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경영학석사 학위논문

**The Effect of Product Photos
on Purchase Intention:
The Role of
'Profile' and 'In-use' Photos**

제품의 사진이 구매 의사에
미치는 영향에 대한 연구:
'제품 사진' 과 '사용 중인 사진'을 중심으로

2019년 02월

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경영학과

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The Effect of Product Photos on Purchase Intention: The Role of 'Profile' and 'In-use' Photos

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이 논문을 김규리 경영학석사 학위논문으로 제출함

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ABSTRACT

The Effect of Product Photos on Purchase Intention: The Role of ‘Profile’ and ‘In-use’ Photos

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Product photos allow consumers to have vivid imagery on a product. The product photos are especially important in the context of e-commerce because consumers cannot see products before delivery. Yet, product photos have received little attention in previous literature. In this research, we examine the effect of product photos on purchase intention. Specifically, we identify the impact of different types of photos, profile, and in-use photos. We conceptualize in-use photos as the photos which demonstrate the usage of the product. We conceptualize profile photos as the photos which only depict the product itself. We predict that because in-use photos demonstrate greater dynamics and vividness, consumers will show higher purchase intention toward the product pictured in an in-use photo than a profile photo. We also

predict that product type, hedonic or utilitarian, moderates the effect of photo type on purchase intention. Specifically, we argue that while consumers prefer in-use photos when choosing a hedonic product, consumers will prefer profile photo when choosing a utilitarian product. Lastly, we suggest involvement as a moderator. Hence, higher involvement will increase the effect of photos on purchase intention, regardless of the photo or product type.

In study 1, we examine the effect of photo types on purchase intention. The study was conducted via Prolific. Participants were shown a total of ten in-use or profile photos of the different product and rated the purchase intention for each product depicted in the photo. No participants were shown both in-use and profile photo of a product. A one-way ANOVA was conducted to examine the difference in purchase intention between profile and in-use photos. Out of ten products, seven products showed statistical significance between in-use and profile photos. Out of the seven products, four products showed greater purchase intention toward in-use photos than profile photos.

In study 2a and 2b, we investigate the moderation effect of product type (hedonic and utilitarian). In study 2a, we conducted a 2x2 between-subject study via Prolific. The product type was manipulated. A hamburger was used for a hedonic product, and a rollerball pen was used for the utilitarian product. In study 2b, instead of product manipulation, we manipulated the purchase

motives. A one-way ANOVA was conducted via Prolific. In both studies, we showed that consumers show greater purchase intention toward in-use photos than profile photos when purchasing a hedonic product.

In study 3, we examined the moderation effect of involvement. The overall study design was the same as that of study 2b. However, in study 3, we added three items on involvement. In this study, we show that higher involvement moderates the effect of photo types on purchase intention regardless of photo or product type presented. The study was conducted via Prolific and analyzed using a one-way ANOVA.

As far as we concern, the current research is the only research that examines the effect of photo types. The research contributes to the literature by suggesting that such minimal cues can alter consumers' preferences toward the photo. The research has important managerial implications. The findings indicate that demonstrating the usage of a product is as crucial as depicting the product itself. The results of this research can be applied in advertisements, retail, or e-commerce context.

The research, however, does not examine the mediator. It is necessary to understand the psychological mechanisms, which in turn will help the consumer psychologists to study the impact of product presentation on consumer psychology further. For further research, we suggest studying other

aspects of product photos, including the size of the product or tone.

Key Words: Photos, Information, Hedonic and Utilitarian consumption, Dynamics, Vividness, Involvement

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INTRODUCTION

Today, virtually anything can be searched and be seen on the internet. Consumers are no longer required to visit a retailer to make a purchase. In fact, consumers can gain a better knowledge of a product when purchasing online. For example, imagine a product sitting on a shelf at a retail store. The only information the product can provide is the price, brand, and the appearance of the product. The packaging may give a few more information, but the range of information packaging can provide is limited. On the other hand, online stores can offer a wide variety of information on a product. Such information includes the appearance of a product from different angles, the detailed specs and even other consumers' experience with the product (e.g., online reviews). The details and the amount of information provided on a product demonstrate the efforts of e-commerce companies to reduce consumers' risks of purchasing products without actually seeing them. It is crucial for any online retailer to ensure the credibility of its products. Hence, it is necessary to understand the impact of the information which online retailer provide on consumer psychology to develop an effective marketing strategy. The increasing interests among marketing literature on online word of mouth and online reviews demonstrate the growing emphasis on the topic.

Surprisingly, however, there is no research on the effect of product photo as far as we concern. Product photos are an authoritative source of information which gives consumers the initial idea on a product. Unsurprisingly, consumers show greater preference over a product when information is presented pictorially than when presented verbally (Rossiter & Percy, 1978). That is, product photos help consumers to make vivid imageries on the product's usage, thus offer a general idea on whether or not the product will meet consumers' expectation. The impact of product photos would be greater especially when consumers are not so familiar with the brand or the product category because consumers will have to learn about the product via the information provided through an online retailer. Therefore, it is worth to study the type and the role of product photos on consumer behavior. In this research, we focus on the visual information that online retailer provides, product photos. We test the role of product photos on consumers' purchase intention. Specifically, we distinguish the type of product photos, 'profile' and 'in-use,' which we will explain the conceptualization in the later section of this research. Also, we suggest product type, hedonic or utilitarian, and involvement as the moderators.

THEORETICAL BACKGROUND

The Role of Photos

Photos are a form of advertisement in an attempt to persuade consumers to make a purchase decision. Not surprisingly, choosing great photos which could impress consumers is one of the critical management concerns because photos influence consumers' decision-making process (Leary & Kowalsk, 1990). Unsurprisingly, photos have gained great interests in advertisement literature. Previous literature has shown that consumers develop stronger memory when seeing a pictorially presented advertisement in contrast to a verbally presented advertisement (Childers et al.,1986; Kisielius, 1982). Pictorially presented advertisements have proved to have direct influence over consumers' brand attitudes (Rossiter & Percy, 1978). Most of the previous literature has found vivid imagery on print advertisement has a positive effect on consumer attitudes (Babin & Burns, 1997).

Products photos on advertisement have been noticed in two distinctive formats. First, a product can be presented only by itself. That is, nothing else is shown in a photo but the product itself. Else, a model could demonstrate how to utilize the product, hence give consumers a better idea of

its usage. The two types of presentation have been widely noticed in print advertisement (Lynch & Schuler, 1994; Pollay, 1985). Because photos in print advertisement help to form vivid imagery (Lutz & Lutz, 1987; McQuarrie, 2007) and to process information, photos in print advertisement has been recognized to enhance the strength of the marketing communication (Burnkrant & Unnava, 1995; MacInnis & Jaworski, 1989; Aydınoğlu & Cian, 2014).

