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경영학석사 학위논문

The Effect of Simplicity of High-tech
Product Design and Brand Awareness on
Consumers' Purchase Intention

제품 디자인의 심플함과 브랜드 인지도가
구매의도에 미치는 영향: 하이테크 제품을 중심으로

2020 년 2 월

서울대학교 대학원

경영대학 경영학 전공

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The Effect of Simplicity of High-tech Product Design and Brand Awareness on Consumers' Purchase Intention

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이 논문을 경영학석사 학위논문으로 제출함
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Abstract

In today's society, consumers are faced with a myriad of choices when they are looking to purchase a new product. This is especially true in the case of high-technology products due to the fast pace of technological development. In such an environment, it is becoming increasingly important for companies to impact the consumption behavior through different factors, including product design. Product design is one of the most influential variables in pre-usage situations when consumers don't have much other information regarding the product. This paper contributes to this topic by examining the effect of simplicity of product design and brand awareness on purchase intention of high-tech products.

The results of this study find that consumers show increased purchase intention when the product possesses simple design and high brand awareness. When the brand awareness level is low, consumers show preference for a less simple design. The prediction of perceived functional value mediating this effect did not show to be significant in this study. Furthermore, product newness was also brought into consideration. When product newness is low, it was revealed that consumers prefer simplicity in product design regardless of the brand awareness level. However, simplicity and brand awareness did not show the expected interaction effect in the high product newness condition.

This study provides theoretical and practical guidelines in selecting the optimal product design depending on the level of brand awareness in the high-tech industry. Moreover, this paper also suggests that taking into consideration the level of product newness will help in inducing the desired consumption behavior.

Key words: simplicity, product design, brand awareness, perceived functional value, high-tech products

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국문초록

본 연구는 하이테크 제품을 중심으로 제품 디자인의 심플함과 브랜드 인지도가 소비자의 구매의도에 미치는 영향을 분석하였다. 이에 대한 문헌 연구를 통해 연구 모형을 세우고 가설을 도출 하였다. 가설 검증을 위하여 23-33 세의 성인들을 대상으로 설문조사를 진행 했으며, 이를 통해 얻은 자료를 바탕으로 SPSS 프로그램으로 분석을 하였다.

분석을 통해 얻은 결과에 의하면 먼저 디자인의 심플함과 브랜드 인지도 의 상호작용 효과가 구매의도에 미치는 영향은 유의한것으로 나타났다. 브랜드 인지도가 높을 때에 소비자들은 디자인이 심플한 제품을 선호하는 반면, 브랜드 인지도가 낮을 때는 더 복잡한 디자인이 제품의 구매의도를 높이는 것을 볼 수 있었다. 제품의 새로움 또한 디자인과 브랜드 인지도의 관계를 조절할 것으로 예상하고 포함을 하여 분석을 실시 하였다. 제품의 새로움이 낮을 때에, 예상했던 것과 같이 브랜드 인지도와 상관 없이 소비자들은 심플한 제품에 대하여 더 높은 구매의도를 표현 하였다. 하지만 제품의 새로움이 높을 때 예상했던 것과 같은 심플함과 브랜드 인지도의 상호작용 효과는 유의하지 않았다.

본 연구는 하이테크 제품 출시 시, 브랜드 인지도와 제품 특성에 따라 최적의 디자인을 선택할 수 있는 가이드라인을 제시한다.

주요어: 제품 디자인, 심플함, 브랜드 인지도, 제품의 새로움, 구매의도, 하이테크 제품

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1. Introduction

Under the rapidly changing technological conditions (Davidow 1986), consumers today are faced with numerous choices when looking to purchase high-tech products. Firms are faced with the task of continuously identifying factors which affect consumers' choice, essential for a successful management of new products (Hauser, Tellis, and Griffin 2006). In cluttered markets, product form has been known to be a way of gaining consumer notice (Berkowitz 1987; Dumaine 1991; Jones 1991) and also plays a significant role in determining consumers' affective responses (Holbrook & Zirlin, 1985; Veryzer, 1993). Firms are placing increasing importance on product design as it is gaining attention as a strategic tool for sustainable competitive advantage (Kotler & Rath, 1984; Oakley, 1990; Nussbaum, 1988, 1997).

