The Impact of Motivation to Use Image-based SNS on Online Behaviors

The Impact of Motivation to Use Image-based SNS on Online Behaviors†

Jeesun Kim* · Hyunjeong Kang**

⋯ Abstract ⋯

The highest level of user engagement in commercial social network site(SNS) will be click-throughs or conversions to purchase, which is the primary behavior sellers want to elicit from consumers. The intrinsic motives for SNS use by individuals will present different behaviors and different levels of engagement. It is presumed that the SNS behaviors of share, follow, click, or purchase demonstrate different levels of engagement, and the needs of SNS users will determine what type of behavior would be activated when they are confronted with image-based content provided by sellers. Our findings indicate that the communication and information-seeking needs did not only increase the intention to click and purchase but also increased low engagement behavior of share and follow. The other needs such as entertainment or self-assurance had no significant impact on low engagement behavior or high engagement behaviors.

Key Words : Instagram, Mobile SNS, Online Shopping, Motivation, Image; Social Media

Ⅰ. Introduction

Social Network Services(SNS) have become a recognized marketing platform. It is prevalent to have their own corporate pages(i.e., accounts or channels) in SNS and engage them as a marketing platform. SNS are evolving with different types, from text-based to visual-based SNS. Visual-based are more emotional and effective compared to other SNS, engaging consumers with effective advertising or events. Instagram is now growing faster than any other SNS, such as Facebook, Twitter, or Snapchat, in terms of the number of users as well as the amount of content uploaded and shared through the platform(Wagner, 2015. 1. 9.). Instagram's public blog announced the number of users exceeded over 4 billion in September 2015(Instagram Info center, 2015. 9. 22.) and again it had record over 6 billion in 6 months only after it exceeds 5 billion in June 2016(Instagram Info center, 2016. 6. 21.). It increased to 8 billion in September 2017 (Stastista, 2018). The demographics of Instagram are younger than any other SNS. In the US, more than half of the Instagram users are age 20 to 39 and 65% of global users are under age 18 to 34(Stastista, 2019). Female users(31%) are exceeding males(24%)(Pew Research Center, 2015. 8. 17.) however, the discrepancy is decreasing with growing number of male users, which means Instagram is positioned as one of the leading SNS platforms regardless gender, age, or nationality.

In order to meet the increasing needs of sellers to market products, Instagram began to open the service to sell products directly via the links on Instagram posts in 2016. Instagram started the shopping service titled "Instagram Shoppable Posts" with BigCommerce and Shopify(Instagram Business blog, 2016. 11.1.; Niu, 2017. 10. 3.). More than 50% of Instagram users expressed the intention to follow the seller's brand page in Instagram (Weise, 2015) and in 2017, more than 25 million business pages were opened and 80% of Instagram users responded by following the seller pages(Instagram Info Center, 2017. 11. 30.). In addition, at least 30% of Instagram users bought products by clicking-through the link on Instagram(Osman, 2018. 2. 12.)

While marketing costs using SNS are much lower than traditional media, SNS have different features from the existing marketing platforms. The motives to use SNS are more central to the social aspect of communication such as making new friends, keeping in touch with friends, gathering information or entertainment. The individual users have different needs for using SNS and those needs generate different online behavior when they encounter messages provided by marketers selling products. This study presumes that there is a relationship between individual and intrinsic needs for SNS use and the resulting online consumer behavior in different levels of engagement with brands. The finding would help direct sellers on how to construct a marketing campaign on image-based SNS in

order to lead to more customer engagement and behavior.

Ⅱ. Theoretical Background

2.1 Image-based SNS: Instagram

Third-generation SNS such as image-based Instagram is evolving, leading to more satisfaction with the results of using SNS. The abundance of information based mostly on text on the Internet and SNS have made users tired and overloaded(Katz et al., 1973). While they have the same needs for SNS, such as communication, entertainment, information search, or identity assurance, they want to fulfill their needs more efficiently with visual images or short hashtags. Content with those formats provide a large amount of information with a small amount of cognitive effort. Further, the visual content breaks the communication barrier of language by using images, photos or videos that can be understood with little knowledge of the region or culture. This is another reason why Instagram has rapidly grown around the globe and users all over the world create, share, follow, and socialize on Instagram with ease. Making friends on Instagram has expanded with the hashtags of interest beyond the local distance that other SNS are based on.

The popularity of Instagram drives companies to focus attention on promoting their brand and products with events, advertising or direct selling through their own corporate channel. More than 90% of marketing professionals who were surveyed said SNS such as Instagram will change the existing advertising process in a whole different way and companies will not be able to ignore the power of the large population represented on SNS such as Instagram (Stelzner, 2014).

SNS user behaviors in a corporate channel(or page) are associated with levels of their engagement with the brands(Likes, comments, and shares)(Lee et al., 2018). The highest level of user engagement would be click-throughs or conversions to purchase, which is the primary behavior corporations want to elicit from consumers. While the content(ex., promotion, events, and price information) of the brand channel will most likely determine whether users will convert to click-through or not, the intrinsic motives (needs) for SNS use by individuals will present different behaviors and different levels of engagement. In addition, we presume that the SNS behaviors of share, follow, click, or purchase demonstrate different levels of engagement, and the needs of SNS users will determine what type of behavior would be activated when they are confronted with image-based content provided by sellers.

2.2. Needs for SNS use

Katz et al.(1973) suggested the Uses and Gratification Theory(UGT) for media use.