In addition to product photos, researchers started to pay attention to the social network's profile photos, a mean which to represent oneself in a social network. Social network users typically upload a photo of themselves as a profile photo. It is the photo which identifies the owner of the social network account. Hence, profile photos have a major influence on people's opinion on the depicted person (Brand et al., 2012). Not surprisingly, attractive profile photos have shown greater preferences among social network users in the context of online dating (Brand et al., 2012; Hancock & Toma, 2009) and peer-to-peer loan (Gonzalez & Loureiro, 2014). Further, smiling profile photos were proved as a robust predictor of life satisfaction (Seder & Oishi, 2012).

Despite the increasing attention to the role of photos in the context of advertising and social network, the specific types of photos have received

little attention. Berger and Barsch (2017) is the only research we have found that examine the role of different photo types. In their research, the authors propose 'candid' and 'posed' photos. In the research, posed photos are conceptualized as "the photos which involve someone looking directly at the camera and picking a particular position to present themselves in a certain way." Profile photos are conceptualized as "the photos that do not involve posing and capture people acting naturally or spontaneously." Berger and Barsch (2017) concluded that people show greater preference over the person depicted in a profile photo because the represented person is perceived to be more genuine. The research, however, does not address the effect of such photo type in the context of advertisement or marketing.

In this research, we examine the role of specific photo types in the context of e-commerce marketing. Specifically, we focus on the photos which online retailers upload on websites. Photos posted on the online retailer is a form of advertisement which is intended to provide as much information on the product to the consumers. The product photos presented on online retailer such as Amazon.com represents the effort of manufacturers to show the product attractively. As a result, a product page often displays several photos of a product from different angles; inside, outside, zoomed in, and zoomed out. It is intuitive that the more attractive the photos, greater preference over

the product will be, just as attractive profile photos are preferred among social network users.

We, however, argue that the way product is depicted in the photo is as important as the attractiveness of the photo. In other words, we predict that consumers' preferences toward a product will vary depending on the photo type, just as Berger and Barasch (2017) argued in their research regarding candid and posed photo. Nevertheless, we cannot adopt the conceptualization of 'candid' and 'in-use' photo the authors use because products, unlike humans, cannot 'pose' toward a camera. Thus, we propose the following photo type: profile and in-use. We conceptualize profile photo as a photo of a product itself without a person demonstrating the use of the product. We conceptualize in-use photo as a photo of a product with a person showing the use of the product.

Vividness

Previous research suggests that vivid information is perceived more interestingly with stronger emotional arousal (Nisbett & Ross, 1980). Nisbett and Ross (1980)'s definition suggests that vividness offer physical proximity and emotionally appealing. Consumer psychologists have examined the effect of vividness on persuasive message. Interestingly, literature has examined

both positive and negative impact of visual information on judgment and persuasion. In the resource allocation concept, there exists an inverted U relationship between resource allocation and persuasion for vivid information (Keller & Block, 1986). Visual information showed controversial impact toward judgment; when verbal information is presented with pictorial, visual information, more message in-consistent judgment was induced (Kisielius & Sternthal, 1984).

Roggeveen et al. (2015) extends the idea further and argue that high vividness presented in product information generates greater preference. In the research, the authors examine the dynamic presentation of information increases consumer preferences, especially if the given service or a product has high hedonic value. Across five studies, Roggeveen et al. (2015) prove that dynamic presentation motivates consumers to choose hedonically superior option both for experiential (hotel) and material (coffee maker) goods. Moreover, the results indicate that individuals are more likely to make subsequent hedonic purchases when shown dynamic presentation. As was the case in Roggeveen et al. (2015)'s research, we predict that when a dynamic presentation was emphasized in static information, photo, consumer preferences will increase. In the previous section of this paper, we have conceptualized 'profile' photo as the photo which depicts only the product

itself and 'in-use' photo as the photo which depicts the product and a person who demonstrates the usage of the product. In-use photos will be better at helping consumers to make vivid imagery on how to utilize the product than profile photos. We do understand that unless a product is exceptionally unfamiliar, consumers are likely to have some previous knowledge on the product and is expected to make reasonable guesses on how to utilize a product. For example, when a consumer sees a photo of television, it is anticipated that a consumer can easily visualize how to use the TV because he or she is expected to have previous experience with TV.

Nevertheless, the level of vividness of the imagery consumers develops when seeing a profile, or an in-use photo will be different. Because in-use photos reduce the efforts of consumers to make imagery, consumers will develop stronger imagery when seeing in-use photos than when seeing profile photos. Clear visualization enhances the communication which the photo, a form of advertisement, attempts to deliver. Hence, it will encourage consumers to show a higher preference which in turn will lead to higher purchase intention. Together, we assert that consumers' purchase intention will vary between profile and in-use photo and that consumers will show higher purchase intention toward in-use photo due to the dynamics it encompasses.

H1: Consumers show greater purchase intention toward 'in-use' photos than 'profile' photos

Hedonic and Utilitarian Consumption

Hedonic and utilitarian products are one of the most commonly studied product types on consumer behavior research. The conceptualization was first introduced by Hirschman and Holbrook (1982). Since, hedonic and utilitarian consumption was examined in broad context, including attitudes, justification effect and, indulgence to name a few (Ramathan & Williams, 2007; Okada, 2005; Dhar & Waltenbroch, 2000). Consumers have shown different behavior toward hedonic and utilitarian product because the purpose of the products is different. Utilitarian product emphasizes the functionality and necessity while hedonic product emphasizes one's desire, sensory, and emotional pleasure (Dhar & Wetenbroch, 2000; Holbrook & Hirschman, 1982). In other words, for a utilitarian product, functionality, and effectiveness has the most influence on consumer satisfaction. For the hedonic product, the emotion associated with the usage of the product has the most impact on consumer satisfaction (Dhar & Wertenbroch, 2000; Voss et al., 2003). Thus, different purchase motives make consumers to emphasize various features. We hence predict that consumers' evaluation of product

photos will depend on the consumers' purchase motive.

Previous research suggests that consumers show greater preferences toward advertisements that show a greater fit with the advertised product (Kanungo & Pang, 1973). Such fittingness increases congruency between a product, and an ad hence enhances the communication power (Peterson & Kerin, 1977). The effect of fitness between a product and advertisements were tested in the context of product-spoke person and product-endorser (Baker & Churchill, 1977; Friedman & Friedman, 1979). Mismatched product and spoke person showed to have an adverse effect over consumers' perception toward a product (Debevec & Iyer, 1986). Lynch and Schuler (1994) explain the matchup effect with schema theory. Across two experiments, the authors argue when the idea of a product and the information matches, the congruence between a product and the information increases which in turn generate greater perceived knowledge. Such findings are consistent with Rogeven et al. (2015)'s research, which proved that individuals show greater preference toward a dynamic presentation of photos when making a hedonic purchase decision.

In this research, we argue that consumers will find in-use photos to be more fitted when making a hedonic purchase decision. Hedonic consumption involves affective involvement while utilitarian consumption

involves cognitive consumption (Voss, Spangenberg & Grohmann, 2003). Hence, photos that more vividly capture the associated emotion when using a product will evoke greater preference when making a hedonic purchase decision. Previous literature supports the contention. It is suggested that hedonic attributes are more imagery and sensory evoking (MacInnis & Price, 1990) and thus related dimension will increase elaboration (Dhar & Wertenbroch, 2000). Moreover, Keller and McGill (1994) argue that the effect of easily imaginable attributes on evaluation is positively correlated with elaboration because elaboration makes the attributes more salient.