The ability of product form to communicate information to consumers (Nussbaum 1993) becomes especially important at times of consumption behavior. In pre-usage situations, there are limited attributes consumers can rely on to make purchase decisions. Thus, it is common for consumers to rely on the structural analysis to gain insight on the product's instrumental qualities (Creusen and Schoormans, 2005). Accordingly, product design was mentioned to be integral in determining new product performance by 60% of respondents (Bruce and Whitehead 1988). It has

been argued to have influence on consumers' beliefs about a product's qualities such as its dollar value, technological sophistication and prestige (Bloch, 1995; Nussbaum, 1993; Schmitt & Simonson, 1997; Walker, 1995). Thus, it is reasonable to believe that product design affects consumers' perception about the product itself before purchase of high-tech products.

A way of categorizing product design is to examine its degree of simplicity. The success of simplicity as a marketing strategy can be seen through prominent cases such as Apple's aesthetic revolution and the Google search engine (Eytam et al., 2017). Maeda states that "as a marketing term, the word 'simplicity' is at the top of the list for all high-technology companies" (Maeda, 2004). On the other hand, there also exists research that supports complexity as a design which consumers prefer and tend to buy.

Consumers have been found to pay higher prices for feature-laden products (Goodman and Irmak, 2003) even though they do not use all the features (Ammirati, 2003). The additional features make a product look more functional and lead to consumers choosing complexity over simplicity (Brown and Carpenter, 2000). However, opinions are divided as complexity also stands as the most widespread concern among respondents (Higgins and Shanklin, 1992) and known to eventually cause feature fatigue, leading to frustration and decrease in satisfaction (Goodman and Irmak, 2013; Thompson et al., 2005). Due to such conflicting arguments, many studies put forth the finding that an inverted U-shape best represents the

relationship between visual appeal ratings and visual simplicity level (Reinecke and Gajos, 2014). This result stands in accordance with that of Berlyne's (1974), which was that people often find medium level of simplicity to be the most aesthetic.

The technology acceptance model (TAM) states perceived ease-of-use and perceived usefulness as two key mediating variables that explain individual technology adoption (Davis, 1989). In their research, Eytam et al. (2017) examines how an interactive product is evaluated by consumer based on its level of visual simplicity. The results show that simple products are seen to have high ease-of-use and the those that are low in simplicity, higher functionality. The mixed findings regarding the concept of product design simplicity may indicate that there are certain conditions under which consumers prefer different levels of simplicity. In this research, brand awareness, perceived functional value and product newness will be examined as influential variables. The findings from this research should help firms and marketing managers in finding the ideal product design in varying conditions and understanding consumers' purchase decisions of high-technology products.

2. Theoretical Background

2.1 Simplicity

Simplicity is deemed as a leading design principle in numerous existing literature (Karvonen, 2000; Maeda, 2006; Mollerup, 2015). In psychology, simplicity is said to be a key law for visual design by the Gestalt theory. John Maeda emphasizes its importance for success in different fields such as design, technology, business, and life in his book “The Laws of Simplicity,” stating that “the simplest way to achieve simplicity is through thoughtful reduction.” In design, simplicity is interpreted as removing as many unnecessary elements as possible (Maeda 2006).

The value simplicity brings forth when incorporated into design is shown in different contexts. When Philips launched a brand promise of “Sense and Simplicity” in 2004, they defined simplicity as “their ability to provide easy access to... meaningful benefits” (Maeda 2006; Philips 2004). In his book delving into web design, Nielsen states that simplicity means “first and foremost, ... users on the Web are able to get what they came for” (Nielsen 1999). Moreover, Miyamoto provides evidence that “UI simplicity can be used to signal product value and to persuade users to purchase a product” (Miyamoto 2013).

2.2 Brand Awareness

Consumers today are often in situations in which they are faced with difficult choices due to the lack of ability to confidently judge product quality. The uncertainty is amplified in the case of new products with lower familiarity. Brands allow consumers to have certain expectations and thus reduce the risks that consumers may be worried about (Brexendorf et al., 2015). Brands provide consumers with cues to evaluate the quality of products and services (Dawar and Parker, 1994). It is also used by consumers to judge product performance (Maheswaran et al. 1992; Richardson et al. 1994). Specifically, Bearden and Shrimp (1982) show that innovator's reputation and quality, which are often conveyed by brands, have a positive relationship with the adoption of innovative products by reducing the perceived risk of adoption.

