



Print ISSN: 1738-3110 / Online ISSN 2093-7717

JDS website: <http://www.jds.or.kr/><http://dx.doi.org/10.15722/Postprint>

The Effect of Short-form Content Consumption Values on Consumer Participation Behavior and Consideration Set in SNS Channels

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Received: August 07, 2023. Revised: February 10, 2024. Accepted: xxxx, 2024

Abstract

Purpose: This study examines short-platform content that is becoming more popular on social media. This study investigates the relationship between short-form content experience, consumer participation behavior, and consideration set. Furthermore, the mediating effect on empathy factors was confirmed during consumers' experience with short-form content. **Data and methodology:** Prior studies were reviewed, and hypotheses were developed. Consumers who had watched and shared short-form content within the previous three months were targeted to achieve the study's goal. A structured questionnaire was used to conduct the survey. **Results:** First, users of short-platform content with practical, playful, and emotional value did not confirm a positive effect on consumer participation behavior. However, short-form content with social value positively impacted consumer participation behavior. Second, consumer participation in short-form content was confirmed to positively affect the consideration set. Third, in terms of the mediating effect of empathy factors, short-platform content with practical, social, and emotional values partially mediates consumer participation behavior, whereas short-platform content with playfulness value completely mediates consumer participation behavior. **Conclusions:** The results of this study have academic and practical implications for the recent marketing field. In particular, research has been conducted in the field of digital marketing, which has recently changed rapidly.

Keywords : Short-form Content, Consumption Values, Consumer Participation Behavior, Empathy, SNS.

JEL Classification Code : D12, M31, M39.

1. Introduction¹²

People's entertainment habits have changed dramatically due to the rise and rapid spread of mobile Internet technology. As a new media format based on the mobile Internet environment, short-form video applications that allow people to create, share, and view short videos are gaining great popularity worldwide (Wu, 2021). Individual users can easily create short-form videos on their phones, which can be instantly shared online with others on social media platforms, such as TikTok, Instagram, and YouTube. Short-form videos are typically between a few seconds and a few minutes in length, depending on the platform (Horner, 2022).

Another major reason for its popularity is that short-form videos are an effective tool for increasing marketing revenue. According to HubSpot's recent marketing trends report, short-form videos provide the best return on investment when compared to other social media marketing strategies (Safavinia, 2022). Other surveys revealed high conversion rates and continued investment in short-form video. In particular, more than nine-tenths of companies have used short-form video to acquire customers, and one in every two companies that have used short-form content is willing to increase their investment (Safavinia, 2022).

Other top platforms for producing short videos include YouTube "Shorts" and Instagram "Reels." YouTube "Shorts,"

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its first short-form video service, has recently begun to promote itself. Individuals can create and share their own video content of up to 60 seconds in length. Similarly, in response to TikTok's popularity, Instagram recently unveiled Instagram "Reels," a video feature that allows for videos of 15–30 seconds. Instagram's "Reels" feature is rapidly expanding, with over 1 billion monthly active users (Erlbaumvon der Osten, 2022).

According to eMarketer, in 2022, "27.3% of TikTok users say they purchase products through the platform. This means that 7 out of 10 TikTok shoppers worldwide, compared to just 5.7% in 2020, tend to buy when they find something interesting" (Lebow, 2022).

Globally, investment in social media advertising increased from \$17.74 billion in 2014 to \$58 billion in 2018 (eMarketer, 2015). Businesses invest in social media marketing to help them leverage customer engagement (van Asperen et al., 2018). Consumers can engage at different emotional, cognitive, and behavioral levels (Hollebeek, 2011). What is interesting in this study is consumer participation behavior. This is primarily due to using calls to action in social media marketing ads (Welf et al., 2018). Although purchases are the most common "call to action" in advertising, customer engagement as an expression of action extends beyond purchase and includes the experience of interacting with a brand that results in value co-creation (van Doorn et al., 2010). Engaged customers create joint value in the context of social media by freely expressing their opinions, seeking assistance, and providing feedback to brands or fellow customers (Hsieh & Chang, 2016). Although social media marketing is becoming more popular, many businesses are struggling to capitalize on the opportunities it provides to create highly engaged customers (Kunz et al., 2017). Approaches to creative message content to optimize customer engagement generally agreed that social media content can facilitate consumer engagement behavior (CEB), but evidence on the impact of different content types on CEB is lacking (Ashley & Tuten, 2015).

