Consumer-Based Product Creativity, Product-Brand Fit, and Product-Category Fit: Which is More Influential in Consumer Responses?

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ABSTRACT

This study examines the effects of consumer-based product creativity (i.e., novelty and meaningfulness dimensions), product-brand fit, and product-category fit on attitude toward the product and purchase intention. A total of 544 university students participated in a survey, in which respondents were exposed to a stimulus product image and then required to respond to a questionnaire. Structural equation modelling results show that novelty and meaningfulness and product-brand fit significantly influence attitude, subsequently increasing purchase intention. Notably, meaningfulness, rather than product-brand fit, is found to be more influential on both the attitude and purchase intention. The importance of meaningfulness can be even more highlighted for the products less fitted for their category. Theoretical and practical implications are further discussed.

Keywords: *novelty, meaningfulness, product-brand fit, product-category fit, product creativity*

INTRODUCTION

Product creativity has been regarded as an essential factor for new product development and branding. Creative products often pique curiosity and stimulate learning (Dubey and Griffiths 2019). Product creativity influences comprehensive evaluation on the product or its brand, such as aesthetic appraisal (Hekkert, Snelders, and van Wieringen 2003) and brand equity (Nørskov, Chrysochou, and Milenkova 2015). Accordingly, launching creative products enables a company to gain a competitive advantage over its rival companies, to generate additional revenue, and to eventually have a core competency for sustainable growth (Smallbone, Kitching, and Athayde 2010).

On the other hand, some scholars are wary of radical changes in branding or product design for pursuing product creativity because product-brand fit (PBF) and product-category fit (PCF) have been regarded as another notable determinants of consumer responses (Goh, Chattaraman, and Forsythe 2013, 2014; Kumar, Townsend, and Vorhies 2015; Liu et al. 2017; Nørskov, Chrysochou, and Milenkova 2015; Heitmann et al. 2020). Because product design helps consumers to infer the brand of the product as a means of communication, branded products need to be designed with common design elements to evoke a brand name (Goh, Chattaraman, and Forsythe 2013; Liu et al. 2017; Park, Milberg, and Lawson 1991). Likewise, a somewhat typical and familiar design helps consumers to understand which product category the product belongs to. A product designed to fit well with its brand, as well as its product category, is found to be positively evaluated by consumers (Goh, Chattaraman, and Forsythe 2013, 2014).

Although product creativity, PBF, and PCF needs to be all considered for consumer acceptance, each construct has been separately investigated in either design or branding literature (Mulder-Nijkamp 2020). Most Advance, Yet Acceptable (MAYA) principle (Loewy 1951), which postulates the mutually suppressing relationship between design typicality and novelty, may facilitate understanding of what product design consumers want, but this principle addresses only one dimension of product creativity (i.e., novelty) and has no brand-related consideration. A more recent study demonstrates the effects of novelty, typicality, and PBF on market success (Mulder-Nijkamp 2020), but still addresses only a dimension of product creativity and tested each effect separately by regression analysis. Adding meaningfulness, another dimension of product creativity which has not been studied in most prior studies, in the model juxtaposing novelty, PBF, and PCF gives a deeper understanding of the interplay of these design factors. Furthermore, by using structural equation modelling that enables to verify the relationships among them in a comprehensive model at once, it can be clarified which factor would be more influential on consumer responses, among novelty, meaningfulness, PBF, and PCF. Their moderating effects on consumer responses have not been completely elucidated, also weighting the necessity of examining the relationships among these variables.

The purpose of this study is to examine the effects of consumer-based product creativity (i.e., novelty and meaningfulness), PBF, and PCF on consumer responses, such as attitude toward the product and purchase intention. Specifically, this study mainly builds on MAYA and incorporates meaningfulness and PBF to the research model to examine their relationships on consumer responses. The juxtaposition among novelty, meaningfulness, PBF, and PCF enables one to identify the more important factor on consumer responses. Moreover, the moderating roles of PBF and PCF, respectively, on the effects of novelty and meaningfulness are examined for a better understanding of how the fits moderate product creativity dimensions in influencing consumer responses in the comprehensive model.