Brand awareness allows consumers to identify the brand under different conditions (Rossiter and Percy 1987). It is at the lowest end of the brand knowledge continuum and refers to whether consumers know about a brand (Hoyer and Brown, 1990). It is seen to be composed of brand recall and recognition. Brand recognition is the "consumers ability to confirm prior exposure to the brand when given the brand as a cue". Brand recall is the ability to retrieve a specific brand when given any product- related cues (Keller, 1993). The relative importance of these two components can vary depending on the situations which the consumers are in. When the consumers are in the store and potentially exposed to the brand, recognition

may prove to be more important (Bettman 1979; Rossiter and Percy, 1987). However, when the decisions are made outside the store, brand recall may play a larger role in the consumption behavior. In the case of this study, we assume a pre-purchase situation in which consumers are looking to make a choice looking at the products and thus, brand recognition will play a larger role.

Brand awareness is often used as a purchase decision heuristic by consumers (Hoyer and Brown 1990; MacDonald and Sharp, 2000). Even if there are essentially no other brand associations, brand awareness itself can influence the consumers' decisions in the consideration set. Some consumers have been observed to follow a decision rule to only buy familiar and well-established brands (Jacoby et al., 1977; Roselius, 1971). There are various ways in which the level of brand awareness may affect consumers in making their purchase decisions. According to Berlyne (1970), novel stimuli tend to be highly arousing and can trigger aversive reactions; however, as consumers are exposed to a stimulus repeatedly and gain familiarity, positive affect and approach tendency form. With this, perceived risk is also said to likely decline (Baker et al., 1986; Obermiller, 1985).

In relation to perceived functional value, it has been observed in many studies that one of the most influential factors affecting perceived quality is the product's brand awareness (Aaker, 1991, 1996; Buil et al., 2013; Dawar & Parker, 1994; Keller and Lehman, 2003). With the variety of products offered today, consumers may face a dilemma in how they

should make their choice. At this point, a brand name offers a symbol and assist the consumers in predicting the usage experience (Herbig & Milewicz, 1993; Janiszewski & Van Osselaer, 2000; Turley & Moore, 1995). Consumers tend to assign high quality to more well-known brands and consequently, these brands enjoy greater credibility and also greater value (Erdem & Swait, 1998; Erdem, Swait, & Louviere, 2002). In a bicycle brand study, Grewal, Krishnan, Baker and Borin (1998) show that brand awareness and perceived quality have a positive and significant relationship. Awareness is seen to increase the perceived quality of the brand's products, also leading to a lower perceived functional risk (Rubio et al., 2014).

2.3 Perceived Functional Value

Consumer choice is comprised of multiple consumption value dimensions, which, depending on the choice situations, make varying contributions. The five dimensions related to the perceived utility of a choice are social, emotional, functional, epistemic and conditional value and can be applied to a decision at a buy level, product level, or brand level (Sheth et al., 1991). Sheth et al. (1991) developed a broader framework of perceived value and defined functional value as “the perceived utility acquired from an alternative's capacity for functional, utilitarian, or physical performance.”

Functional value is obtained through the product's prominent functional, utilitarian, or physical attributes (Sweeney and Soutar, 2001).

Following the utility theory developed by Marshall (1890) and Stigler (1950), a concept that is often expressed in terms of “rational economic man,” functional value is traditionally considered principal driver of consumer choice. Sheth et al. (1991) propose that functional value is comprised of reliability, durability and price, the first two which are also often recognized as facets of quality. In this paper, reliability and durability will be used to refer to perceived functional quality as price will be controlled in the studies. Accordingly, the specific definition of functional value which refers to the performance and quality will be used; perceived functional value is defined as the “utility derived from the perceived quality and expected performance of the product” (Sweeney and Soutar, 2001).

2.4 Perceived Functional Value and Simplicity

Maeda (2006) states that “the more complexity there is in the market, the more that something simpler stands out.” This may also be the case for high-technology products today. When two products offer comparable functions and features, simplicity is “an indication of more thoughtful and superior design” (Maeda, 2006). While the product category may seem outdated today, back in 2003, Philips reported in its consumer research that “around 30% of home networking products are returned because people can’t get them to work and 48% of people have put off buying a digital camera because they see them as too complicated” (Philips,

2004b). Simplicity is valuable for many individuals who are faced enough complexities of life in today's society.