Despite its increasing popularity and advantages, research into short-form content advertising is still in its early stages. Previous research has primarily focused on factors influencing user participation and addiction to short-form content applications. For example, Rubenking (2019) reported that a strong emotional, arousal response experience would increase a user's intention to share an online video. Hu et al. (2016) found that self-interpretation and community interaction positively affected user participation in video-sharing communities. Satisfaction, narcissism, and personal characteristics have been found to significantly influence customer engagement, including contribution, enhancement, and creation (Fei et al., 2021). Zhang et al. (2019) argued that the excessive use of short-form content applications has reduced interpersonal attachment, (e.g., anxiety and social

isolation of interactions) and site attachment (e.g., entertainment and personalization) have a positive effect on addiction to short-form content applications. Tian et al. (2022) found that users' perceived pleasure and feelings of withdrawal were related to addiction.

Big data, which is becoming more widely available, offers opportunities to address this issue. Big data includes both non-textual data (e.g., voice, images, and videos) and textual data (e.g., comments and posts) generated by sellers and consumers via social media (Liu et al., 2021). The application of unstructured data can extend previous studies by analyzing the various types of activities of sellers and consumers and address the survey data issue (Liu et al., 2021).

Furthermore, research on branding has shown a link between signals and brand loyalty (Park & Jiang, 2020). In addition to the aforementioned marketing-oriented consumer research, advertising research has been shown to signal detailed, numerical, and suggestive information (Atkinson & Rosenthal, 2014). Furthermore, repeating a signal affects the audience (Kirman, 1997).

More convincing and systematic results were obtained by examining in advance the uses and gratifications theory, signaling theory, and empathy, which are the theoretical foundations of this study.

To close the literature gap, we would like to study whether short-form content advertisements designed as consumption values signal on short-form content platforms are an effective way to attract users' voluntary consumer participation behavior and target brand to enter the set of considerations. In this context, we attempted to confirm the relationship between short-form content designed as a consumption-value signal, consumer participation behavior, and entry variables into the consideration set. In this process, we want to verify whether the influence of short-form content designed as a consumption-value signal on consumer participation behavior is mediated by empathy.

Using short-form content has been increasing recently along with the increase in the SNS channel; hence, it is believed that systematic and in-depth research on short-form contents will be of academic and practical value.

2. Literature Review & Development of Hypothesis

2.1. Short-form Content

Short-form content has emerged in social media, particularly with the sophisticated and dynamic Web 2.0. Short videos are videos that run in seconds or minutes, and this feature has also become a popular platform for sharing short videos by allowing users to share and exchange

different types of media online (Zhang, 2020).

Short-form videos have recently gained traction, quickly establishing a strong global consumer base across multiple platforms. The short length of these videos (a few seconds to a few minutes) provides convenience for consumption. In addition, the fact that users can easily create videos, known as user-generated contents, is the most significant achievement and advantage of Web 2.0. TikTok, Instagram “Reels,” Facebook, Snapchat, YouTube “Shorts,” Pinterest, and LinkedIn are all popular platforms to watch and create short videos (Zhang et al., 2019).

Marketers increasingly use short-form content to actively engage customers and create effective communications (Gao & Zhang, 2021). Short-form video apps are designed to be immersive and convenient, and reports worldwide show that people continue to watch videos on their smartphones. This is primarily due to the convenience of mobile phones, which allow access to content at any time and from any location (Statistica, 2022). The convenience of smartphones has increased internet use, ultimately leading to short-form video consumers (Huang et al., 2022).

The majority of the above-mentioned short-form content platforms are thought to have originated in the United States. In 2012, the application “Vine” was released, which was the first platform to allow users to create and share 6-second looping videos. Due to fierce competition, revenue generation issues, and content production issues, it was forced to officially close in 2017 (Viktor, 2022).