People use media in order to satisfy their own needs, which includes social context, motives and expectations. Users of SNS are assumed to have the same needs when using SNS, which will be different in the relationship between the needs and the behaviors. UGT has been applied to TV media and now it is being applied to new media such as SNS. The needs have the same root from UGT but the specific needs are different from study to study: entertainment / passing time / relaxation / social information / information(Ferguson & Perse, 2000). UGT regards users of SNS not as a passive receptor but active selector(Wu et al., 2010). Based on this, UGT presents five premises: First, users are voluntary and goal-oriented when using media; second, users use SNS to fulfil their own needs; third, the gratification of media is in a competitive relationship with other needs; fourth, users of media recognize their interest and motives and they have clear expectation to fulfill their selection for certain media, and lastly, they have the capability to evaluate the media features(Katz et al., 1973; Alhabash & Ma, 2017). The assumption of UGT theory is that people are active in choosing and using media based on their needs(Wu et al., 2010). The main needs addressed by SNS use include: diversion such as escape from problems or emotional release, personal relationships such as social utility of information in conversation or substitute of the media for companionship, personal identity such as value reinforcement or self-understanding, and surveillance (McQuail et al., 1972).

The needs for SNS are also categorized as social relationships in which people find information to communicate with others, surveillance so that people can monitor issues getting attention in social life, emotional release so they can escape from confronting problems and entertain themselves and finally, self-reinforcement to assure their social identity(Flanagin & Metzger, 2000). Different SNS services address different user needs, when compared to each other. Contrary to Facebook, where use intensity is affected by self-documentation, convenience, and self-expression, in that order, and Twitter, where use-intensity is affected primarily by a convenience motivation, Instagram use - intensity is influenced by a need for self-documentation and passing time to meet entertainment needs(Alhabash & Ma, 2017). Based on much research on needs for SNS use drawn on UGT, our study defines four needs of SNS use: communication, information-seeking, entertainment, and self-assurance.

2.3. Engagement level of SNS behavior from the perspective of electronic commerce

Studies on engagement to brands on SNS have largely focused on the effect of advertising content on consumers to committed behaviors(Chi, 2011; Bateman et al., 2011). However, the results are mixed and the direct relationship between advertising and consumer behaviors like share or click has not been

clearly proven. Some acknowledged that inducing a "Like" on a Facebook fan page to facilitate more engagement and purchase has a reverse relationship, such that consumers go away from the brands since "Like" is felt to commit them even if they have a neutral affection to the brand(Bateman et al., 2011; John et al., 2017). The current study considered that this confusion might come from missing the antecedents affecting the attitude to the SNS brand pages before they encounter the advertising messages, which is needed for using SNS with the individuals visiting the seller's SNS pages.

Studies on the effect of motivation on different SNS behaviors are about low-engaged viewing (i.e., lurking)(Manchanda et al., 2015) or high-committed "share" in Facebook(Van den Hooff et al., 2004). However, in an electronic commerce context, both are regarded lower engagement to brands. If sellers intend to make consumers more engaged with the brand only for possible future purchase, Facebook "Like" can be used strategically to gain consumer attention – gathering and relationship - building, and involvement-raising(Bateman et al., 2011) Liking, sharing, following are not reaching the ultimate goal of sellers who want to convert those behaviors into the highest engagement action of clicking - through to buying.

The current study, therefore, selected the general motives of SNS use as independent variables and the online behaviors of "share," "follow," "click," and "purchase" in order from

lowest to highest, from the perspective of electronic commerce as dependent variables."

2.4. Order of commercial engagement

From the perspective of electronic business, the engagement level in SNS behavior is different from that of non-commercial purposes such as making friends, engaging in a special interest community, or using SNS as an organizational tool. The ultimate goal of commercial SNS is to trigger purchasing by the participants since the company's goal is to reach the highest degree of engagement, which is purchasing. "Social dollars" that companies are pursuing first help customers with recognition, then lead to participation and finally conversion to "economic currency" (Manchanda et al., 2015).

The current study defines a presumed order in the actual online behavior in terms of increasing degree of engagement. Through the path to reach purchase, there are share, follow, and click in order of lowest to highest.

The weakest engagement behavior would be to "share" the information on the site when you see an image or information on Instagram and pass it on to friends who are connected together in the virtual network. When you share content in the commercial SNS, it is a one-time interaction with one item at a time. The one-time relationship with the brand is a short-term relationship.

However, if they are more interested in the content in the SNS, they will want to keep

long-term relationships with the brand by "following" the brand account. For the sellers who want to obtain new customers and build up engaged relationships with them for the first time, the transition from short-term to long-term commitment of customers by "following" will help reach the company's goal since some users among them may eventually become "purchasing" customers (Taylor et al., 2012).

Next level of commercial engagement might be to "click" the commercial website linked to the SNS(i.e., Instagram) with the intention of searching for more detail on the product introduced in the SNS, which shows a higher probability of purchasing the corresponding product. The next engaged behavior will be to "click" the shopping site linked to the profile page being reviewed. It shows that you have more interest and want more information outside the page of content you are currently consuming, which is a sign of a further engagement. The next stronger engagement behavior is to "follow." When you really like the image on the Instagram page, you want a constant relationship with the account and subscribe to the content provided from the account periodically and automatically, which is full engagement.

Finally, if the customer is the most engaged with the brand and product, she may consider buying the product while she explores information on the product in the website linked outside the commercial SNS. She may purchase the product from the website, which

shows the most engaged commercial behavior. The last and the highest engaged behavior is to "purchase." If you really love the product on the image in Instagram and want to own it you will click-through to the shopping site linked to the profile and buy the product right away.