Together, we predict that the dynamics depicted in in-use photos increase elaboration, which in turn make the essential attributes of hedonic products, including the emotional consequences of the usage, more salient. Product usage demonstration help to form vivid imagery, so it is thus better to imagine the emotion associated when using a product. Since the emotional consequence is the biggest concern for a consumer who intends to purchase a hedonic product, we predict that consumers will show greater purchase intention toward in- use photos when purchasing hedonic products. On the other hand, the emotional consequences are not an important factor when making a purchase decision of utilitarian product. Instead, whether the product will function as expected is the more of a concern. We thus predict

that consumers will have greater purchase intention toward profile photos when purchasing a utilitarian product.

H2: Product types (hedonic vs. utilitarian) moderates the effect of photo types on purchase intention. Specifically, consumers will show greater purchase intention toward the product depicted in 'in-use' (vs. 'profile') photo when purchasing hedonic (vs. utilitarian) product.

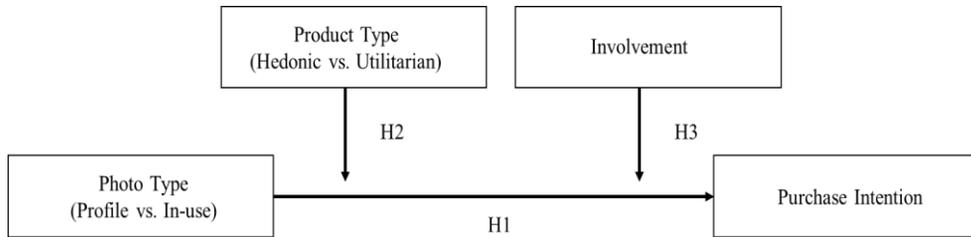
Involvement

In the previous section of this research, we argue that because in-use photos capture greater dynamics than profile photos, consumers will show greater purchase intention toward the product depicted in an in-use photo (H1). We also suggest that product type, hedonic or utilitarian, moderates the effect of photo type on purchase intention (H2). In addition to product type, we suggest involvement as an additional moderator. Involvement, which refers to the “motivation to process information” (Celsi & Olson, 1988), is a widely studied construct in consumer psychology. Higher involvement is known to elaborate potential benefits (Strahilevitz & Loewenstein, 1998). Elaboration Likelihood Model (ELM) shows that consumers with high involvement focus on product-specific information while those with low involvement focus on peripheral information (Petty & Cacioppo, 1986). The

role of involvement in consumer behavior was studied across context including memory and evaluation (Hawkins & Hoch, 1992), brand choice (Tyebjee, 1979), shopping intention (Swinyard, 1993) and advertising (Petty, Cacioppo & Schumann, 1983; Greenwald & Leavitt, 1984) to list a few. Rogeeven et al. (2015) also notice the role of involvement in consumers' preferences toward dynamic and static presentation. In their research, the authors examined that higher involvement manipulation leads consumers to more hedonically superior option, regardless of the presentation format (dynamic vs. static). Hence, we expect that the effect should be replicated with photo type. Specifically, we predict that greater involvement consumers perceive from the photo, greater the purchase intention, regardless of the photo type. To elaborate, although in-use photo encompasses greater dynamics than profile photo, consumers will show high purchase intention toward profile photo if the consumers can vividly imagine the product usage. Together, we develop the following hypothesis.

H3: Involvement positively moderates the effect of photo types on purchase intention

Figure 1. Conceptual Model



EXPERIMENTS

Study 1: Variation in Purchase Intention Between Profile and In-Use Photos

In study 1, we investigated the effect of photo type (profile vs. in-use) on purchase intention. We prepared a total of 10 sets of photos with a profile and an in-use photo each. The photos were carefully selected so that the products presented in one set look identical. If the profile and in-use of a product of the same brand were available, the photos of the same brand were used. If both profile and in-use photos of a product are not available, we chose photos that look identical in the appearance. Should the brand logos of the product be presented in the photos, the brand logos were erased using Photoshop software. The products used in study 1 were laptop, lipstick, a pair of ice hockey skates, snorkeling gear, snowboard, sofa, sunglasses, virtual

reality (VR) set, watch, and a pair of sneakers.

Method

A total of 70 participants ($M_{\text{age}} = 27.96$, 55.7% Male) were recruited on Prolific. Participants were randomly assigned to either condition 1 or condition 2. Each block consisted of ten of either profile or in-use photos of products, but not both profile and an in-use photo of one particular product. For example, condition 1 consisted profile photos of snorkeling gear, lipstick, watch and a pair of sneakers and in-use photos of VR set, snowboard, ice hockey skates, laptop, sofa, and sunglasses. Condition 2 consisted of the exact opposite. Condition 2 consisted profile photos of VR set, snowboard, ice hockey skates, laptop, sofa and sunglasses and in-use photos of snorkeling gear, lipstick, watch and a pair of sneakers.

At the beginning of the study, participants were asked to assume that the participant intends to purchase a product presented in the photo even if the product may not entirely fit with personal preference. After seeing each photo, participants were asked to rate their likelihood of purchase in 10 scales (0 – Not likely ... 10 – Extremely likely). Participants' purchase intention, however, could be biased with the participants' previous experience. Hence, we also asked how positive their previous experience with a similar product

presented in the photo in 10-scale (0 - Not positive at all 10 – Extremely positive). The measure was used as a control variable.

Results

One-way ANOVA was conducted for each product. Participants' previous experience was used as a covariate. Out of 10 products, five products showed statistical significant in purchase intention between profile and in-use photos (ice hockey skate: $M_{\text{profile}} = 6.78$, $M_{\text{in-use}} = 5.39$, $F(1,68) = 5.97$, $p < 0.05$, $\eta_p^2 = 0.08$; laptop computer: $M_{\text{profile}} = 5.52$, $M_{\text{in-use}} = 7.01$, $F(1,68) = 7.05$, $p < 0.05$, $\eta_p^2 = 0.1$; sofa: $M_{\text{profile}} = 6.31$, $M_{\text{in-use}} = 4.91$, $F(1,68) = 4.33$, $p < 0.05$, $\eta_p^2 = 0.06$; snorkeling gear: $M_{\text{profile}} = 5.06$, $M_{\text{in-use}} = 6.31$, $F(1,68) = 0.07$, $p < 0.05$, $\eta_p^2 = 0.07$; running shoes: $M_{\text{profile}} = 4.06$, $M_{\text{in-use}} = 5.47$, $F(1,68) = 5.54$, $p < 0.05$, $\eta_p^2 = 0.08$). Two products, showed marginal significance (snowboard: $M_{\text{profile}} = 3.78$, $M_{\text{in-use}} = 5.11$, $F(1,68) = 3.48$, $p = 0.07$, $\eta_p^2 = 0.05$; sunglasses: $M_{\text{profile}} = 4.59$, $M_{\text{in-use}} = 4.40$, $F(1,68) = 0.15$, $p = 0.07$, $\eta_p^2 = 0.002$). Lastly, three products did not show statistically significant difference in purchase intention between profile and in-use photos. (VR set: $M_{\text{profile}} = 6.29$, $M_{\text{in-use}} = 5.93$, $F(1,68) = 0.42$, $p = 0.52$, $\eta_p^2 = 0.01$; lipstick: $M_{\text{profile}} = 4.82$, $M_{\text{in-use}} = 4.78$, $F(1,68) = 0.001$, $p = 0.97$, $\eta_p^2 = 0.00$; watch: $M_{\text{profile}} = 4.24$, $M_{\text{in-use}} = 4.35$, $F(1,68) = 0.02$, $p = 0.89$, $\eta_p^2 = 0.00$).