THEORETICAL FRAMEWORK

Novelty and Meaningfulness

Product creativity refers to consumers' subjective judgement of a design output and is most commonly conceptualised as a two-dimensional construct that: novelty and meaningfulness (Im and Workman 2004; Im, Bhat, and Lee 2015; Sarkar and Chakrabarti 2011). Novelty refers to the unique differences that a product shows in comparison to the competing alternatives or preceding product generations (Goedertier et al. 2015; Im and Workman 2004). It can be defined as the uniqueness and newness of product design (Horn and Salvendy 2009). A novel product is original, new, non-ordinary, and radical (Besemer and O'Quin 1986; Christiaans 2002). Consumers are generally attracted to a novel product, but when the new product is so novel that it stretches too far from the norm of consumers' existing knowledge, then the psychological effect of fear of unfamiliarity kicks in and suppresses the positive effect of product newness (Loewy 1951). In other words, consumers prefer novel products given that the product is within the acceptable norm of a typical product. Seifert and Chattaraman (2020) also found that moderately novel product leads to higher aesthetic judgement than highly novel product.

Meaningfulness, another dimension of product creativity, has been regarded as a key factor in explaining consumer behaviour (Im, Bhat, and Lee 2015). A meaningful product is useful, logical, appropriate, valuable, and important to target customers (Besemer and O'Quin 1986; Nakata et al. 2017). Consumers actively seek "meaning" (Bruner 1990) when encountering a new product. Meanwhile, cognitive processes enable them to recognise metaphors and evaluate its symbolic significance (Fenko and van Rompay 2018). Meanings also allow consumers to make sense of and shape expectations from the product (Proulx and Inzlicht 2012). Product design is a means through which breakthrough innovations of meanings can be created via radically changing the emotional and symbolic content of the product (Verganti 2008). It requires in-depth understanding of the meanings given by the people in a certain social-cultural context as well as an understanding of the technology (Person et al. 2007; Verganti 2008). For example, Alessi, a successful Italian manufacturer, radically redefines what kitchenware means for a customer by transforming a simple utilitarian corkscrew to a dancing woman shaped corkscrew that moves like a dancer while unscrewing the cork from a wine bottle.

PBF and PCF

When a person encounters an object, (s)he will undergo some mental processing to understand it. Categorisation theory posits that one will try to match the object with categories from prior knowledge (Goodstein 1993). If the object attributes resemble those of a specific category, the attributes associated with exemplars within that category will be transferred to the new object, thus facilitating learning of it (Loken, Barsalou, and Joiner 2008). Creative products are likely to be classified into multiple category levels according to visual clues (Moreau, Markman, and Lehmann 2001). A product (e.g., a certain watch) can be categorised into a product category (e.g., watches) and/or into a product's brand category (e.g., Rolex). Both are important in determining consumer responses (Goedertier et al. 2015; Goh, Chattaraman, and Forsythe 2013, 2014; Liu et al. 2017). Along with this rationale come along two variables that are amongst the interests of this study—PBF and PCF.

PBF is defined as the extent to which the design attributes fit the brand image (Mulder-Nijkamp 2020). PBF comes into effect when the evoked category (i.e., the frame of reference) is a brand when consumers experience a new product. This concept stems from brand congruency research where congruency between the parent brand and the extension is found to exert positive effect on extension product evaluation (Aaker and Keller 1990). PBF is also related to brand aesthetics where sensorial elements of brand identity are manifested through tangible product features (Andersson 2016). In car design, headlights and radiator grille that resemble the brand enhance brand recognition accuracy (Ranscombe et al. 2012).

PCF is defined as consumers' perception of how well a product fits the prototype of the product category where the product plausibly belongs to. PCF comes into play if the evoked category is a product category. PCF is determined by the number of attributes shared between the product and its product category exemplars. PCF was consistently found to exert robust effect on consumers' aesthetic judgements (Veryzer and Hutchinson 1998; Winkielman et al. 2006; Vogel, Ingendahl, and Winkielman 2021). High PCF facilitates categorisation and correlates with liking (Heitmann et al. 2020; Goodstein 1993).

Research on PBF and PCF have started gaining traction recently. Heitmann et al. (2020) studied PBF and PCF using market share data from the US car industry and found that strong brands benefit more from PBF but less from PCF than weak brands. This research, however, studied PBF and PCF in incremental innovations as their samples resembled typical cars. It is unclear whether results derived from an incremental operationalisation will generalise to more substantive deviations from PBF and PCF. Another study by Seifert, Cui, and Chattaraman (2019) found that PBF positively affects consumer evaluations. The stimuli used in manipulating PBF reflected substantive deviations from the typical, however, they were arguably confounded by PCF. Form and contour changes (which were used to manipulate PBF) also affect PCF, which the authors did not measure and control for. Our research fills in these gaps by studying both PBF and PCF in substantive innovations.