In sum, "share" and "follow" are relational behaviors in that they are interpreted as short-term or long-term relationships with the brand, but "click" and "purchase" are economic behaviors that benefit the company by making money. Needs for communication are known and most are fulfilled by SNS activities(Manchanda et al., 2015)

Ⅲ. Hypotheses

One of the major needs for SNS use are known to be building or maintaining social relationships online such as friends, relatives, colleagues, and so on. They share their stories, news, information as well as feelings, opinions, and reviews with each other. Likewise, in Instagram, the priority goal is to share the content with existing friends as well as follow the pages in order to make new friends with the owner and subscribers of the page. They have the general purpose of gratification via SNS instead of the specific goal of buying from an economic merchant(Raacke & Bonds-Raacke, 2008). Even the brand pages they visit are expected to gratify them through the social benefit of bonding or bridging with each other online(Pittman & Reich, 2016). Therefore,

brand pages that have the ultimate goal of leading visitors to click their corporate website linked to the page and purchase products will not directly be achieved. Instead, the early stages of engagement with the brand such as recognition will be fulfilled, and the relationship can be sustained and continued to the next stages of engagement which will eventually end up with a purchase.

The need for communication is one of the most critical motives for SNS users since the interactivity of the Internet has expanded with SNS(Song & Zinkhan, 2008). Instagram, an image-based SNS, led people to interact with photos, picture or videos. People may hang out online with SNS content, where they may bond, bridge, and maintain their offline relationship online(Chi, 2011). The priority for them is connecting, socializing, and making or keeping in touch with friends. However, the social needs for SNS are less involved with economic behavior. Brand pages in SNS will be utilized as subjects they can use to talk to their friends and connect to like-minded people(Ackaradejruangsri, 2015). They will "share" the contents on the SNS with existing friends and will "follow" them to make new friends with the owner(i.e., brand owner) or subscribers of the page. While the lower engagement behavior in SNS may have less possibility to convert to online behavior of purchasing, which would not benefit the company that owns the brand and the page at the moment, they will at least put the first step to the brand engagement level(Brodie et al.,

2013; Hollebeek et al., 2014), such as brand immerse - feel - identify - act(Phillips & McQuarrie, 2010) or cognitive - emotional - behavioral(Brodie et al., 2011). According to customer engagement theories, those who have strong social needs in SNS will display lower engaged behavior since they will consume the contents in mainly emotional or cognitive evaluation and not act with clear economic purpose. Thus, we hypothesize H1 as follows:

> H1: Those who have needs to communicate in SNS will show lower level of engagement in their commercial online behavior such as "share" and "follow."

Entertainment needs for using SNS have been consistently revealed as the strongest motive to use SNS regardless of the SNS type, such as Facebook, Twitter, Snapchat and Instagram(Alhabash & Ma, 2017). People go online when they have time to relax and explore the content and can participate only for fun without a specific goal. Among various SNS platforms, Instagram users have the highest motive for entertainment(Krallman et al., 2016). The visual, audio, and video content encourages new users with strong inclination to enjoy(Kang et al., 2014).

The stronger the entertainment needs are, the more users participate and behavior is activated(Wang & Fesenmaier, 2004). For the purpose of electronic commerce, they react to enjoyable content without considering a

specific purchasing purpose. As they will have higher arousal and pleasure level to activate a certain behavior into action, it is highly possible to purchase products impulsively when the contents provided by sellers are exciting or stimulate their emotion. Impulsive purchase is one of the important purchase behaviors that frequently occurs. The needs to buy a certain goods is not always magnified but exists latent waiting to be stimulated to be actualized. When the entertainment needs are fulfilled with exciting and funny images, the needs to buy product which usually presides in their mind will be realized into behavior. Thus, they will more likely choose to "click" and "purchase" which is higher level of engagement behavior for a seller.

> H2: Those who have needs for entertainment in SNS will show higher level of engagement in their commercial online behavior such as "click" and "purchase."

Information seeking is another strong motive for using SNS(Flanagin & Metzger, 2001). Some users intentionally search for valuable information with a specific goal, others try to obtain knowledge without intention while they are willing to be entertained(Bloch et al., 1986), socialized, or self-fulfilled by SNS use(Sheldon & Bryant, 2016). Information needs also partly embed the social aspect of SNS use such as surveillance of others(McQuail et al., 1972), knowledge about

others(Whiting & Williams, 2013), or expressive information-sharing(Smock, 2011). People usually go to SNS to explore inspiration, creative ideas, new perspectives (Mull & Lee, 2014) in order to divert from their unresolved problems at hand, without expecting a certain clear answer(McQuail et al., 1972).

In Instagram, an image-based SNS, users will search for visual information close to their interests, such as clothes, jewelry, shoes, or food. That is why women participate more in Instagram than males (Business Post, 2017). It is easy and fast to upload photos to SNS and they are provided nearly real-time to users. In addition, photos and images need a very short amount of time and cognitive resources to process and understand what they are representing. It is simple to understand and easy to spread to others. That is why people today find out what others eat, wear and where they travel by searching on Instagram, and use it to search for specific information about where to go, what to eat, what to wear. Therefore, SNS with image-based content(i.e., Instagram) are much more powerful than text-based SNS(i.e., Facebook or Twitter) in terms of the amount and currency of information.