Of those that showed statistical significance or marginal significance, consumers showed a higher preference for in-use photos for four products (snowboard, laptop computer, snorkeling gear, and running shoes). Consumers showed greater preference toward profile photos for three products (ice hockey skates, sofa, and sunglasses). Hence, participants showed greater purchase intention toward in-use photos four out of seven product photo set that showed statistical significance.

Table 1. Study 1 Results

Product	Photo		R-sq	df	F	Partial eta-sq	p
	Profile	In-use					
VR (Virtual Reality) set	6.29	5.93	0.04	69	0.42	0.01	0.52
Snowboard	3.78	5.11	0.06	69	3.48	0.05	*
Ice Hockey Skates	6.78	5.39	0.20	69	5.97	0.08	***
Laptop Computer	5.52	7.01	0.43	69	7.05	0.10	***
Sofa	6.31	4.91	0.30	69	4.33	0.06	***
Sunglasses	4.59	4.40	0.53	69	0.15	0.00	*
Snorkeling Gear	5.06	6.31	0.14	69	4.82	0.07	***
Lipstick	4.82	4.78	0.32	69	0.00	0.00	0.97
Watch	4.24	4.35	0.36	69	0.02	0.00	0.89
Running shoes	4.06	5.47	0.26	69	5.54	0.08	***

*** p<0.05, *p<0.07

Discussion

Though not all ten sets of photos showed statistical significance, seven out of ten photo sets showed significant or marginally significant differences in purchase intention between profile and in-use photos. In study 1, however, we did not measure participants' primary motives of the purchase. We predict that the primary motives of purchase could explain for the product photo set which did not show significant statistical significance or the product that showed greater purchase intention toward profile photo. For instance, the product which showed greater purchase intention toward in-use photos (snowboard, laptop computer, snorkeling gear, running shoes) have greater hedonic value than those showed greater purchase intention toward profile photos (ice hockey skates, sofa, sunglasses). Though laptop computer was often classified as a utilitarian product in previous literature, we could have had participants who primary use laptop computers for hedonic purposes such as playing games or watching a movie. For ice hockey skates, participants could have valued utilitarian features more than hedonic features because the functionality and practicability of the skates are crucial. Though running shoes' functionality and practicality also matter, the valence of importance may not be as high as that of ice hockey skates. The same logic could be applied for sunglasses; the participants could have valued sunglasses'

utilitarian value, protecting eyes from sunlight, more so than its hedonic value, fashion. In the subsequent study, we examine the moderation effect of product type, hedonic and utilitarian.

Study 2: Moderation Effect of Product Type (Hedonic vs. Utilitarian)

The purpose of study 2 is to investigate the moderation effect of product type (hedonic vs. utilitarian). We predict that consumers will show higher purchase intention toward in-use (vs. profile) photo when judging hedonic (vs. utilitarian) product. We test the hypothesis across two studies. In study 2a, we conduct a 2 (product type: hedonic vs. utilitarian) x 2 (photo type: profile vs. in-use) between-subject ANOVA and examine the interaction effect of product and photo type. In study 2b, we manipulate the purpose of purchase to hedonic or utilitarian and examine whether consumers' purchase intention toward profile or in-use photo shifts.

Study 2a

Method

A total of 100 participants ($M_{\text{age}} = 31.9$, 39% Male) were recruited via Prolific. A 2 (product type: hedonic vs. utilitarian) x 2 (photo type: profile

vs. in-use) between subject study was conducted. Each participant was randomly one of the condition. For hedonic condition, photos of hamburger from the same restaurant were presented. For utilitarian condition, photos of a rollerball pen from the same manufacturer were presented. For each condition, participants saw either profile or in-use photos. Each participant was asked to rate their likelihood of purchase in 0 to 10 scale (0 – Not likely ... 10 – Extremely likely). They were also asked to rate the positivity of their previous experience with the product presented in 0 to 10 scale (0 - Not positive at all 10 – Extremely positive). The measure was used as our control variable. The two questions being asked are identical to that used in study 1. Finally, we asked how much hedonic or utilitarian value do participants have toward the product to ensure that the participants view each product either hedonic or utilitarian. For example, a participant may put greater utilitarian value than a hedonic value to a hamburger because it is simply a type of food. Similarly, a participant may put greater hedonic value than a utilitarian value to a roller ball pen should the participant often use a roller ball pen for hedonic purposes. Hence, it is necessary to check whether the participants of the study perceived hamburger as a product with greater hedonic value than a rollerball pen and perceived a roller ball pen as a product with greater utilitarian value than a hamburger. For the manipulation check,

two questions were asked. For example, under a hedonic condition, the question asked "Do you think hamburger offers you a hedonic value? That is, do you think hamburger brings you enjoyment when you consume it?" and "Do you think hamburger offers utilitarian value? That is, do you think hamburger offers you functional benefits?" Each question asked participants to answer in 0 to 10 scale (0- Not at all 10 – Extremely) The measure was used to check hedonic and utilitarian value manipulation.