Consumer Responses

Consumer responses to product design comprise of cognitive (product beliefs and categorisation), affective (positive and negative responses), and behavioural responses (approach vs. avoidance) (Bloch 1995). The cognitive responses can be exemplified by novelty, meaningfulness, PBF, and PCF because novelty and meaningfulness correspond to the consumer's perception about a certain characteristic of product design, and PBF and PCF correspond to the issue of categorising whether the product design fits with the brand or product category of the product. The affective responses evoked by product design is an overall positive or negative feeling to design elements, for example, a moderately positive response to simply liking (Bloch 1995). These feelings are antecedents of attitude, which is relatively enduring, internal, and comprehensive evaluations of an object (a product in this study), and reflects the degree of goodness or badness (Spears and Singh 2004). Regarding the behavioural responses, the strongest approach behaviour consumers can show would be purchase. A linear relationship in which actual behaviour is well predicted by behavioural intention, and behavioural intention is well predicted by attitude, has been repeatedly verified in previous studies (Ajzen et al. 2009; Glasman and Albarracín 2006; Spears and Singh 2004). Accordingly, attitude and purchase intention are included in the research model as consumer responses to product design.

DEVELOPING HYPOTHESES

Product creativity influences comprehensive evaluation on the product or its brand (Hekkert, Snelders, and van Wieringen 2003; Nørskov, Chrysochou, and Milenkova 2015). From firms' perspective, product creativity

is a decisive determinant of new product success (Im and Workman 2004). Particularly, both novelty and meaningfulness dimensions of a new product are shown to impact the overall assessment of whether the product successfully meets its objectives for customer satisfaction and technological advancement. Novel product surprises consumers with its newness and the pleasant surprise could lead to positive consumer responses (Talke et al. 2009). Another key criterion, meaningfulness, allows consumers to make sense of a product (Proulx and Inzlicht 2012). When a product meets consumer needs, it will make more sense and thus be more meaningful to the consumers (Andrews and Smith 1996). If a product is merely novel but not meaningful, it can be perceived as strange for being different from its competitor. Such design would not be highly preferred and purchased. Consumers' attitude (Im, Bhat, and Lee 2015) and purchase intention (Horn and Salvendy 2009; Rubera, Ordanini, and Griffith 2011) are identified as the consequences of product creativity. Therefore, H1 and H2 can be developed as follows.

> H1:   (a) Novelty and (b) meaningfulness of a product would positively influence attitude.
> H2:   (a) Novelty and (b) meaningfulness of a product would positively influence purchase intention.

According to the categorisation theory, the more typical attributes an object possesses in common with a specific category, the higher the aesthetic preferences it will receive because consumers can understand the objects better due to ease of categorisation (Goodstein 1993; Whitfield and Slatter 1979). The positive effect of prototypicality on consumer preference is empirically verified in other prior studies (Hekkert and van Wieringen 1990; Veryzer and Hutchinson 1998). On one hand, products that are designed to have visual resemblance to the brand will facilitate recognition and transfer of consumer beliefs about the brand to the new product, both of which lead to positive evaluation (Karjalainen and Snelders 2010). If the product is incongruent with the brand, consumers will not be able to transfer the positive affect associated with the parent brand to the extension product, and hence extension product evaluation will suffer (Aaker and Keller 1990). On the other hand, product typicality is found to positively affect consumers' attitude (Loken and Ward 1990). The perceived fit between product categories of the parent brand and the extension was found to be a key determinant of extension success (Kalamas et al. 2006), signifying the importance of product category as a frame of reference when judging a product. Furthermore, according to preference-for-prototypes theory (Whitfield and Slatter 1979), consumers tend to prefer a typically designed product to an atypical one. Thus, H3 and H4 can be developed as follows.

> H3:   (a) PBF and (b) PCF would positively influence attitude.
> H4:   (a) PBF and (b) PCF would positively influence purchase intention.

The effect of attitude on purchase intention has been repeatedly verified in psychology and marketing literature (Goh, Chattaraman, and Forsythe 2014; Lee, Lee, and Garrett 2013; Spears and Singh 2004). Accordingly, the following H5 can be developed.

> H5:   Attitude would positively influence purchase intention.