The association between complexity and increased functionality may seem more evident from existing research. However, simplicity is not merely the dismissing of features and thus a decrease in functionality. It is achieved through a "careful decrease of complexity" (Maeda, 2006). This can be done in several ways, including function sharing (Ulrich and Seering, 1990), elimination of redundant parts (Balazs and Brown, 2000), replacement of part interfaces (Watson et al., 1990), and decoupling of design parameters and functional requirements (Suh, 2000). Through such process, the result can be a more elegant and efficient design with increased functionality (Madni, 2012). Elegant design is defined as that which is effective, robust, efficient, and minimizes unintended consequences (Griffin 2010). The term elegance is increasingly being used to describe simple and effective designs. Specifically, perceived elegance refers to a design which "hides systemic or organizational complexity from the user thereby reducing the user's cognitive and perceptual load" (Madni, 2012).

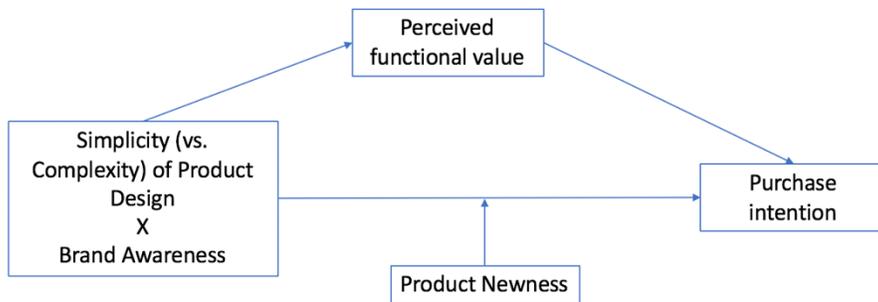
3. Research Question

Review of existing literature on simplicity of design has shown that there are divided opinions and results on its effect on consumer attitude. While in some contexts, simplicity evokes more favorable responses from consumers, in others, they show how higher preferences for complex designs. This study looks to answer the question of in which conditions consumers prefer simple, in comparison to complex, products. Moreover, while the importance of brand is unwavering, the number of researches on brand awareness and its effect on consumption behavior under different conditions are surprisingly scarce. Specifically, not many research has focused on the subject of brand awareness in relation to product design. Based on these findings from previous studies, this paper proposes the following research model and hypotheses in order to observe the relationship among simplicity, brand awareness and product newness.

3.1 Research Model

This paper explores the impact of product design and brand awareness on consumer purchase intention. The effect is examined in two different conditions of simplicity and complexity. The study then looks at whether the product newness of the products affects the relationship above. As a result, the conceptual research framework of this study is as described in Figure 1.

[Figure 1] Conceptual Research Model



3.2 Hypotheses

Simplicity and Brand Awareness

As mentioned earlier, it has been found that consumers have a tendency to view complexity in product design as implying higher functionality while simplicity suggests higher ease-of-use (Eytam et al., 2017). Meanwhile, higher brand awareness has a positive relationship with perceived quality. The interaction between these two variables may lead to a preference for a different product design depending on the level of brand awareness.

H1a: When brand awareness is high, simplicity of product design will increase purchase intention.

H1b: When brand awareness is low, simplicity of product design will decrease purchase intention.

Perceived Functional Value

Depending on the level of brand awareness, the perceived functional value may vary according to the level of simplicity of product design, ultimately affecting the decision to purchase.

H2: The effect of product design and brand strength on purchase intention will be mediated by perceived functional value.

H2a: When brand awareness is high, simplicity of product design will increase perceived functional value.

H2b: When brand awareness is low, simplicity of product design will decrease perceived functional value.

Impact of Product Newness

Blythe (1999) defines product newness as the “degree to which a given product is outside the observer’s experience.” In contrast to the objective level of newness, at the consumer level, perceived risk determines the responses to product newness (Danneels and Kleinschmidt, 2001). When product newness is high, consumers are likely to have higher perceived risk regarding the usage of the product. However, if the brand awareness is also high, consumers may feel more confident with the perceived quality of the product compared to the same product belonging to a low- awareness brand and thus prefer a simply-designed product, which provides easy usage. However, when there is low level of newness, meaning that consumers are more familiar with the product, they are likely to see less risk. Consequently, when the product has low level of newness, consumers may prefer simplicity of design despite the level of brand awareness.