Manipulation Check

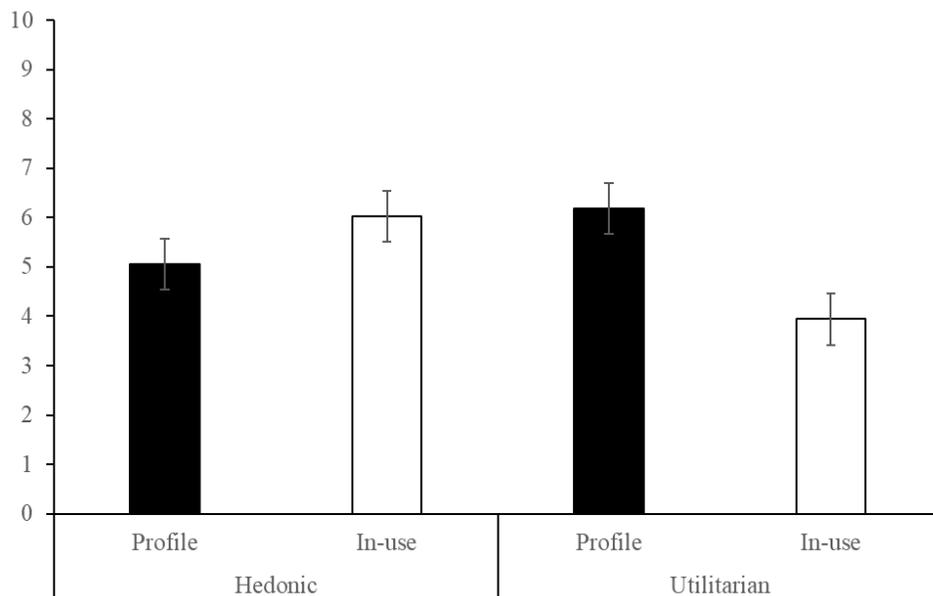
A one-way ANOVA was conducted. Under hedonic condition, participants weighted hedonic value more than utilitarian value ($M_{\text{hedonic}} = 6.45$, $M_{\text{utilitarian}} = 4.33$, $F(1,98) = 16.56$, $p < 0.05$). Under utilitarian condition, participants weighted utilitarian value more than hedonic value ($M_{\text{hedonic}} = 5.12$, $M_{\text{utilitarian}} = 6.20$, $F(1,98) = 5.72$, $p < 0.05$). Hence, product type (hedonic vs. utilitarian) manipulation was successful.

Results

A 2 (product type: hedonic vs. utilitarian) x 2 (photo type: in-use vs. profile) between-subject ANOVA was conducted. The dependent variable was purchase intention. The valence of participants' previous experience was

used as control variable. The effect of photo type ($M_{\text{profile}} = 5.62$, $M_{\text{in-use}} = 5.00$, $F(1,89) = 1.64$, $p=0.20$, $\eta_p^2 = 0.017$) and product type ($M_{\text{hedonic}} = 5.62$, $M_{\text{utilitarian}} = 5.54$, $F(1,89) = 0.89$, $p=0.35$, $\eta_p^2 = 0.09$) on purchase intention were not significant. The interaction effect of photo and product type, however, was significant. Under hedonic condition, participants showed higher purchase intention toward in-use photos ($M_{\text{in-use}} = 6.02$, $M_{\text{profile}} = 5.06$, $F(1,89) = 10.37$, $p<0.05$, $\eta_p^2 = 0.09$, $d=0.89$). On the other hand, participants showed higher purchase intention toward profile photos under utilitarian condition ($M_{\text{in-use}} = 3.94$, $M_{\text{profile}} = 6.18$, $F(1,89) = 10.37$, $p<0.05$, $\eta_p^2 = 0.09$, $d=0.89$).

Graph 1. Study 2a Results



Study 2b

In study 2a, consumers showed higher purchase intention when shown in-use (vs. profile) photos under hedonic (vs. utilitarian) condition as predicted. The results, however, could have been influenced by the stimuli we used in the experiment. For example, the specific backgrounds or the colors of the photos being used in study 2a could have influenced the results. Investigating the interaction effect between photo and product do exist, it is necessary to examine whether consumers' preference over a certain type of photo shifts when the purchase motives are manipulated. If the interaction effect between photo and product do exist, consumers will show greater purchase intention toward profile photo under utilitarian purchase motive but show greater purchase intention toward in-use photo under hedonic purchase motive. Hence, in study 2b, we examine the interaction effect of photo and product type by manipulating the purchase motives, hedonic or utilitarian.

Method

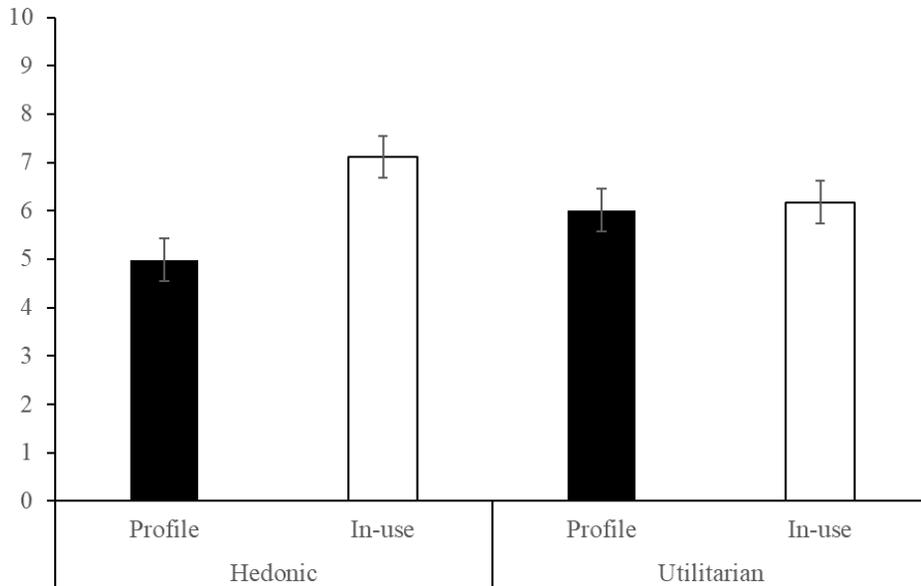
A total of 100 participants ($M_{\text{age}} = 28.5$, 59% Male) were recruited on Prolific. Participants were randomly assigned to either hedonic or utilitarian condition. For each condition, participants were told that they are

intended to purchase a bike. Under the hedonic condition, the scenario read, "Imagine that you are planning to purchase a bike. You are planning to ride the bike to commute a short distance. Therefore, the functional and practical values the bike offers are critical. The effectiveness and practicability of the bike are also essential as well." Under the hedonic condition, the scenario read, "Image that you are planning to purchase a bike. You are planning to ride the bike for your enjoyment. You believe that riding a bike will offer great fun and excitement. To you, riding a bike is a great thrill and enjoyment." After reading the scenario, participants were shown a profile and in-use photo of a bike. The appearance of the bike was identical, except in the in-use photo, a person was riding on it. The participants were told that though the appearance of the two bikes looks identical, different companies manufactured them. Regardless of the condition, the participants were assigned to, and each participant was presented with the same set of photos. Profile photo was marked 'A,' and an in-use photo was marked 'B.' Participants were then asked to choose bike A or B, whichever they are more likely to purchase. The participants were also asked to rate their likelihood of purchase for each bike, in 0 to 10 scale (0-Not at all ...10-Extremely). Then, participants were asked to rate the positivity of their previous experience with a similar bike (0-Not positive at all 10 – Extremely positive).