Hashtags are a central medium to lead people to use image-based SNS more and more. They are keywords saying what the image is about, apart from the image itself, but still they are very short and easy to scan to understand what the content is all about.

People want to consume larger amounts of information in a shorter amount of time and image-based SNS are fulfilling those needs for information. In addition, the evolution and wide use of smartphones caused image-based SNS to grow in popularity. Using a smartphone, everyone can take a picture, mostly selfies(Weiser, 2015) in real-time wherever and whenever they want. Even the quality of photos is getting better thanks to technological advances. People are enjoying the pictures they have taken and want to show them to others, resulting in an abundance of image information on SNS. Smartphones are used by information seekers every where.

Information needs for SNS are also related to entertainment needs in that consumers who are highly involved with a certain product go on to search for the related information for fun and hedonistic purposes even if they are not willing to directly buy the product at the present time(Bloch et al., 1986). The process itself is entertaining and enjoyable and visual-based SNS such as Instagram accelerate the affection. Information-seeking needs for buying products will be fulfiled with the affective experience of images on SNS and it will be consequent to more engaged behavior.

> H3: Those who have needs for information in SNS will show higher level of engagement in their commercial online behavior such as "click" and "purchase."

One noticeable motive for using Instagram as an SNS platform is self-assurance. Some interpret it as "narcissism"(Sheldon & Bryant, 2016) and others assert it as value reinforcement (McQuail et al., 1972). It is known that Instagram users have a basis in personal identity rather than social identity (Marcus, 2015). Relatively more users of Instagram post content related to self-promotion and start to connect to others by the self-revealing content, not by posts in existing community or comments on friends' interests. However, even the self-assurance needs are ultimately based on social purposes since they are eventually seen by others(Dominick, 1999).

Current research presumed users of SNS want to confirm their thoughts, opinions, or lifestyle by getting support from others and the self-assurance needs are oriented to the internal self rather than externally to others. Those who are more focused on identifying themselves will be less inclined to be involved actively in online behavior such as buying or visiting a seller's website to get more information about products. Instead they are satisfied with finding content that confirms who they are or what they like, using "follow" or "share," which show low engagement with a seller or brand, and will lead to relatively passive activity to convert to active behavior such as "click" or "purchase" that show high engagement with seller or brand. Thus, we hypothesized the relationship between self-assurance needs and online behavior as following:

H4: Those who have needs for self-assurance in SNS will show lower level of engagement in their commercial online behavior such as "share" and "follow."

Ⅳ. Method

Twelve images chosen from an existing Instagram account were provided to subjects as stimulants. The account was created and operated by a seller who sells lifestyle goods such as clothes, jewelry, or design items. It was opened in order to promote products they actually sell in their own webpage, outside an Instagram page, and the site URL was linked in the account profile, which was a business service that Instagram provided to allow sellers to o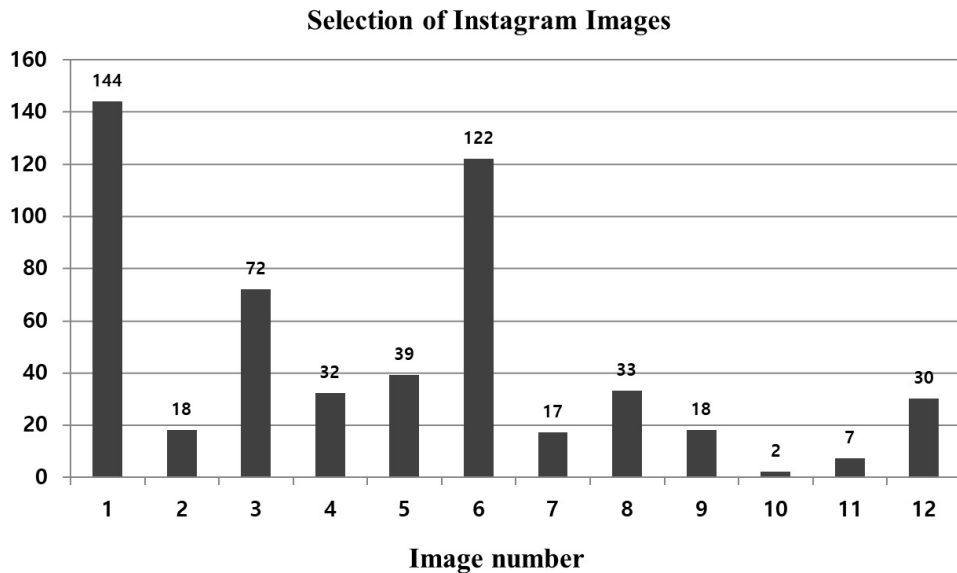fficially promote their products. The images (Appendix) were presented at the beginning of a survey and subjects were requested to choose one image they favor the most, followed by questionnaires asking the subject's need for using SNS and the behavior they intend to activate based on the chosen image. 534 subjects were recruited from a portal site named Daum, the second largest portal in Korea. The survey, constructed in Google docs, was distributed online and was answered with the seven-scale Likert scale.