According to MAYA, consumers are generally attracted to a novel product but if the new product is so novel that it deviates too far from the consumers' existing schema, then the positive effect of product newness will be suppressed (Hekkert, Snelders, and van Wieringen 2003; Loewy 1951). Hekkert, Snelders, and van Wieringen (2003) demonstrated that typicality and novelty correlate negatively with each other. The effects of typicality and novelty on consumers' aesthetic preferences of new products are in opposing directions and mutually suppressive although they are equally important in their explanation power (Hekkert, Snelders, and van Wieringen 2003). It was also found that moderately deviating (atypical) product designs were judged higher aesthetically compared to typical design and too deviating (very atypical) designs (Blijlevens et al. 2012).

The nonmonotonic relationship between the effects of the fits (PBF and PCF) and creativity on consumers' responses may also be explained by schema congruity theory which underlying mechanism is the consumers' ability to resolve the product within the existing schema (Mandler 1982; Taylor and Noseworthy 2020). According to the theory, incongruencies stimulate processing. In general, a new product that is not too incongruent that challenges consumers' existing schema will receive positive evaluation (Blijlevens et al. 2012; Jhang, Grant, and Campbell 2012). When confronted with extremely incongruent stimuli (i.e., low PBF and low PCF), consumers are unable to resolve the incongruity despite exerting effort in processing. This heightens arousal and anxiety, hence consumers' evaluations toward incongruent product will be low (Noseworthy, Muro, and Murray 2014). Whereas, when consumers are able to resolve the product (i.e., high PBF and high PCF), positive affect is more likely to result. Positive affect, in turn, may facilitate the processing of creativity (de Buisonjé et al. 2017; Jhang, Grant, and Campbell 2012). Taken together, H6 and H7 can be developed as follows:

H6: PBF would moderate the relationship between (a) novelty and attitude, (b) novelty and purchase intention, (c) meaningfulness and attitude, and (d) meaningfulness and purchase intention.

H7: PCF would moderate the relationship between (a) novelty and attitude, (b) novelty and purchase intention, (c) meaningfulness and attitude, and (d) meaningfulness and purchase intention.

METHODS

This survey research was performed in computer labs of a large university. In the main survey, a respondent was required to see a product image shown in a monitor screen as a stimulus to evaluate the product, and then complete an electronic questionnaire. The stimulus images were formerly developed through two pretests and randomly assigned to a respondent in the main survey.

Sample

Students from a large university were invited to the main survey for a little cash incentive. Electronic announcement was posted at several social network sites commonly used by university students. A total of 560 participants' responses were initially collected, part of which were removed for data quality concerns (e.g., failing to satisfy initial screening questions, showing straight-lining responses to Likert scales). The remaining 544 responses were used for further analyses.

The sample consisted of university students, aged 19 to 34 years old (M = 20.4, SD = 2.12), from nine colleges and 38 departments. The gender distribution of participants was nearly balanced slightly more women (52.8%) than men (47.2%). The school year of participants varied greatly: freshmen (27.8%) being the largest group; followed by juniors (24.8%); sophomores (20.6%); graduate students (15.5%); and seniors (11.4%). In terms of the most recent annual household income: 37.8% were between USD50,000 and USD99,999; 25.0% between USD30,000 and USD49,999; 24.7% at/below USD29,999; and 12.5% USD100,000 or more.

Stimulus Development

As a respondent needed to be exposed to a sample product before evaluating its design and expressing his or her responses as a consumer, several stimuli should be developed through pretests. These stimuli are not intended to manipulate PBF and PCF, but to stimulate and measure various degrees of PBF and PCF. Two pretests were performed with the aims of selecting an appropriate product category and brand, as well as figuring out product attributes related to PBF and PCF.

Pretest 1

In the first pretest, 36 university students were recruited by convenience sampling and asked to complete a short questionnaire. They rated 10 items measuring product involvement (Zaichkowsky 1994) and a seven-point bipolar item measuring brand relevancy, "purchase decision is (or is not) influenced by the brand," toward 10 product categories (i.e., watches, earphones, motorcycles, computer speakers, webcams, cameras, helmets, external hard disk drives for computers, game consoles, and cell phones). As results of descriptive statistics, the product category of cameras was found to have the highest scores in product involvement (M = 5.6) as well as brand relevancy (M = 6.0), thus selected as the product category in further developing stimulus product images.

Pretest 2

One goal of the second pretest was to select an appropriate brand, which was familiar to, favoured by, and perceived as a strong brand by the sample because strong brand equity was expected to help respondents to easily evaluate PBF in the main survey. Seven brands currently selling various consumer goods, excluding cameras, were selected in order to control confounding effects of the brands' existing camera products on the relationships hypothesised in this study. The other goals of the second pretest were to understand the brand image of selected brands and product attributes related to product typicality. To provide several camera images along with the seven brands, a total of 64 existing camera images were collected by using a keyword "camera" through one of the most popular online search engines worldwide.