Results

A chi-square test was conducted. There was a marginal significance between product and photo type $\chi^2(1, n=100, p=0.062)$. The participants preferred in-use photos more in both hedonic and utilitarian condition, but more participants preferred profile photos under utilitarian condition. Under hedonic condition, 28% (n=14) chose product in profile photo while 72% (n=36) chose product in in-use photo. Under utilitarian condition, 46% (n=23) chose product in profile photos while 54% (n=27) chose in-use photos. We then conducted one-way ANOVA with purchase intention toward the product presented in the profile photo. The valence of the participants' previous experience with the product of a similar kind was taken as a covariate. The results were significant ($M_{\text{hedonic}} = 5.00, M_{\text{utilitarian}} = 6.01, F(1,98) = 4.68, p < 0.05, \eta_p^2 = 0.046, d = 0.57$). The results showed that the participants showed greater purchase intention toward profile photo under utilitarian condition. We also conducted one-way ANOVA with purchase intention toward the product present in the in-use photo. The valence of the participants' previous experience with the product of a similar kind again used as a covariate. The results were significant ($M_{\text{hedonic}} = 7.12, M_{\text{utilitarian}} = 6.18, F(1,98) = 4.13, p < 0.05, \eta_p^2 = 0.041, d = 0.52$) and showed participants showed greater purchase intention toward in-use photo under hedonic condition.

Graph 2. Study 2b Results



Discussion

In study 2a and 2b, we examined the moderation effect of product type, hedonic or utilitarian. Specifically, we proved that consumers prefer in-use photo under hedonic condition but profile photo under utilitarian condition. We examined the effect by manipulating the product type and purchase motive, hence proved that context such as purchase motive could alter consumers' preferences on particular photo type. The results of the study 2b are impressive in that more participants chose the product presented in the

in-use photo in both hedonic and utilitarian condition. The result is consistent with that of study 1. In study 1, we examined that consumers showed a higher preference toward in-use photos. Hence, it is not surprising that more consumers preferred in-use photos under both hedonic and utilitarian condition. What is interesting is that significantly more participants chose profile photos under utilitarian condition than under hedonic condition. Participants also showed greater purchase intention toward in-use photos under hedonic condition. Though more participants picked profile photos under a utilitarian condition, their purchase intention toward profile and in-use photos had greater contrast under hedonic condition ($M_{\text{profile}} = 5.00$, $M_{\text{in-use}} = 7.12$) than utilitarian condition ($M_{\text{profile}} = 6.01$, $M_{\text{in-use}} = 6.18$). The effect of photos on purchase intention is hence greater toward a hedonic product.

Study 3: Moderation Effect of Involvement

Method

The purpose of study 3 is to examine the moderation effect of involvement. A total of 200 participants (46.7% Male, $M_{\text{age}} = 30.8$) were collect via Prolific. After excluding incomplete survey, a total of 180 answers were analyzed. Study 2b was replicated, but we used a DSLR camera for the

product. Participants were randomly assigned to either hedonic or utilitarian condition. For hedonic condition, the scenario read, "Imagine that you are an active member of a photo club. You love taking photos of wonderful views. Taking photography is your most enjoyable hobby. The camera brings you great fun and excitement. You are planning to purchase a new camera. After searching online, you've found two cameras, photos of which are presented above. Please note that the overall specs of the two cameras are the same." Under the utilitarian condition, the scenario read, "Imagine that you are a doctor. You are planning to purchase a camera. You are planning to use the camera to take photos of patients' injured parts so that you can share the photos during the doctors meeting. Hence, the functionality and effectiveness of the camera are very important to you. You searched for possible options online. Above are the photos of the cameras you've found. Please note that the overall specs of the two cameras are the same." After reading the scenarios, participants were asked to answer two items on the perceived hedonic and utilitarian value of the camera. The measures were used as the manipulation check. As it was the case in study 2b, a profile photo was marked 'A,' and an in-use photo was marked 'B.' Each participant was asked to choose either product A or B, whichever they are more likely to purchase. Participants were also asked to answer their purchase intention for each product in a 0 to 10

scale. Then participants were asked to answer three items on involvement. The questions were adapted from Green and Brock (2000). The questions asked ‘while I was looking at the photo of camera A, I could easily picture myself using the product,’ ‘I was mentally involved while looking at the photo of camera A,’ and ‘I could picture myself in the scenario when looking at the photo of the camera A.’ The questions were asked for camera B as well. The survey then ended with demographic questions.

Manipulation Check

A total of 20 participants did not complete the survey. Hence, the resulted sample size was 180. A chi-square test of independence was conducted. The perceived hedonic value was subtracted from perceived utilitarian value. Hence, greater the value, greater perceived utilitarian value. One-way ANOVA was conducted. As expected, participants had higher perceived utilitarian value under utilitarian condition and lower utilitarian value under hedonic condition ($M_{\text{utilitarian}} = 1.23$, $M_{\text{hedonic}} = -0.33$, $F(1, 178) = 17.64$, $p < 0.005$). Hence, the manipulation was successful.

Results

A chi-square test of independence was conducted. The results were significant $\chi^2(1, n=180, p = 0.03)$. Under hedonic condition, 60% (n=53) chose product in profile photo while 40% (n=35) chose product in in-use photo. Under utilitarian condition, 75% (n = 69) chose product in profile photo while 25% (n=23) chose in-use photos. The results are consistent with study 2b; more participants preferred in-use photos under hedonic purchase motive condition. Interestingly, however, more participants preferred profile photo in both utilitarian and hedonic condition. We then conducted One-way ANOVA with purchase motives as the independent variable and purchase intention for each photo type as the dependent variable. Though there was no difference in purchase intention toward profile photo under both condition ($M_{\text{utilitarian}} = 7.66, M_{\text{hedonic}} = 7.61, F(1,178) = 0.03, p=0.86$), the purchase intention toward in-use photo was significant ($M_{\text{utilitarian}} = 6.64, M_{\text{hedonic}} = 7.20, F(1,178) = 3.43, p = 0.07$).

We then analyzed the moderation effect of involvement using SPSS Process Macro model 1. Because the participants who submitted incomplete survey only missed the question regarding choosing the product with greater likelihood, we included the entire participants (n=200) for this part of the analysis. We calculated the total utilitarian value of participants by subtracting

perceived hedonic value from perceived utilitarian value. Hence, the greater number indicated higher utilitarian value. The measure was used as the independent variable. We also calculated the total purchase intention toward profile photo by subtracting the purchase intention toward the product depicted in an in-use photo from the purchase intention toward the product pictured in the profile photo. The measure was used as the dependent variable. We used involvement as our moderator.

The overall model was significant ($R^2 = 0.48$, $F(3,196) = 5.92$, $p < 0.005$). Perceived utilitarian value was the significant predictor of purchase intention toward the product depicted in profile photo ($b = 0.17$, $SE = 0.06$, $t(196) = 2.98$, $p < 0.005$, $CI\ 95\% [0.059, 0.290]$). The interaction between involvement and utilitarian value was also significant ($b = -0.04$, $SE = 0.02$, $t(196) = -2.41$, $p = 0.02$, $CI\ 95\% [-0.086, -0.009]$). Hence H3 was supported.