Meanwhile, Musical.ly is widely regarded as a pioneer in the lip sync app market. In 2017, the app was acquired by ByteDance Ltd. and rebranded as TikTok (Savic, 2021). TikTok, also known as “Douyin” in China, provides its users with a powerful and accurate content recommendation system (Marin, 2022). Businesses, marketers, influencers, and content creators have all benefited from these short-form video apps (Sharma et al., 2021).

Short-form content fills users’ divided time and serves as a two-way information delivery channel. Users reprocess information while commenting, forwarding, and replaying to improve the user experience and increase user loyalty. Compared with long videos, short-form videos do not require a good deal of equipment, have low threshold, have low equipment operation requirements, are relatively complete, and have the advantages of low cost and simple operation. Furthermore, as information technology advances, each short-form content platform accurately finds user needs using its own algorithm, understands user psychology, provides desired content, meets user needs, and develops individual marketing methods for each individual, and it can be formulated. Short-form content delivery is quick and efficient, with the potential for fission-like growth. Simultaneously, through digital means, businesses can obtain consumer feedback on the short-form content platform and

quickly adjust and target communication and marketing strategies (Liu, 2021).

2.2. Uses and Gratifications Theory & Signaling Theory

Uses and gratification (U&G) theory emerged in the 1940s as a reaction to traditional mass communication research, which emphasized the use of media to meet users’ diverse needs and desires, derived from the individual’s social environment and acting as a motivation for media use (Katz et al., 1974). It is also one of the most influential media theories. The three main goals of U&G theory are to explain the social and psychological motivations that shape people’s media use (Katz et al., 1974). To describe how people use media to meet their needs, to comprehend the motivations for media use, and to identify the motivations for needs and the consequences of media use (Katz et al., 1973). In U&G theory, several key assumptions must be made. Users are active and goal-oriented, taking the initiative to select and use communication tools to meet their needs; users recognize their individual needs and seek appropriate media forms to meet them; and users choose media types based on their ability to meet their needs (Katz et al., 1973). By exploring users’ various motivations for media use, these assumptions demonstrate that U&G theory can provide a comprehensive research framework for studying customers’ motivations and behaviors from the consumer’s point of view.

Spence (1973) proposed signaling theory to explain the dynamics of the labor market, in which employers have limited information about job seekers but must make informed hiring decisions. Spence (1973) compared employment to purchasing a lottery ticket, with the jackpot being determined by a candidate whose productivity once employed exceeds the resources and wages invested during his tenure. Employers used personal data from observable characteristics and attributes to make informed decisions. Spence (1973) discovered these indices by distinguishing immutable characteristics, such as race and gender, that job seekers cannot change. Signaling occurs in situations where there is an information divide and one party sends what it believes is the best signal and the other party best interprets the signal to reduce information asymmetry and maximize outcomes (Connelly et al., 2011). Many scholars have applied signaling theory to a wide range of topics and disciplines, with no regard for field or approach. Signal transduction occurs and has an effect, according to previous research. Consumer behavior studies, for example, have revealed that buyers rely on seller signals to make informed purchase decisions because information about product quality that cannot be observed is limited or incomplete (Kirmani & Rao, 2000). The sharing aspect of signaling and social media engagement is relevant to SMEs, and it refers to various ways

of reacting to content that people create online, post on contents, share, comment on, retweet, press the likes, vote, and tag content (Kietzmann et al., 2011). SME is responding to content by “liking,” and research shows that this affects reliability signals. People are more likely to believe a Facebook post with many such reactions than a post with few such reactions (Han, 2021).

2.3. Motivation and Consumption Value of Short-form Contents

Motivation to watch short-form content can be approached using motivation to watch social network service (SNS) platforms, and most of these studies can be approached using Katz’s “Uses & Gratifications Theory” which states that SNS users select specific platforms based on their needs. According to the theory of uses and gratifications, it is meaningful to consider SNS platform viewing as the platform user’s media experience itself (Lee & Kwahk, 2018). Furthermore, SNS platform users have the goal of self-directed use and select the best platform for this purpose, as well as a sense of satisfaction (Katz et al., 1973).

