perceived to be low, consumers’ promotion goal is activated which make them promising adopters of this product innovation; however a RNP with high perceived price may trigger a prevention goal that hinders innovation adoption. However, price may not be a determining factor for the adoption of INPs in that consumers develop a promotion goal and purchase intention is not significantly influenced by a high or low price perception. We attempt to explain the results and provide the managerial implications. The pricing literature
has revealed a dual role of price perception, that is, price as monetary sacrifice and price as quality (Teas & Agrawal, 2000; Bornemann & Homburg, 2011; Chang, 2013). In general, new product suppliers show tendency to adopt a premium pricing strategy to signal product supremacy and uniqueness. Our results show that a premium pricing is not always the best solution. Instead, the pricing strategy should be designed in accordance with the degree of novelty of the product innovations. For RNPs, a high price is counter-productive in terms of raising a prevention orientation that hinders consumer adoption, whereas a lower price triggering a promotion orientation would appear to effectively reverse consumers’ negative response to these product innovations. These results indicate that price as monetary sacrifice dominates in the price perception of RNPs. The reason may be that perceived monetary sacrifice of a relatively high-priced product compared to a low-priced product is higher when consumers are under low fluency conditions (Chang, 2013). In the case of RNP adoption, consumers are less familiar with and have little knowledge and prior experience of these radical product innovations, which increases the difficulty to cope with external information (a lowered processing fluency) and recall previous information from memory (a lowered retrieval fluency). On the other hand, opportunities for premium pricing appear more forthcoming for INPs than expected, which may suggest that in the launch of an INP where consumers are less price-sensitive, a skimming strategy might be a feasible choice for the companies to pursue profit.

The research findings also provide managerial implication for innovation
communications. As shown in the results of Study 1, consumers focus on positive outcomes of INP usage and concern negative outcomes of RNP adoption. Drawing from regulatory fit theory (Higgins, 2000; Aaker & Lee, 2006), marketers designing advertising messages for INPs should stress positive outcomes of the product to achieve greater fit with consumers’ promotion-focus inducement by INPs, while frame product benefits in terms of negative outcomes avoided by using the product, so as to align with consumers’ prevention-focus inducement by RNPs. The regulatory fit between message framing and regulatory orientation activated by the product innovations may bring extra “value from fit”, such as more positive attitude and greater purchase intention. Although consumers’ chronic regulatory trait is hard to change, a compatible framing strategy that fits with the temporary regulatory focus induced by the new product may benefit companies from enhanced effectiveness of product innovation communication.

Our findings are also consistent with goal activation theory which argues that goals can be spontaneously activated by situational cues and contexts (Bargh & Ferguson, 2000; Fishbach, Friedman, & Kruglanski, 2003). The current research moves forward by demonstrating that more general, higher-order self-regulation goals can be activated by cues such as consumers’ perception of a product’s level of newness and can guide consumer decision-making in completely different contexts. As shown in Study 1 and Study 2, the regulatory goals activated by INPs and RNPs are shown to carry over to subsequent unrelated tasks of product preference and friendship strategy choice. An implication for marketing managers is that consumer
behavior is a product of the target and the contexts; not only should the target be valued, but also the surrounding contexts, especially when they involve product innovations. For example, exposure to a prior decision context concerning the new iPhone 6 Plus (INP) may facilitate consumer preference of a toothpaste brand that promotes tooth whitening and breath-freshening function, rather than one that emphasises its cavity-prevention function.

In the work of Zhou and Pham (2004), the results show that evaluation of financial assets such as individual stocks, with relatively higher risk, activates a promotion orientation; while evaluation of mutual funds, with relatively lower risk, triggers a prevention orientation. In our findings, INPs with relatively lower risk are found to activate a promotion focus while RNPs with relatively higher risk trigger a prevention focus. We offer two explanations for these conflicting findings. First, we reason that the mechanism of regulatory goal activation in the context of financial investment decision-making may differ to that of product innovation adoption. In financial investment decisions, goal activation is driven by the trade-off between gains and losses. According to Zhou and Pham (2004), the activation of promotion orientation is motivated by achieving financial gains from investing in individual stocks, while the activation of prevention orientation is driven by avoiding financial losses through investing in mutual funds. In the adoption of product innovations, goal activation is, arguably, driven by basic needs and motivations. The activation of a promotion goal is driven by the inherent association between the need for
development and advancement and INP adoption, while the activation of a prevention focus is driven by the need to preserve security made salient by RNP adoption.

Second, the degree of risk perception also differs. In general, investors’ degree of risk perception for the two financial options (even for individual stock) is modest where expected gains can compensate expected losses. One can choose to stop investing in a particular stock and withdraw one’s money when its stock price falls. However, the adoption decision for RNPs involves much higher risk where expected gains cannot compensate expected losses, as illustrated by the “losses loom larger than gains” effect (Tversky & Kahneman, 1992). If the adoption decision is proven wrong, for example, the consumer does not master the techniques required to use the new product, all investment including monetary, time, and learning costs will be totally wasted.

Combined with prior literature examining the influence of regulatory focus on consumer behavior, our findings enlighten future research avenues. For example, Labroo and Lee (2006) show that when regulatory goals activated by two successive products are compatible rather than conflicting, the later product can benefit from a goal-fluent effect. Thus, will evaluation of a product be affected by prior exposure to incremental and really new product innovations? Besides product price, other factors that might moderate the effect of product innovation newness on goal activation (e.g., product’s innate regulatory function) merit careful future examination.
References


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### Table 1
Temporary regulatory focus and purchase intention as a function of product newness and product price (Study 2).

<table>
<thead>
<tr>
<th>N=160</th>
<th>RNP</th>
<th>INP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low Price</td>
<td>High Price</td>
</tr>
<tr>
<td>Promotion Focus</td>
<td>7.34 (1.45)</td>
<td>6.16 (1.38)</td>
</tr>
<tr>
<td>Prevention Focus</td>
<td>5.29 (1.49)</td>
<td>6.33 (1.44)</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>6.17 (1.84)</td>
<td>3.01 (1.70)</td>
</tr>
</tbody>
</table>

Note: The standard deviation is contained in brackets.
Fig. 1. Temporary regulatory focus as a function of product newness.