Discussion

The purpose of study 3 was to examine the moderating effect of involvement on the impact of photo types on purchase intention. In this research, we investigated the outcome by measuring perceived utilitarian value and purchase intention toward profile photo. It is interesting that although the chi-square of independence test was significant and that more

participants preferred in-use photos under a hedonic condition, more participants preferred profile photos in both hedonic and utilitarian condition. The results are opposite to study 2b, where more participants preferred in-use photos in both hedonic and utilitarian condition. It is explainable; however, the product being used in study 2b, bicycle, and study 3, DSLR camera, is different. A DSLR camera, while it can be used for a hedonic purpose, its functionality is more important than that of a bicycle. That is, it is more likely that consumers are more concerned about the specs and the functionality of the product.

The results also indicate that at higher involvement positively moderates the effect of utilitarian value on purchase intention toward the product depicted in the profile photo. The results are consistent with Rogeveen et al. (2015)'s research. Greater involvement increased purchase intention toward profile photo, though study 1 suggested that consumers prefer in-use photos more than profile photos. The results indicate that if profile photo can help consumers to make vivid imagery by increasing involvement, the depicted product can gain high preferences of the consumers.

GENERAL DISCUSSION AND MANEGERIAL IMPLICATION

The purpose of this research is to examine the effect of different photo types on purchase intention. We distinguish profile and in-use photos, which no research to date has paid attention. In study 1, we examine that there exists a difference in consumer preferences toward profile and in-use photos. We also show that purchase intention was higher when in-use photos are presented. In study 2a, we demonstrated the moderation effect of hedonic and utilitarian product type. Specifically, we investigate that consumers show greater purchase intention toward in-use photos when making a hedonic consumption decision. The effect was the opposite when making a utilitarian consumption decision. In study 2b, we manipulated the purchase motive and showed the results of study 2a was replicated. In study 3, we showed that involvement positively moderates the effect of photo types on purchase intention.

This research contributes to e-commerce literature. Product photos are an essential source of information. In today's world where more and more consumers make a purchase online, the role of photos is getting crucial. When online retailer such as Amazon.com lists its products, the most vivid information is the photos of a product. Some may argue the name of the

product helps, but the registered name of the product is often either too long or written in a small font that is not so helpful in distinguishing products unless consumers are looking for a specific brand. It is reasonable to guess, therefore, that consumers initially screen the list by looking at the product photos.

Surprisingly, however, a vast majority of the product photos that are available today are profile photos. Few products upload both in-use and profile photos, but even in such cases, there are more profile photos than in-use photos presented. The effort to make the photos attractive is well presented with the high resolution of the photos. The zoomed-in photos of a product provide a greater idea on how the photos look like. None of those efforts capture the emotional consequences of using the product. Investigating the effect of visual information such as product photos will gain greater emphasis in the field of marketing research as the growing usage of an automated recommended tool such as AI is getting more common among consumers. As consumers no longer need to search for a product intensively, the photos AI or any automated recommendation tool provide will influence consumers' final decision. We hence suggest to further investigate the different aspects of product photos, including the size, colors, or assortment. This research, however, does not examine the mediator. Further research on

the mediator is necessary to understand the psychological mechanism on the effect of photo types on purchase intention.

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APPENDIX

Study 1 Survey

INSTRUCTION

In this survey, you will be shown photos and asked to answer questions regarding the photo. You will be seeing a total of 10-photos. The survey will take less than 5-minutes. Please take a close look at the photos as you answer each question. Also, when we ask your purchase intention, assume that you are considering to purchase a product of a similar type. For example, if we ask how likely would you like to purchase a cup, assume that you are looking for a similar type of cup, even if it does not completely fit your personal preference. We are interested in how likely you would purchase the particular product you see in the photo if you were to purchase a product of a similar type. We truly appreciate your time and cooperation in advance.

Q1. If you were to purchase the product presented above, how likely would you purchase this particular product?

Q2. Have you used a similar type of product before? If so, how was your experience with it?

*** The two questions above were asked for each product. Please note the “the product presented above” was replaced with the specific product presented (e.g., VR machine, snowboard, laptop computer etc.) The logos of each product was deleted. The photos used in this survey were extracted from Google Image search. For more information or the complete set of photos being used, please contact the author directly. Each items were asked in 0 to 10 scale. ***

Study 2a

Survey

I. Hedonic Scenario

Imagine that you have discovered a new hamburger chain call “Kitchen.” You are thinking about whether you should visit. Before deciding whether to dine at “Kitchen,” you decided to visit its website to see how the hamburger looks like. You are trying to judge the quality of the hamburger “Kitchen” offers. In the next part of the survey, you will be shown two photos of hamburger that “Kitchen” sells. Please take a look at the photos carefully for you will be asked to judge the quality of the hamburger in the later part of the survey.

Q1. How likely would you purchase this particular hamburger?

Q2. Have you tried a similar type of hamburger? If so, how was your experience with it?

Q3. Do you think hamburger offers you hedonic value? That is, do you think hamburger brings you enjoyment when you consume it?

Q4. Do you think hamburger offers you utilitarian value? That is, do you think hamburger offers you functional benefits?

II. Utilitarian Scenario

Imagine that you are considering to purchase a rollerball pen. Rollerball pen is different from a regular ballpoint pen. Rollerball pens are a good alternative to fountain pens or ballpoint pen. They are easy to use, and you can refill its ink. Now, imagine that you have found a rollerball pen on Amazon.com. You are trying to decide whether to purchase this particular rollerball pen. In the next part of the survey, you will be shown two photos of a rollerball pen. Please take a look at the photos carefully for you will be asked to judge its quality.

Q1. How likely would you purchase this particular rollerball pen?

Q2. Have you tried similar type of rollerball pen? If so, how was your experience with it?

Q3. Do you think rollerball pen offers you hedonic value? That is, do you think rollerball pen brings you enjoyment when you consume it?

Q4. Do you think rollerball pen offers you utilitarian value? That is, do you think rollerball pen offers you functional benefits?

*** The logos of each product was deleted. Below are the examples of the product photos being used in the survey. The photos being used in this survey were extracted from Google Image search. For more information or the complete set of photos being used, please contact the author directly. Each items were asked in 0 to 10 scale. ***

Study 2b Survey

I. Hedonic scenario

Imagine that you are planning to purchase a bike. You are planning to ride the bike for your enjoyment. You believe that riding a bike will offer you great fun and excitement. To you, riding a bike is a great thrill and enjoyment.

II. Utilitarian scenario

Imagine you are planning to purchase a bike. You are planning to ride the bike to commute a short distance. The functional and practical value the bike offers is very important. The effectiveness and practicability of bicycles are also very important.

Q1. According to the scenario above, is your primary motive of purchase is utilitarian? That is, are you looking for functional, practical, effective and practical value?

Q2. According to the scenario above, is your primary motive of purchase is hedonic? That is, are you looking for values such as fun, thrill, excitement, and enjoyment?

Q3. Of the two bikes, which one would you prefer to purchase?
(choose A or B)

Q4. How likely would you purchase product A?

Q5. How likely would you purchase product B?

Q6. Have you owned or ridden on a bicycle of a similar type before? How was your experience with it?