Ⅴ. Data Analysis and Results

Most of the subjects were female, which present the similar proportional profile of Instagram users reported in various statistics. 61.24% of them were in their 20s and others were in their 30s. 34.83% of them were office

<Table 1> Means of Online Behavior by Image

Image number	Share	Follow	Click	Purchase	Means
1	3.00	3.51	3.74	3.11	3.34
2	3.33	4.17	3.17	3.28	3.49
3	3.14	3.63	3.64	3.08	3.37
4	3.41	3.50	3.53	2.94	3.34
5	3.49	4.23	4.21	3.26	3.79
6	3.28	3.54	3.71	3.20	3.43
7	2.71	3.76	3.82	3.00	3.32
8	3.39	3.18	2.70	2.33	2.90
9	2.72	2.72	2.94	2.67	2.76
10	3.50	1.50	4.50	3.00	3.13
11	2.00	3.00	2.71	1.86	2.39
12	4.03	4.43	4.47	3.87	4.20
Mean	3.17	3.43	3.56	2.97	–

Selection of Instagram Images

<Figure 1> Images selected by respondents

employees, 9.93% were employed in art/ sports/culture industry, 6.55% were college students, 6.37% worked in a service industry, 5.43% were educators, 4.87% were professionals such as lawyer, doctors, or pilots, and the rest had various jobs such as self-employed, housewives, etc. or had no jobs. The frequency of using Instagram was more than 10 times a day(83.89%), more than 3 times a day(36.89%), about once a day (12.92%). Duration of a visit was less than 5 minutes(51.50%), less than 10 minutes (36.14%), or less than 30 minutes(10.67%). The most selected image was chosen by 144 (26.97%) respondents and the second most selected image was chosen by 122(22.85%) of them and others were chosen by 72 to 2(Figure 1). The means of four behaviors with different levels of engagement are presented in Table 1.

5.1. Measurement Model Validation

Our hypothesized model was tested using SmartPLS Version 3.2.1(Ringle et al., 2015). Before we examined the structural model, the measurement model needed to be explored to determine convergent validity, discriminant validity,and multicollinearity. The statistics reported in Table 2-4 suggest that all are acceptable.

5.1.1. Convergent and Discriminant Validity

To confirm convergent validity, all items in corresponding constructs need to show significant and high correlations among them (Straub et al., 2015). Using PLS, bootstrapping was implemented to examine the outer

<Table 2> Outer Loadings and t-statistics

Construct	Item	Outer Loading	t-statistic
Communication	Comm1	0.689	11.702
	Comm2	0.783	19.561
	Comm3	0.747	13.758
Entertainment	Ent1	0.819	7.342
	Ent2	0.844	8.899
	Ent3	0.896	13.032
Information	inf1	0.777	21.42
	Inf2	0.845	29.709
	Inf3	0.865	39.047
Self-Assurance	Self1	0.834	22.041
	Self2	0.918	47.642
	Self3	0.888	29.807

<Table 3> Discriminant Validity

	Cronbach's Alpha	rho_A	CR	AVE	comm	ent	inf	self
comm	0.590	0.593	0.784	0.549	0.741	–	–	–
entertainment	0.823	0.904	0.889	0.729	0.271	0.854	–	–
information	0.773	0.772	0.869	0.689	0.437	0.263	0.830	–
self	0.856	0.864	0.912	0.776	0.436	0.299	0.305	0.881

Note: The leading diagonal shows the squared root of the AVE of each construct

<Table 4> Multicollinearity

Construct	Item	VIF
Communication	Comm1	1.196
	Comm2	1.301
	Comm3	1.154
Entertainment	Ent1	2.009
	Ent2	1.895
	Ent3	1.721
Information	Inf1	1.339
	Inf2	1.916
	Inf3	2.044
Self-Assurance	Self1	1.843
	Self2	3.281
	Self3	2.514

<Table 5> Structural Model Testing and Path Coefficients

Hypothesis	Path	Path Coefficient	T-Statistics
H1	comm -> click	0.146**	2.829
	comm -> follow	0.222***	4.344
	comm -> purchase	0.112*	2.147
	comm -> share	0.116*	2.077
H2	entertainment -> click	0.005	0.119
	entertainment -> follow	0.025	0.498
	entertainment -> purchase	0.027	0.649
	entertainment -> share	0.036	0.733
H3	information -> click	0.179***	3.658
	information -> follow	0.078*	1.537
	information -> purchase	0.196***	3.981
	information -> share	0.066+	1.285
H4	self -> click	−0.006	0.114
	self -> follow	0.006	0.107
	self -> purchase	0.001	0.01
	self -> share	0.043	0.832

***: $p<.001$, **: $p<.01$, *: $p<.05$, +: $p<.1$

loadings and corresponding significance(Table 2) and validates convergent validity with all of the outer loadings above 0.7, which is known to be acceptable with significance(Hair et al. 2006), except one item of communication which was slightly below .7. Internal consistency reliability(ICR) scores were also well above the recommended level of 0.70. Average variance extracted(AVE) of at least 0.50 established a satisfactory level of internal reliability and acceptable discriminate validity where square root of AVE for each construct (diagonal of the in Table 3) was greater than the correlations of the construct to other constructs(off-diagonal in Table 3)(Chin, 1998 ; Gefen & Straub, 2005). "The Cronbach's

Alpha lower than 0.7 is supplemented by the fact that CR is greater than 0.7 and all the squared root of AVEs are greater than construct correlation values."

5.1.2. Multicollinearity

We also validated for multicollinearity to see if the predictors in our model are highly correlated with each other. Detailed results for testing multicollinearity are provided in Table 4 with the Variance Inflation Factors(VIF). It is suggested that the VIF be below 10(Hair et al. 2006 ; Neter et al. 1996) in order to assure that there is no severe multicollinearity in a model(Larose, 2015). VIF values for the items

for this study are given in Table 4 and all of the VIFs are below 2.1, which suggest that multicollinearity is not an issue in our mode l.