A total of 76 university students were recruited through a social network website for a chance to win a gift certificate worth around USD10. Survey respondents were randomly assigned to one of the two sets of

questionnaires and required to first respond to 10-point Likert scales of brand familiarity (Laroche, Kim, and Zhou 1996; Park, Milberg, and Lawson 1991) and brand favorability (Page and Herr 2002). Perceived brand strength was then measured by three 10-point bipolar items, "weak vs. strong brand," "mediocre vs. leading brand," and "unknown vs. famous brand," followed by a 10-point Likert scale of product typicality (Loken and Ward 1990). Lastly, a few open-ended questions were asked to elicit the brand image of selected brands and product attributes related to product typicality.

The MUJI brand showed the highest scores in brand familiarity (M = 7.7) and perceived brand strength (M = 8.5) as well as the second-highest score in brand favorability (M = 8.0), thus selected as the brand in further developing stimulus camera images. The brand image of MUJI was found to embrace a bundle of brand associations, such as simple, natural, high quality, high functionality, and down-to-earth. Considering both the qualitative (i.e., brand associations) and quantitative (i.e., product typicality scores) data, it is concluded that the typical design of cameras would be determined by the following product attributes: retractable lens, buttons, screen, a rectangular shape, portability, and metal body. Consequently, four cameras were professionally developed to create a spread of designs in regard to PBF and PCF. The specific camera images were created by using Rhinoceros 5.0 software and used in the main survey.

Procedure

Each participant was asked to answer an electronic questionnaire, in which initial screening questions were first given for testing participants' ability to recognise images. Next, participants were exposed to a simple description of MUJI brand as well as its brand logo coming from MUJI's official website. Finally, one of the four camera images was randomly introduced as a new camera product of MUJI, followed by measurement items.

Measurements

Most measurement items used in the main survey were adopted from existing scales. Novelty and meaningfulness were measured by eight-item of product creativity scale (Rubera, Ordanini, and Griffith 2011). PBF was measured by Loken and John's (1993) four-item scale, while PCF was measured by Loken and Ward's (1990) four-item scale. Two five-item scales were used to measure attitude and purchase intention, respectively (Spears and Singh 2004). All items were measured in seven-point Likert scales, except demographic questions asking participants about their age, gender, school year, department and college affiliated, and annual household income.

Data Analysis

By using SPSS 21.0, descriptive analysis was first performed to identify sample characteristics and to confirm the various degrees of PBF and PCF evoked by stimulus images. Next, exploratory factor analysis (EFA) using maximum likelihood and Promax rotation was performed to assure the validity and reliability of measurements.

A component-wise approach to product creativity is used in the analysis for hypothesis testing. Research has shown that when novelty and meaningfulness are assessed distinctively, as opposed to combined into a higher order construct, they produce better construct validity of product creativity (Nakata et al. 2017; Im and Workman 2004). Thus, novelty and meaningfulness are estimated separately. A structural equation modelling (SEM) using Amos 8.0 was conducted to identify the causal relationships among the constructs of novelty, meaningfulness, PBF, PCF, attitude, and purchase intention. Additionally, another SEM was conducted to assess the moderating roles of PBF and PCF on the relationships among the other four variables, by using the unconstrained mean-centered approach (Marsh et al. 2007).

RESULTS

Validity and Reliability Checks

Based on EFA (using the method of maximum likelihood with Promax rotation) and Cronbach's alpha results (see Table 1), measurement items are refined to establish validity and reliability. In the item refinement process, the results are carefully reviewed by using four criteria of having (a) theoretical supports, (b) a primary factor loading greater than 0.5, (c) no cross-loading greater than 0.3, and a Cronbach's alpha greater than 0.7 (Hair

et al. 2010). The eight-item scale of product creativity shows a clean two-factor solution having all primary factor loadings above 0.5 and no cross-loading above 0.3. Factor 1 consists of four meaningfulness items, while Factor 2 consists of four novelty items, which reproduces the two-dimensionality of the original scale. Accordingly, Factors 1 and 2 are labelled as meaningfulness and novelty dimensions of product creativity, respectively. Other variables (i.e., PBF, PCF, attitude, and purchase intention) result in a clean single-factor solution; a reverse-coded item of PBF and attitude, respectively, was eliminated in the process. All Cronbach's alphas of each factor reviewed above are over 0.7, establishing adequate internal consistency of the measurement items.