Sarkar (2011) stated, “The pragmatic viewpoint assumes that buyers are logical problem solvers.” In this regard, perceived usefulness, perceived ease of use, price, and personal data security have traditionally been considered pragmatic factors (Childers et al., 2001). Similarly, Babin et al. (1994) stated that efficiency and achieving specific goals in the shopping process are related to the pragmatic viewpoint. Being practical entails completing various tasks as quickly and easily as possible. Practical attributes are those that address consumers’ perceptions of the usefulness and function of an object (Batra & Ahtola, 1991). Pragmatic characteristics are goal-oriented and imply efficient and rational decision making (Batra & Ahtola, 1991).

Holbrook and Hirschman (1982) stated that the hedonic perspective “relates to the multisensory, illusory, and affective aspects of product use.” The hedonic motive is generally related to pleasure derived from desire, entertainment, and experience (Ozen & Kodaz, 2012), other authors have pointed out that consumers tend to express positive behavioral intentions, such as continued use, when they perceive a high level of hedonic value in their consumption experience (Chiu et al., 2014). Perceived pleasure, traditionally regarded as a major hedonic variable, has been integrated and expanded in several studies (Van der Heijden, 2004). According to Drumwright and Kim (2016), perceived enjoyment is an intrinsic motivation that reflects pleasure and joy associated with system use, and perceived enjoyment has frequently been identified as a factor influencing the adoption and acceptance of mobile information systems and services (Hew et al., 2018).

Another option is the perceived utility gained from

belonging to one or more specific social groups. Alternatives acquire social values through association with stereotyped demographic, socioeconomic, and cultural-ethnic groups, and social values are measured in the profile of the chosen image. Hyman (1942) pioneered research on reference groups, arguing that group affiliation influences an individual’s behavior.

Affective values refer to the perceived utility derived from an alternative’s ability to elicit feelings or affective states. Alternatives gain affective values when associated with, promoting, or perpetuating specific emotions. Dichter’s (1947) motivation research was instrumental in advancing the view that non-cognitive, unconscious motivations can govern consumer choices. Studies on advertising and atmosphere, marketing and promotional mixed variables elicit affective reactions that can be generalized to marketing products (Martineau, 1958).

2.4. Consumer Participation Behavior for Short-form Content

According to Eigenraam et al. (2018), digital customer engagement is a consumer’s online behavioral expression of brand engagement that extends beyond purchase. Consumer social media behaviors like browsing, liking, sharing, and commenting can be viewed as behavioral manifestations of customer brand engagement. As it increases consumer loyalty and influences brand performance, digital customer engagement is becoming more important as a source of brand value. According to a recent study, digital customer engagement is a key performance indicator for evaluating a brand’s social media strategy and has thus sparked much interest in various research fields (McShane et al., 2021).

User engagement, according to the existing literature, is a complex concept with cognitive, emotional, and behavioral dimensions (Voorveld et al., 2018). Brodie et al. (2011) define user participation as “a psychological state arising from various experiences.” Subsequently, Cheung et al. (2021) defined user engagement as “customer’s voluntary participation in interacting with a brand” focusing on specific levels of cognitive, emotional, and behavioral dimensions that occur in consumer-brand interactions. User engagement, which manifests as “motivated non-transactional behavior,” reflects the consumer’s motivational state (van Doorn et al., 2010).

In terms of operational aspects, digital customer engagement is viewed as a continuum of brand-related activities ranging from high to low and representing varying levels (Muntinga et al., 2011). Previous research has found that observable brand social media behavior has an impact on digital customer engagement and that measurement metrics such as likes, comments, and shares can represent different levels of engagement (Ji et al., 2019).

The following hypotheses are established based on the preceding studies and discussions:

H1: Consumption-value signal's short-form content positively affects consumer participation behavior.

H1a: The short-form content of the utilitarian values signal positively affects consumer participation behavior.

H1b: The hedonic values signal's short-form content positively affects consumer participation behavior.

H1c: The social values signal's short-form content positively affects consumer participation behavior.

H1d: The affective values signal's short-form content positively affects consumer participation behavior.