H3a: When product newness is high, high (low) brand awareness will increase (decrease) purchase intention of simple design product.

H3b: When product newness is low, simplicity of product design will increase purchase intention whether brand awareness is high or low.

4. Methods

4.1 Study 1

4.1.1 Research Procedure

In exploring the impact of simplicity and brand awareness on the purchase intention of high- technology products, this study was constructed with 2 (product design: simple vs. complex) x 2 (brand awareness: high vs. low) between- subjects design. Mediation analysis was also conducted to examine whether perceived functional value mediates the impact of product design and brand awareness on consumers' purchase intention. The stimuli chosen for this study was a Light Emitting Diode (LED) skincare device. The image of the product was introduced as a new product that the brand is launching, with a brief brand and product description. The two brands used to test the impact of brand awareness level were LG and 'Revemoie.' LG was used for the high brand awareness condition while 'Revemoie', a hypothetical brand, was used in the low brand awareness condition.

Online surveys were randomly distributed to respondents aged from twenty-three to thirty-three residing in Republic of Korea. The respondents

were randomly assigned to one of four conditions. 148 participants took part in an online survey in which they were first shown the product and asked whether they are aware which brand the product belongs to as a screening question. Responses of those who were aware of the brand the product originally belongs to were not used. Then, questions were asked to measure the product's perceived functional value, purchase intention, and brand awareness. The participants responded to the statements "Please rate how simple you think the design of the product is" and "I am aware of the brand X" on a 7-point Likert scale at the end of the survey. The two products were clearly seen as having different levels of simplicity (simple $M = 6.3$, complex $M = 3.2$) and brand awareness (high $M = 6.9$, low $M = 1.64$). Among the total of 148 collected responses, 131 responses were used after eliminating those which did not pass the screening questions.

4.1.2 Measures

Perceived Functional Value

The measurement instruments used for the variables in this research were based on previous studies. 7-point Likert scale was used for all the measurements in this research, ranging from 1= Strongly Disagree to 7= Strongly Agree. Specifically, the measures for perceived functional value is based on the work of Sweeney and Soutar (2001) who follow the work done by Sheth et al. (1991) in developing a multiple item scale for consumer

perceived value as it “provides the best foundation for extending existing value constructs, [...] validated through an intensive investigation of the variety of fields in which value has been discussed, including economics and social and clinical psychology.”

Perceived functional value was measured through four questions in the online survey. The measurement items were developed to be “used to assess customers’ perceptions of the value of a consumer durable good at a brand level” (Sweeney and Soutar, 2001). The scale’s reliability and validity were assessed in a pre-purchase situation through exploratory and confirmatory analyses. As mentioned before, for the purpose of this study, the measure which looks at the functional value concerning performance and quality were selected and included in the survey. The scales included in the survey were “It is well made,” “It has an acceptable standard of quality,” “It would perform as expected,” and “It would not last a long time,” which was reverse- coded.

Brand Awareness

Brand awareness was measured through a single-item, which was taken from a previous study conducted to develop and validate a multidimensional consumer- based brand equity scale (Yoo and Donthu, 2001). This scale was found to be reliable and generalizable across different product categories. While there were originally two measures to evaluate

brand awareness, only one item, “I am aware of (brand)” was included to avoid ambiguity. This item was seen to be sufficient for this study as it was needed to check whether the respondent’s awareness of the respective brand was high or low.

Purchase Intention

Purchase intention was also measured through a single-item scale selected from the scales used by Putrevu and Lord (1994). Survey participants responded to the statement “I will purchase this product the next time I need a (product category)”. This scale was seen as appropriate for the specific survey so that the product category itself would not affect the purchase intention.