*** The logos of each product was deleted. Below are the examples of the product photos being used in the survey. The photos being used in this survey were extracted from Google Image search. For more information or the complete set of photos being used, please contact the author directly. Each item was asked in 0 to 10 scale, except question 3. ***

Study 3 Survey

I. Hedonic Scenario

Imagine that you are an active member of a photo club. You love taking photos of wonderful views. Taking photography is your most enjoyable hobby – it brings you great fun and excitement. Now, you are planning to purchase a new camera. After searching online, you've found two cameras, photos of which are presented above. Please note that the overall specs of the two cameras are the same.

II. Utilitarian Scenario

Imagine that you are a doctor. You are planning to purchase a camera. You are planning to use the camera to take photos of patients' injured parts so that you can share the photos during the doctors meeting. Hence the functionality and effectiveness of the camera are very important to you. You searched for possible options online. Above are the photos of the cameras you've found. Please note that the overall specs of the two cameras are the same.

Q1. Of the two cameras, which one would you prefer to purchase? (choose A or B)

Q2. How likely would you purchase product A?

Q3. How likely would you purchase product B?

Q4a, b. While I was looking at the photo of camera A (or B), I could easily picture myself using the product

Q5a, b. I was mentally involved while looking at the photo of camera A (or B)

Q6a, b. I could picture myself in the scenario when looking at the photo of camera A (or B)

*** The logos of each product was deleted. Below are the examples of the product photos being used in the survey. The photos were extracted from Google Image search. For more information or the complete set of photos being used, please contact the author directly. Each items were asked in 0 to 10 scale, except question 1. Manipulation check questions are not included in this appendix. ***

요 약 (국문 초록)

제품의 사진이 구매 의사에 미치는 영향에 대한 연구: '제품 사진' 과 '사용 중인 사진'을 중심으로

제품 사진은 소비자로 하여금 제품을 더 선명하게 볼 수 있게 하는 역할을 한다. 온라인 쇼핑 등 다양한 E-commerce 에서는 소비자가 제품을 직접 보고 구매를 결정할 수 없기 때문에, 소비자 의사결정에 있어 제품 사진은 더 중요한 역할을 담당하게 된다. 그러나 이전 연구에서 제품 사진은 거의 다루어 지지 않았다. 이에 따라 본 연구에서는, 제품 사진이 소비자 구매 의사에 미치는 영향에 대해 보고자 한다. 특히, 저자는 물건 사진 (Profile photos) 와 사용 중인 사진 (in-use photos) 로 제품 사진을 구분 지어, 각 사진이 구매 의사에 미치는 영향에 대해 알아보고자 한다. 본 연구에서는 in-use photos 를 제품과 제품의 사용법 (usage) 가 보여지는 사진으로, Profile photos를 오직 제품 그 자체만 보여주는 사진으로 정의한다. 본 연구에서는 in-use photos 가 profile photos 에 비해 제품 사용법에 대해 더 선명하고 다이내믹하게 보여주는 만큼, 소비자가 in-use photos를 보았을 때 구매의사가 더 높을 것으로 예상된다. 또한, 이

러한 제품 사진이 구매 의사에 미치는 영향은 제품의 종류, 쾌락적 제품 (Hedonic) 혹은 실용적 제품 (utilitarian), 에 따라 조절 될 것으로 예상하며, hedonic 제품 구매 시에는 in-use photos 를, utilitarian 제품 구매 시에는 profile photos를 선호할 것으로 예상된다. 마지막으로도 관여도 (involvement) 역시 제품 사진이 구매 의사에 미치는 영향을 조절할 것으로 예측하며, 제품 종류나 사진에 관계 없이 관여도가 높을수록 구매 의사는 높아질 것으로 예상하였다.

실험 1에서는 제품 사진이 구매 의사에 미치는 영향에 대해 알아보려고 하였다. 본 실험은 Prolific 을 통해 진행되었다. 피실험자들은 총 10개의 in-use 혹은 profile 사진을 보고 각 사진 속 제품에 대한 구매의사를 매기도록 하였다. 어떤 피실험자도 하나의 제품에 대해 in-use 와 profile 사진을 모두 보여주지는 않았다. One-way ANOVA를 통해 각 사진 종류에 따른 구매 의사 정도에 차이가 있는지 검증하였다. 총 10개의 제품 중, 7개가 통계적으로 유의한 결과가 도출되었으며, 이 중 4개의 제품에서 In-use 사진에 대한 구매 의사가 더 높은 것으로 나타났다.

실험 2a 와 2b 에서는 제품 종류 (hedonic vs. utilitarian) 의 조절 효과를 살펴보았다. 실험 2a 에서는 Prolific 에서 2x2

between-subject 실험을 진행하였으며, 제품 종류가 조작되었다. Hedonic 제품으로는 햄버거가, Utilitarian 제품으로는 롤러 볼펜이 사용되었다. 실험 2b 에서는 제품 종류 조작 대신, 구매 목적이 hedonic 혹은 utilitarian으로 조작되었다. Prolific 을 통해 실험은 진행되었으며, One-way ANOVA 통해 결과를 도출하였다. 두개의 실험에서 모두 Hedonic 제품 구매 시 in-use photo 에 대한 선호도가 더 높음을 증명하였다.

실험 3 에서는 관여도가 미치는 조절 효과에 대해 검증하였다. 전체적인 실험 디자인은 실험 2a 와 동일 하였으며, 관여도에 대한 질문 3개가 추가되었다. 본 실험에서는 제품 사진이나 종류에 관계 없이 관여도가 높을수록 구매의사 또한 높아진다는 것을 증명하였다. 실험은 Prolific 을 통해 진행되었고 one-way ANOVA를 통해 결과가 도출되었다.

이제까지 알려진 바에 따르면, 제품 사진의 종류에 관한 연구는 본 연구가 유일하다. 본 연구는 제품 사진 종류 같은 작은 부분이 소비자의 구매 의사결정을 바꿀 수 있다는 점을 증명했다는 점에서 의의가 있다. 또한 본 연구는 중요한 마케팅 시사점을 제시한다. 제품을 사진에 잘 담는 것만큼 제품이 실생활에서 어떻게 이용될 지를

보여주는 것 또한 대단히 중요하다는 점을 시사하고 있다. 본 연구의 결과는 광고, 유통 혹은 e-commerce 에서 많은 시사점을 제시할 것으로 기대된다.

그러나 본 연구는 매개 변수에 대한 실험을 진행하지 않았다. 소비자 심리에서 제품 사진이 미치는 영향을 더 구체적으로 검증하기 위해서는 어떠한 심리적 메커니즘을 통하여 제품 사진이 구매 의사에 영향을 미치는 지 검증할 필요가 있다. 또한 후속 연구로 제품의 크기나 색깔 같은, 제품 사진의 다른 여러 요인들이 소비자에게 미치는 영향에 대해 연구하는 것 또한 필요할 것으로 생각된다.

주요 어: 사진, 정보, 쾌락적 혹은 실용적 소비, 다이내믹, 선명도, 관여도

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