5.2 Hypotheses testing with Structural Model

Table 4 shows the results of the structural models to validate our hypothesized model. We found H1 is significant in that the effects of communication need for using image-based SNS is increasing the lower engaged behaviors of "share"(0.116, p<.05) and "follow"(0.222, p<.001). Contrary to the assertion in Hypothesis 3, the need for entertainment when using Instagram is not significant to increase the intention to "click" and "purchase." In addition, consistent with the proposed research model, we found that information-seeking needs for using Instagram exerted significant influence on high engagement behaviors of "click"(0.179, p<.001) and "purchase"(0.196, p<.001) such that hypothesis 2 was validated. Finally, Hypothesis 4 was not validated with significance where needs for self-assurance have no impact on low engagement behavior of "share" and "follow." In sum, hypotheses 1 and 3 were fully supported but hypotheses 2 and 4 were not supported.

Our findings also indicated that the communication and information-seeking needs did not only increase the intention to click and purchase but also increased low engagement behavior of share and follow. It is assumed that the two needs are intrinsically related to external behavior such as interaction with others or searching information in preparation for certain action. On the contrary, the other needs such as entertainment or self-assurance had no significant impact on low engagement behavior or high engagement behaviors. It can be interpreted that the latter needs are so internally-oriented that they are weak to generate actual behaviors, whether they are high-engagement or low.

Ⅵ. Discussion

Those who want to communicate, share, interact, and socialize with others will visit an SNS platform to explore contents and use it to show to others. The main goal for users is to share the interesting content with friends and the process of exploring the SNS guides them to the goal. They determine what type of action to implement after they find interesting content worth sharing with others and they achieve the goal by implementing the action. The actions primarily involve sharing the content with others and usually the journey of exploring a certain page will be completed with behavior, such as sharing, which accomplishes the communication goal. When the SNS page they visit happens to be a commercial account where content is provided to sell goods, promote, inform about events, or marketing, clicking and purchasing goods will lead them to provide more profound and interesting information to share with others. This could

include detailed information on products, and lead to the process of purchasing, which is completed through the SNS. The reason why those with communication needs click sellers' websites to get more information or purchase from the websites is explained.

Information-seeking needs are the most feasible to convert to commercial behavior on SNS. Most consumers these days search for product information on the Internet before they actually buy a product. They explore reviews, specifications, prices, compare products on larger sites on the Internet and they search for information on SNS sites such as Facebook, Twitter or Instagram. Word-of-mouth is prevalent in SNS and reviews from like-minded others are very personal, real, and trustworthy. Information seeking needs are not always intended to search for product information. However, if the seller account is encountered when they search for information, it is highly probable they will end up visiting the linked seller website, or ultimately purchase the product.

As opposed to the hypotheses of low engagement behaviors of share and follow, those who have entertainment and self-assurance motives to use SNS had significant intention neither of low nor high engagement behaviors. The reason why they do not activate any behavior online can be explained by the internal orientation of the motives. Entertaining oneself or reaffirming one's identity on SNS are all fulfilled by lurking the content. Most of SNS users view

content online to find what allows them to relax during rest time or find content that confirms their opinion, style, and knowledge that help form their identity. Only if the internally oriented goals are satisfied will they end the search session with no behavior implemented. When they visit a commercial account on purpose or by accident, if their original need to visit the SNS is to satisfy their internal needs by lurking, they have little intention to engage in commercial behavior of buying products.

Ⅶ. Conclusion

The academic implication of the current results is that needs for using SNS are theoretically and empirically validated. The relationship between needs and commercial behavior online is explored and it confirms that needs can predict the commercial behavior on SNS. And the relationship can be explained with engagement to seller or brand. The different needs generate different levels of engagement to the brand that the account owner provides, and that is translated to different behaviors with the same content about products or brand.

The implications these results can provide in practice are to recognize the needs of SNS users first and design the marketing strategy on their SNS page in order to convert large number of the visitors to actual buyers. They can make marketing plans to facilitate more

communication with friends, or to get out word-of-mouth type information on products on the SNS account. Or they can recognize the needs of visitors to the SNS account from short surveys and provide them customized content that satisfies their needs the most.

Context changes the needs. Needs are not supposed to be fixed to only one. While a user may have a predominant need to explore SNS, it is natural to believe that needs are composed of multiple needs with different priority and proportion. The priority may be changed at the time SNS users start an exploration session. When they are prepared to buy a certain product, the highest priority need will be searching for information or when they are planning to relax, they will passively consume fun content without implementing actual behavior. The proposition may not be consistent all the time. Based on the context and mood, users would change what type of needs are greater than others among the combination of multiple needs. They can be changed even at the time they choose certain types of Internet sites such as portal, media, company-owned, or SNS. Sellers on SNS like Instagram should understand the states of users' needs and how they change based on the current moment they visit the SNS page.

References

Ackaradejruangsri, P. (2015). Know Me, Like Me, Follow Me, Engage Me, Buy Me: The Growing Marketplace for New Business Ventures in Thailand. *Academy of Marketing Studies Journal*, 19(3), 33.

Alhabash, S., & Ma, M. (2017). A Tale of Four Platforms: Motivations and Uses of Facebook, Twitter, Instagram, and Snapchat Among College Students?. *Social Media+ Society*, 3(1), 1-13.

Bateman, P. J., Gray, P. H., & Butler, B. S. (2011). Research Note－The Impact of Community Commitment on Participation in Online Communities. *Information Systems Research*, 22(4), 841-854.