Table 1 Exploratory factor analysis results.

Factors (dimensions)	Items[a]	Factor loadings		% variance	Cronbach's alphas
Product creativity (meaningfulness)	It is appropriate for my needs and expectations.	0.898	0.010	59.888	0.847
	It is relevant to my needs and expectations.	0.784	0.095		
	It is useful for me.	0.768	−0.016		
	It is considered unsuitable for my desires (R).	0.652	−0.135		
Product creativity (novelty)	It is really "out of ordinary."	−0.173	0.794		0.836
	It provides radical differences from other cameras.	−0.094	0.777		
	It can be considered as revolutionary.	0.102	0.761		
	It shows an unconventional way of solving problems.	0.165	0.679		
Product-brand fit	Not consistent with MUJI image/ Consistent with MUJI image.	0.918		78.963	0.917
	Not typical to MUJI image/ Typical to MUJI image.	0.876			
	Not similar to MUJI/Similar to MUJI.	0.871			
Product-category fit	Not representative of a camera/ Representative of a camera.	0.857		57.182	0.837
	Doesn't look like a camera/ Looks like a camera.	0.740			
	Not typical of a camera/ Typical of a camera.	0.709			
	Poor example of a camera/ Good example of a camera.	0.708			
Product attitude	Not likeable/Likeable.	0.926		73.498	0.916
	Not pleasant/Pleasant.	0.856			
	Bad/Good.	0.846			
	Not appealing/Appealing.	0.795			
Purchase intention	I definitely intend to buy this camera.	0.770		49.755	0.828
	I will never buy this camera (R).	0.764			
	I will probably not buy this camera (R).	0.696			
	I have low interest in this camera (R).	0.674			
	I will definitely buy this camera.	0.611			

[a] (R) reverse-coded items

Additionally, the stimulus images developed through pretests are tested to verify whether the four camera images successfully evoke various degrees of PBF and PCF. As results of descriptive analyses with the average score of three PBF items and the average score of four PCF items, both PBF (M = 3.6, SD = 1.72) and PCF (M = 3.7, SD = 1.38) are found to have widely distributed from one to seven on a seven-point Likert scale. The distribution of PBF is found to be less skewed but flatter (Skewness = 0.034, Kurtosis = −1.088) than that of PCF (Skewness = 0.155, Kurtosis = −0.443). These findings show that participants truly perceived various degrees of PBF as well as PCF by random stimulus assignment.

Hypothesis Tests

Main effects

A SEM using maximum likelihood estimation is used to estimate the basic model consisting of six latent variables (i.e., novelty, meaningfulness, PBF, PCF, attitude, and purchase intention) but excluding moderators. A component-wise approach is used and each of the variables is estimated separately, instead of combining to higher order constructs. The basic model shows an acceptable fit (χ^2 = 750.782, df = 230, $p < 0.001$, TLI = 0.923, CFI = 0.936, RMSEA = 0.065, and SRMR = 0.076). The relationships among the six latent variables are shown in Figure 1. Both novelty (β = 0.130, $p < 0.01$) and meaningfulness (β = 0.525, $p < 0.001$) show significantly positive effects on attitude, supporting both H1a and H1b. However, purchase intention is significantly influenced by meaningfulness (β = 0.562, $p < 0.001$), not by novelty (β = −0.075, p = 0.054); thus, only H2b is supported. PBF (β = 0.192, $p < 0.001$) significantly influence the attitude, while PCF does not (β = 0.063, p = 0.219), supporting only H3a. Purchase intention is also significantly influenced by PBF (β = 0.091, $p < 0.05$), not by PCF (β = −0.051, p = 0.293); thus, only H4a is supported. Finally, the effect of attitude on purchase intention is significant (β = 0.338, $p < 0.001$), supporting H5. The standardised regression coefficients indicate that meaningfulness, rather than PBF, is more influential on both attitude and purchase intention.
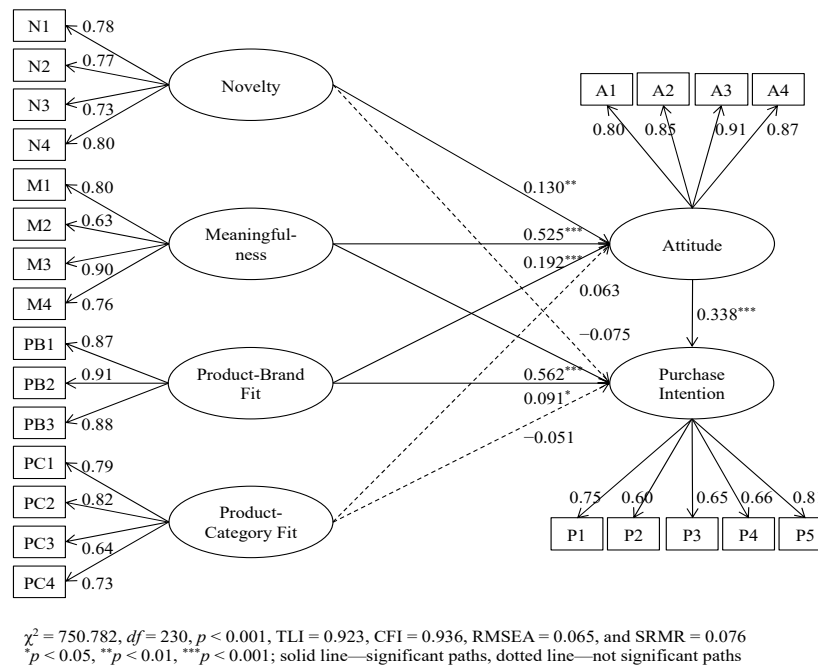