4.1.3 Results

A moderated mediation analysis was conducted to examine the effect of simplicity of product design and brand awareness on purchase intention. Through this analysis, it was shown that first, simple design has a positive effect on purchase intention, $p = .0518$. More importantly, there was a significant interaction between simplicity and brand awareness on consumers’ purchase intention, $p = .0189$, as shown in Table 1. This confirms H1a and H1b, which stated that when brand awareness is high, simple product design will increase product purchase intention. The

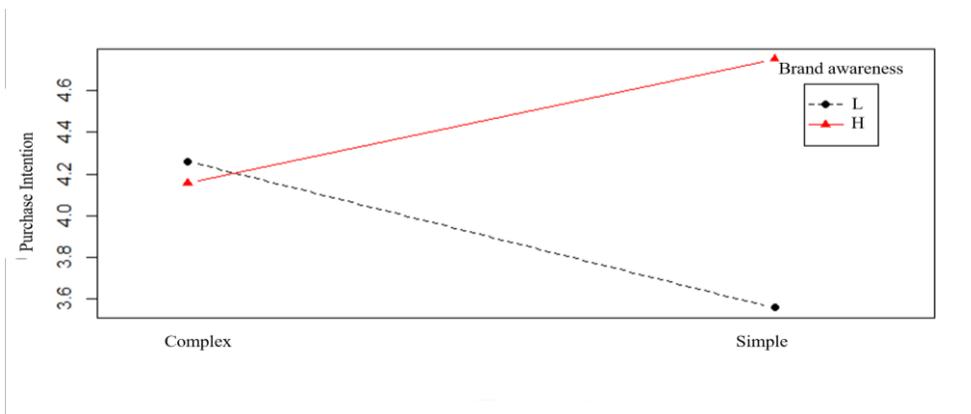
interaction effect is shown in a plot in Figure 2. The mediation effect of perceived functional value did not prove to be significant, showing that perceived functional value does not provide an explanation for the observed effect in this study. This result goes against H2 regarding the mediation effect.

[Table 1] Interaction Effect of Simplicity and Brand Awareness

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.3758	.8203	1.6771	.0960	-.2476	2.9993
Simplicity	-.7548	.3845	-1.9631	.0518	-1.5158	.0061
pfv	.6253	.1683	3.7163	.0003	.2923	.9583
ba	-.1530	.3468	-.4411	.6599	-.8393	.5333
Int_1	1.1788	.4956	2.3784	.0189	.1980	2.1597

[Figure 2] Interaction Effect: Simplicity and Brand Awareness



4.2 Study 2

4.2.1 Research Procedure

In Study 2, the variable product newness is added to examine whether different levels of product newness affect the impact of brand awareness and simplicity of product design on purchase intention. The study was constructed with a 2 (product design: simple vs. complex) x 2 (brand awareness: high vs. low) x 2 (product newness: high vs. low) between - subjects design. Among a total of 320 responses that were collected, 298 responses were used after eliminating those that did not pass the screening question. The survey was distributed through Prolific to those between the age of twenty-three and thirty-three and whose first language is English. Subjects were randomly assigned to one of the eight conditions.

For this study, two different product categories were used for the high and low product newness conditions. To represent high product awareness, a noise cancelling device which uses anti-vibration technology was shown. For low product newness condition, images of a voice recorder were used. In study 2, Samsung was used for high brand awareness condition and another hypothetical brand 'Ploue,' was used for low brand awareness condition. As in study 1, respondents were first asked whether they were aware of which brand the product belongs to. The items used to measure perceived functional value, brand awareness and purchase intention were identical to study 1. The participants also responded to the statements

“Please rate how simple you think the design of the product is,” “I am aware of the brand X” and “The product category is new” on a 7-point Likert scale. The high product newness stimuli were seen as having significant differences in level of simplicity (simple $M = 5.7$, complex $M = 3.2$) as was also the case for the stimuli used in low product newness condition (simple $M = 5.6$, complex $M = 3.4$). The level of product newness (high $M = 6$, low $M = 2.4$) and brand awareness (high $M = 6.9$, low $M = 1.6$) were also judged accordingly.

4.2.2 Results

A moderated mediation analysis was conducted for the two different levels of product newness. First, for products with high newness level, it was hypothesized that high brand awareness will increase the purchase intention of simple design product. However, the expected interaction did not show to be significant in study 2 as shown in Table 3. Possible reasons for this result will be discussed later on. On the other hand, for products in low product newness condition, it was predicted that regardless of the level of brand awareness, due to consumers’ familiarity with the product category, there would be a higher purchase intention for product with simple design. The results lend support this hypothesis (H3b). As shown in Table 4, there is a significant positive relationship with simplicity and purchase intention, $p = .0323$, and no significant interaction between simplicity and

brand awareness. Finally, as in study 1, mediation effect of perceived functional value was not significant.