Bloch, P. H., Sherrell, D. L., & Ridgway, N. M. (1986). Consumer Search: An Extended Framework. *Journal of Consumer Research*, 13(1), 119-126.

Brodie, R. J., Hollebeek, L. D., Jurić, B., & Ilić, A. (2011). Customer Engagement: Conceptual Domain, Fundamental Propositions, and Implications for Research. *Journal of Service Research*, 14(3), 252-271.

Brodie, R. J., Ilic, A., Juric, B., & Hollebeek, L. (2013). Consumer Engagement in A Virtual Brand Community: An Exploratory Analysis. *Journal of Business Research*, 66(1), 105-114.

Celebrating a Community of 25 Million Businesses. (2017.11.30). Instagram Info Center, Retrieved from https://instagram-press.com/blog/2017/11/30/celebrating-a-community-of-25-million-businesses/.

Celebrating a Community of 400 Million. (2015.09.22). Instagram Info center,

Retrieved from https://instagram-press.com/kr/blog/2015/09/22/celebrating-a-community-of-400-million/.

Chi, H. H. (2011). Interactive Digital Advertising vs. Virtual Brand Community: Exploratory Study of User Motivation and Social Media Marketing Responses in Taiwan. *Journal of Interactive Advertising*, 2011, 12(1), 44-61.

Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modeling. *Modern Methods for Business Research*, 295(2), 295-336.

Distribution of Instagram users in the United States as of July 2019, by age group. (2019.08.21). Statista, Retrieved from https://www.statista.com/statistics/279821/share-of-us-cell-phone-users-who-use-instagram-by-age/.

Distribution of Instagram users worldwide as of July 2019, by age group. (2019.08.09). Statista, Retrieved from https://www.statista.com/statistics/325587/instagram-global-age-group/.

Dominick, J. R. (1999). Who Do You Think You Are? Personal Home Pages and Self-Presentation on The World Wide Web. *Journalism & Mass Communication Quarterly,* 76(4), 646-658.

Ferguson, D. A., & Perse, E. M. (2000). The World Wide Web as a Functional Alternative to Television. *Journal of Broadcasting & Electronic Media*, 44(2), 155-174.

Flanagin, A. J., & Metzger, M. J. (2000). Perceptions of Internet Information Credibility. *Journalism & Mass Communication Quarterly*, 77(3), 515-540.

Flanagin, A. J., & Metzger, M. J (2001). Internet Use in The Contemporary Media Environment. *Human Communication Research*, 27(1), 153-181.

Gefen, D., & Straub, D. (2005). A Practical Guide to Factorial Validity Using PLS-Graph: Tutorial and Annotated Example. *Communications of the Association for Information systems*, 16(1), 5.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate Data Analysis (Vol. 6).* In Upper Saddle River, NJ: Pearson Prentice Hall.

Hollebeek, L. D., Glynn, M. S., & Brodie, R. J. (2014). Consumer Brand Engagement in Social Media: Conceptualization, Scale Development and Validation. *Journal of Interactive Marketing*, 28(2), 149-165.

Instagram grows in Korea. (2017.07.10.). Business Post, Retrieved from http://www.businesspost.co.kr/BP?command=naver&num=53517.

Instagram Today: 500 Million Windows to the World. (2016.06.21). Instagram Info center, Retrieved from https://instagram-press.com/kr/blog/2016/06/21/instagram-today-500-million-windo

ws-to-the-world/.

John, L. K., Emrich, O., Gupta, S., & Norton, M. I. (2017). Does "Liking" Lead to Loving? The Impact of Joining a Brand's Social Network on Marketing Outcomes. *Journal of Marketing Research*, 54(1), 144-155.

Kang, J.; Tang, L.; & Fiore, A. M. (2014). Enhancing Consumer‐Brand Relationships on Restaurant Facebook Fan Pages: Maximizing Consumer Benefits and Increasing Active Participation. *International Journal of Hospitality Management*, 36, 145-155.

Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and Gratifications research. *The public opinion quarterly*, 37(4), 509-523.

Krallman, A., Pelletier, M. J., & Adams, F. G. (2016). @ Size vs. # Impact: Social Media Engagement Differences Amongst Facebook, Twitter, and Instagram. In *Celebrating America's Pastimes: Baseball, Hot Dogs, Apple Pie and Marketing?*, 557-561.

Larose, D. T. (2015). Data Mining and Predictive Analytics. John Wiley & Sons.

Lee, D., Hosanagar, K., & Nair, H. S. (2018). Advertising Content and Consumer Engagement on Social Media: Evidence from Facebook. *Management Science*, 64,(11), 5105-5131.

Manchanda, P.; Packard, G., & Pattabhiramaiah, A. (2015). Social Dollars: The Economic Impact of Customer Participation in a Firm-Sponsored Online Customer Community. *Marketing Science,* 34 (3), 367-387.

Marcus, G. (2015). Mystery Train: Images of America in Rock'n'Roll Music, Penguin.

McQuail, D., Blumler, J. G., & Brown, J. R, (1972). The Television Audience: A Revised Perspective. *Media Studies: A Reader*, 271, 284.

McQuail, D., Blumler, J. G., & Brown, J. R. (1972). The Television Audience: A Revised Perspective. In D. McQuail (Ed.), *Sociology of Mass Communication*. Middlesex, England: Penguin. 135-165

Mobile messaging and social media 2015. (2015.08.17). Pew Research Center, Retrieved from http://www.pewinternet.org/2015/08/19/mobile-messaging-and-social-media-2015/2015-08-19_social-media-update_09/.