2.5. Empathy

The ability to understand how another person feels in a given situation is referred to as empathy. We can experience fuller empathy “when see through the other person’s eyes.” Empathy is classified into cognitive empathy and emotional (or affective) empathy (Gladstein, 1983). The first type of empathy is cognitive empathy, which is defined as an intellectual understanding of another person’s feelings and mental state while remaining an objective observer (Ventura et al., 2020). That is, the observer understands the other person’s motives and reactions but is unaffected by the other person’s feelings. Emotional empathy, on the other hand, is the ability to share the emotions of others while also matching one’s own emotional reactions to the emotions of others. According to Duan and Hill (1996), the literature’s confusion can be reduced by distinguishing between cognitive empathy (taking another person’s point of view) and emotional empathy (understanding and potentially feeling the same emotions as another person). Cognitive empathy is associated with the theory of mind, whereas affective empathy is associated with emotional experiences elicited by affective stimuli (Cuff et al., 2016). This classification is defined as “an intellectual or imaginative apprehension of another person’s state or state of mind without actually experiencing that person’s emotions” (Lamont & Lundstrom, 1977) or “the ability to feel like another person” (Mayer & Greenberg, 1964). It is useful to think of empathy as a human ability or skill to understand what another person is going through. According to Davis (1990), when empathy is a “crossover” process, a person finds themselves very closely connected or aligned with another person in a moment of shared meaning. In other words, empathy in this context is a cognitive process that takes perspective.

The following hypotheses are established based on the preceding studies and discussions.

H2: Empathy mediates the relationship between consumption value signal's short-form content and consumer

participation behavior.

H2a: Empathy mediates the relationship between the utilitarian value signal's short-form content and consumer participation behavior.

H2b: Empathy mediates the relationship between the hedonic value signal's short-form content and consumer participation behavior.

H2c: Empathy mediates the relationship between the social value signal's short-form content and consumer participation behavior.

H2d: Empathy mediates the relationship between the affective value signal's short-form content and consumer participation behavior.

2.6. Consideration Set

A consideration set is a brand portfolio within a product range that customers consider when purchasing a specific product (Campbell, 1969). A consideration set significantly impacts the information processing of consumers’ purchase decision making. According to information processing theory or perception theory, consumers are bombarded with information. However, it was perceived selectively rather than equally weighted on all information exposed due to the limitations of the consumer's own information processing ability and the economic distribution of information retrieval efforts (Kim, 1990). Therefore, although information on numerous products reaches and is delivered to consumers, consumers systematize, transform, and process information according to their own circumstances. In the consumer market where products are produced, consumers want to simplify their purchase decision making so that relatively profitable products do not overlap, in light of the consumer's tendency to simplify the purchase decision-making process and the limitations of the information processing ability of consumers. Therefore, when consumers want to buy a specific product from a plethora of products, they do not consider all of the products they have been exposed to; rather, only a few products that the consumer recognizes within a product group that are judged to be the best for his or her current needs are considered.

According to many researchers in today’s consumer behavior research, when evaluating alternatives prior to purchase in the consumer purchasing decision-making process, consumers evaluate alternatives based on their own decision-making rules after forming their own consideration set for purchasing decisions, (Han & Kwak, 1997).

The following hypothesis are established based on the preceding studies and discussions.

H3: Consumer participation in short-form content positively affects consideration set entry.

3. Research Model and Methodology

3.1. Research Model

The model of this study is shown in Figure 1 below.