χ^2 = 750.782, df = 230, $p < 0.001$, TLI = 0.923, CFI = 0.936, RMSEA = 0.065, and SRMR = 0.076
$^*p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$; solid line—significant paths, dotted line—not significant paths

Figure 1 Single-group structural equation modelling results.

Moderating effects

To assess the moderating role of PBF and PCF, respectively, on the effects of novelty and meaningfulness on consumer responses (i.e., attitude and purchase intention), another model is created by adding four latent moderators (i.e., PBF * novelty, PBF * meaningfulness, PCF * novelty, and PCF * meaningfulness) and their indicators on the basic model. We first mean-centered all the observed variables of the four independent variables in the basic model, and then multiplied matched pairs of them in order to create the product indicators and respective constructs of moderators (Jackman, Leite, and Cochrane 2011; Marsh, Wen, and Hau 2004).

The model including moderators shows an acceptable fit (χ^2 = 1087.300, df = 435, $p < 0.001$, TLI = 0.915, CFI = 0.930, RMSEA = 0.053, and SRMR = 0.054). Regarding PBF, only the interaction with novelty on attitude is significant (β = −0.091, $p < 0.05$). The interaction with novelty on purchase intention (β = 0.002, p = 0.957), the interaction with meaningfulness on attitude (β = −0.001, p = 0.979), and the interaction with meaningfulness on purchase intention (β = 0.075, p = 0.127) are not significant. Thus, PBF moderates the

relationship between novelty and attitude, supporting H6a. Because the significant interaction effect is negative, PBF weakens the positive effect of novelty on attitude.

Regarding PCF, only the interaction with meaningfulness on purchase intention is significant ($\beta = -0.123$, $p < 0.05$). The interactions with novelty on attitude ($\beta = -0.029$, $p = 0.562$) and purchase intention ($\beta = 0.036$, $p = 0.451$) as well as the interaction with meaningfulness on attitude ($\beta = -0.013$, $p = 0.819$) fail to be significant. Thus, PCF moderates the relationship between meaningfulness and purchase intention, supporting H7d. In other words, PCF weakens the positive effect of meaningfulness on purchase intention.

DISCUSSION

This study aims to identify a more influential factor among novelty, meaningfulness, PBF, and PCF on consumer responses and to explore the possible interactions among these factors. The results first indicate that the most effective factor determining consumers' positive responses is the meaningfulness, followed by PBF and the novelty. This finding is in line with Im and Workman's (2004) empirical evidence that meaningfulness is more substantial in explaining new product success than novelty. The present study also reveals that consumer responses are positively influenced by novelty, meaningfulness and PBF. PCF, however, is identified as an insignificant factor in consumer response. This is a surprising finding because previous research on product typicality has consistently shown a positive and significant effect. Finally, the findings of this study imply the delicate relationship between product creativity and perceived fit; PCF weakens the positive effect of meaningfulness on purchase intention while PBF weakens the positive effect of novelty on attitude.