Mull, I. R., & Lee, S.-E. (2014). "PIN" Pointing The Motivational Dimensions Behind Pinterest. *Computers in Human Behavior*, 33, 192-200.

Neter, J., Kutner, M. H., Nachtsheim, C. J., & Wasserman, W. (1996). *Applied Linear Statistical Models (Vol. 4)*, Chicago: Irwin, 318.

Niu, E. (2017.10.03). Facebook's Instagram Is Turning Into an E-Commerce Platform. The Motley Fool, Retrieved from https://www.fool.com/investing/2017/10/03/facebooks-instagram-is-turning-into-an-e-commerce.aspx.

Number of monthly active Instagram users from January 2013 to June 2018 (in millions). (2019.09.02). Statista, Retrieved from https://www.statista.com/statistics/253577/number-of-monthly-active-instagram-users/.

Osman, M. (2018.02.12). 18 Instagram Stats Every Marketer Should Know for 2018, Sprout Social, Retrieved from https://sproutsocial.com/insights/instagram-stats/.

Phillips, B. J., & McQuarrie, E. F. (2010). Narrative and Persuasion in Fashion Advertising. *Journal of Consumer Research*, 37(3), 368-392.

Pittman, M., & Reich, B. (2016). Social Media and Loneliness: Why an Instagram Picture May Be Worth More Than a Thousand Twitter Words. *Computers in Human Behavior*, 62, 155-167.

Raacke, J., & Bonds-Raacke, J. (2008). MySpace and Facebook: Applying the Uses and Gratifications Theory to Exploring Friend-Networking Sites. *Cyberpsychology & Behavior*, 11(2), 169-174.

Ringle, C. M., Wende, S., & Becker, J.-M. (2015). SmartPLS 3. Boenningstedt: SmartPLS GmbH.

Sheldon, P., & Bryant, K. (2016). Instagram: Motives for Its Use and Relationship to Narcissism and Contextual Age. *Computers in Human Behavior*, 58, 89-97.

Shopping Coming to Instagram. (2016.11.01). Instagram Business Blog, Retrieved from https://business.instagram.com/blog/shopping-on-instagram.

Smock, A. D., Ellison, N. B., Lampe, C., & Wohn, D. Y. (2011). Facebook as a Toolkit: A Uses and Gratification Approach To Unbundling Feature Use. *Computers in Human Behavior*, 27(6), 2322-2329.

Song, J. H., & Zinkhan, G. M. (2008). Determinants of Perceived Web Site Interactivity. *Journal of marketing*. 72(2), 99-113.

Stelzner, M. A. (2014). How marketers are using social media to grow their businesses. *Social Media Marketing Industry Report 2014*.

Straub, D., Boudreau, M. C., & Gefen, D. (2004). Validation Guidelines for IS Positivist Research. *Communications of the Association for Information Systems*, 13(1), 24.

Taylor, D. G., Strutton, D., & Thompson, K. (2012), Self-Enhancement as a Motivation for Sharing Online Advertising. *Journal of Interactive Advertising*, 12(2), 13-28.

Van den Hooff, B., & de Leeuw van Weenen, F. (2004). Committed to Share: Commitment and CMC Use as Antecedents of Knowledge Sharing. *Knowledge and Process Management*, 11(1), 13-24.

Wagner, K. (2015.01.09). Instagram is the fastest growing major social network.

Recode, Retrieved from https://www.vox.com/2015/1/9/11557626/ instagram-is-the-fastest-growing-major-social-network.

Wang, Y., & Fesenmaier, D. R. (2004). Modeling Participation in An Online Travel Community. *Journal of Travel Research*, 42(3), 261-270.

Weise, S. (2015.10.01). Instagram's potential for brands. We Are Social, Retrieved from http://wearesocial.net/blog/2015/10/instagrams-potential-brands/.

Weiser, E. B. (2015). # Me: Narcissism and Its Facets as Predictors of Selfie-Posting Frequency. *Personality and Individual Differences*, 86, 477-481.

Whiting, A., & Williams, D. (2013). Why People Use Social Media: A Uses and Gratifications Approach. *Qualitative Market Research: An International Journal*, 16(4), 362-369.

Wu, J. H., Wang, S. C., & Tsai, H. H. (2010). Falling in love with online games: The uses and gratifications perspective. *Computers in Human Behavior*, 26(6), 1862-1871.

Seungyong Lee, (2017.07.10.). The Growth of Instagram in Korea Boomed by Women Users, Retrieved from http://www.businesspost.co.kr/BP?command=naver&num=53517.

Appendix I. Instagram images

Appencix II.

Communication needs

1. To make new friends

2. To meet people with the same interest

3. To keep in touch with friends

4. To make relationship with people who we rarely meet

5. To know others' interest and issues

6. To see celebrities' daily lives and news

Entertainment needs

1. To play with quiz or event

2. To use when time is available

3. To make use of rest time

4. To have fun and enjoy

Information needs

1. To know current news and issues

2. To learn knowledge about interest area

3. To search for information on study and work

4. To have information necessary in daily life

5. To look for information by mobile device whenever and wherever

Self-assurance needs

1. To express myself with picture and message

2. To see how others respond to my messages

3. To share my knowledge and information

4. To promote myself and express my image and style

5. To manage my brand and image

Behavioral intention

I intend to share images in Instagram page

I intend to follow Instagram page

I intend to click the website linked to Instagram page

I intend to purchase products introduced in website linked to Instagram page