[Table 2] Moderation Test of High Product Newness

Model

	coeff	se	t	p	LLCI	ULCI
constant	.1470	.7113	.2066	.8366	-1.2591	1.5530
Simplicity	.4137	.3341	1.2382	.2177	-.2467	1.0740
pfv	.6825	.1553	4.3945	.0000	.3755	.9896
ba	-.0784	.3252	-.2411	.8098	-.7213	.5645
Int_1	.1561	.4670	.3343	.7386	-.7670	1.0793

[Table 3] Moderation Test of Low Product Newness

Model

	coeff	se	t	p	LLCI	ULCI
constant	-.0666	.7062	-.0942	.9250	-1.4623	1.3292
Simplicity	.7395	.3421	2.1615	.0323	.0633	1.4156
pfv	.4788	.1374	3.4840	.0007	.2072	.7504
ba	-.0896	.3464	-.2586	.7936	-.7743	.5952
Int_1	.2973	.4835	.6149	.5396	-.6584	1.2530

5. Discussion

5.1 Summary of Results

To examine under which conditions consumers develop higher purchase intention of high-technology products, this study observed the effect of simplicity of product design and level of brand awareness on consumer purchase intention. The relationship was analyzed through two studies, of which the second included the variable of product newness. In study 1, it was confirmed that there is an interaction effect between simplicity and brand awareness as when brand awareness is high, simple design increases consumers' purchase intention. When brand awareness is low, simple design decreased consumer purchase intention and thus H1a and H1b were accepted.

Perceived functional value was also tested for its mediating effect. The results show that this mediating effect is not significant; therefore, H2 was rejected. When the moderating effect of variable product newness was examined, the results show that the interaction effect is not significant in the high product newness condition, rejecting H3a. However, in low product newness condition, consumers in both brand awareness conditions showed higher purchase intention for products that were simply designed, confirming H3b.

5.2 Limitations and Future Research

This study sheds light on a relationship between product design and brand awareness which has implications for companies and marketing managers. The results show that it is important for companies to grasp their brand's level of awareness in the eyes of the consumers and design their products accordingly. Yet, there also exist some limitations to this study. First, the sample included subjects who were in the age group of 23 to 33. This calls for caution in generalizing the results to the whole population. There may be differences in preference for simple or complex designs for varying age groups. Moreover, while the product categories of the stimuli are varied for each study, it cannot yet be said that the effect is generalizable for products in all categories.

As can be seen in the two studies which were carried out, the interaction effect between simplicity and brand awareness was significant in the study involving LED skincare device; however, the results did not appear in the study which used the noise-cancelling device. There is a possibility that the device which was introduced as being able to eliminate unwanted nearby sounds using anti-vibration technology induced mixed opinions of credibility and purpose due to its particularly high product newness level. Because this function may be quite unfamiliar to many people, there may be more uncertainties regarding its functional and situational use.

While the main effect was supported through the results, perceived functional value did not prove to be a significant mediator for this research model. In future research, it may be interesting to explore other variables such as perceived aesthetic value or perceived usability to explain the interaction effect of simplicity and brand awareness.

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Appendix A. Items selected to measure variables

Perceived Functional Value

It is well made.
It has an acceptable standard of quality.
It would perform as expected.
It would not last a long time. *

Purchase Intention

I will purchase this product the next time I need a (product).

Brand Awareness

I am aware of X.

Appendix B. Product Illustrations

Study 1

Simple



Complex



Study 2

High Product Newness

Simple



Complex



Low Product Newness

Simple



Complex



Appendix C. Brand and product descriptions

Study 1

This is a new product that has been recently launched by (brand). It is a LED (Light Emitting Diode) beauty device for the final step of your skincare routine. Putting it over different parts of your face after applying cream will bring moisturizing, soothing and firming results to the skin.

Study 2

Product Newness

High:

This is a new product that has been recently launched by (brand). It is a device which uses anti-vibration technology to eliminate unwanted nearby sounds. You can use it for various purposes such as achieving better sleep or protecting speech privacy.

Low:

This is a voice recorder that (brand) is planning to include in the line of product that will be exported to the North American market. It is easy to carry in your pocket and files can be transferred using the USB port.