Theoretically, this study provides empirical evidence to reconcile the relationships among novelty, meaningfulness, PBF, and PCF in literature of new product development. The component-wise approach utilised in this research provides a chance to dig deep and scrutinise the influence of each factor in the comprehensive model. The findings of the present study reiterate that more significant, influential constructs are meaningfulness (compared with novelty) and PBF (compared with PCF), solidifying the prior findings. But more importantly, they shed light on the question of which one is more influential in consumer responses among novelty, meaningfulness, PBF, and PCF. In our comprehensive model, meaningfulness does not only have the largest effect size, but also leads to both positive attitude and purchase intention. Consumers place the greatest weight on whether the product is meaningful to themselves. These findings echo the design process of creating breakthrough innovations of meanings acceptable by the consumers (Verganti 2008). Such findings serve as a base for scholars to pay more attention to the importance of meaningful product design and to recognise the necessity for considering consumer needs and expectations in new product development research.

This research shows contrary results to the mainstream typicality research as PCF is found to have insignificant effect on consumer responses. This study updates MAYA principle by demonstrating that, between novelty and product typicality, the former has a more significant effect on consumer responses than the latter. We argue that the insignificant effects of PCF on consumer responses are caused by the insertion of meaningfulness and PBF in MAYA. From consumer's perspective, benefits received through purchasing a product would be more important. Product meaning and a product-brand are likely to offer some benefits to consumers, compared to a product category. Product meaning is perceived through consumer expectations toward the product (Proulx and Inzlicht 2012), implying that product performance would benefit consumers either physically or psychologically. Product brands are consumed as a symbol reflecting consumers' interests, social status, and other personal characteristics, thus regarded as one of actual product benefits (Jackson and Shaw 2000). A product category may help consumers find the right product among various alternatives more easily, but it is likely to be less beneficial when a consumer selects what brand to buy. Accordingly, PCF would not matter much to consumers in purchase decision-making.

The negative moderating effects found in the present study could be explained by schema congruity theory, which posits that a low level of congruity between a product and an existing schema in a consumer's mind stimulates information processing and requires a considerable effort to resolve the incongruity (Mandler 1982). That is, consumers are likely to spend more effort on the evaluation of a product that does not fit well to its brand or its product category. Because a low PCF challenges consumers' schema for product categories (Blijlevens et al. 2012; Jhang, Grant, and Campbell 2012), consumers are likely to rely on product meaning appraisal. Similarly, consumers appraise an atypical product design as more interesting (Schnurr 2017). Accordingly, the lower PCF, the stronger the positive effect of meaningfulness on attitude toward a product. Likewise, if PBF is low, it would challenge consumers' existing beliefs in brand associations. A lack of product information conveyed through the brand associations is likely to drive consumers to appreciate product novelty. This is an interesting finding which warrants further exploration of the mechanism underlying such moderating

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effect. Our findings also allude that novelty and meaningfulness should be addressed in different manner as they affect consumer responses differently, especially when PBF and PCF are in the model.

The present study provides some practical implications on new product development for product and brand managers. PBF is better than novelty in eliciting positive attitudes toward the product from consumers. PBF has a direct effect on purchase intention, whereas novelty does not. Such findings support that new products should reflect their representative brand images well, prior to the pursuit of newness. Product design that is novel but unfamiliar to existing brand associations may fail to be preferred by consumers. The moderating roles of PBF and PCF revealed in this study imply a dual approach of launching new products. The more meaningful the product design, the better it is to deviate from the typical features of an existing product category. In other words, "making sense" is very important to win the heart of the consumers in situations where PCF is low. However, if a company plans to launch a highly novel product, the current research suggests the new product does not bear resemblance to its brand image.

As limitations and suggestions for future studies, affective responses (e.g., emotions) to product design were not measured in the present study, which does not fully reflect the Bloch's (1995) model. Even though the results emphasise the importance of meaningfulness, the factor leading to consumers' positive feeling, such as joy and happiness, may not be the meaningfulness. Future studies are suggested to shed light on the effects of product creativity and perceived fit on affective responses by applying neuroscience to measure emotions. Next, consumer differences in evaluating creative products are not considered in the research model. Given that aesthetic elements of product design have more leverage in evaluation depending on consumer characteristics (Hekkert, Snelders, and van Wieringen 2003), the relationships verified in the present study may be moderated by consumer factors. It is recommended that future studies test whether consumer factors, such as design acumen (Bloch 1995), result in any differences in the relationships. Finally, in this study, the measurement items of meaningfulness were described with a focus on product usefulness considering that the stimuli are cameras. In future studies targeting more symbolic luxury goods, product symbolism should be reflected in the meaningfulness items.

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