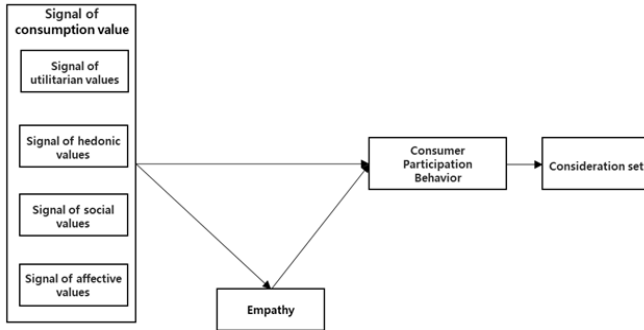


Figure 1: Research Model

3.2. Operational Definition and Measurement

In this study, the operational definition of variables was investigated by using the short-form content of utilitarian values signal, hedonic values signal, social values signal, and affective values signal as independent variables, empathy as a parameter, and entry into the consideration set as the type concept of short-form content. We referred to the variables of short-form content consumption values signal (utilitarian, hedonic, social, affective), empathy, consumer participation behavior, and consideration set. The variables of the components are the survey measurement items by each detailed item are modified to fit the contents of this study by referring to previous studies, and a total of 22 questionnaire items were measured using a Likert 5-point scale, with 1 point for “not at all” and 5 points for “very much.” The demographic factors were built on a nominal scale (Table 1).

Table 1 : Operational Definition of Variables

Constructs		Measured items	Reference
Consumption values Signal's	Utilitarian	To get useful information	Sheth et al.(1991) Sweeney & Soutar (2001)
		To get various information	
		To get new information	
		To get valuable information	
	Hedonic	To get new pleasure	
		To relieve stress	
		For a change of mood	
	Social	To form a bond with the group I belong to	
		For interaction with others within short-form content	
		I feel like I am leading the latest trends.	
the affective	I felt joy after watching the content.		

		I felt comfortable after watching the content.	
		I felt good after watching the content.	
Consumer participation behavior		I ever have shared other people's short-form content.	Xiao et al. (2023)
		I ever have tried participating in SNS activities such as uploading photos or videos of other people's short-form content, and hash tagging them.	
		I ever have reproduction information obtained from other people's short-form content and shared the experience.	
empathy		The content of the short-form content aroused sympathy for me.	Leiberg et al. (2006) Cuff et al.(2016)
		I felt that the content of the short-form content was similar to what I thought.	
		I felt that the content of the short-form content was similar to my feelings.	
the consideration set		I ever have considered purchasing products of the short form content that I shared.	Khan (2017) Meng & Leung (2021)
		I ever have considered purchasing products of short form content that participated in SNS such as uploading photos or videos and hash tagging.	
		I ever have considered purchasing products of short-form contents that have reproduced and shared the experience.	

3.3. Data collection and analysis methods

In order to verify the research hypothesis established based on previous research and literature data, the survey was conducted by requesting a survey company to select consumers who had experience watching short-form content within the past 3 months and had experience in consumer participation behavior. A total of 304 questionnaires were collected over 7 days from May 10, 2023 to May 17, 2023, and a total of 264 questionnaires were used in the final analysis, excluding 40 inappropriate responses.

3.4. Research

To verify the research hypothesis, the survey was conducted online via mobile, with consumers who had the experience of viewing short-form content within the last 3 months and who had experience in consumer participation behavior in short-form content. A total of 304 questionnaires were collected for 7 days from May 10, 2023 to May 17, 2023, and 264 questionnaires were used for the final analysis, excluding 40 unsuitable responses. For the data collected in this study, frequency analysis, reliability analysis, and factor analysis were performed using the SPSS 21.0 statistical

program, and regression analysis was performed to verify the moderation effect, and path analysis was performed using the AMOS 25.0 statistical program to verify the study’s hypothesis.

The following are the general characteristics of the research subjects based on frequency analysis by gender, age, occupation, average monthly income, residence area, and short-form content viewing media.

The gender was 142 men (53.8%) and 122 women (46.2%), and with 65 (24.6%) in their 10s, with 63 (23.9%) in their 20s, 52 (19.7%) in their 30s, 52 (19.7%) in their 40s and 32 (12.1%) in their 50s. By occupation, 110 general office workers (41.7%) were the most common, followed by students 81 (30.7%), other 20 (7.6%), professional workers 18 (6.8%), sales/service workers 14 (5.3%), production/technical workers 13 (4.9%), civil servants 6 (2.3%), and research workers 2 (0.8%). The average monthly income was the highest, with 95 people (36.0%) of less than 2 million won, followed by 53 people (20.1%) between 3.01 and 4 million won, 45 people (17.1%) between 2.01 and 3 million won, 33 people (12.5%) between 5.01 and 10 million won, 31 people (11.7%) between 4.01 and 5 million won, and 7 people (2.7%) for more than 10.01 million won. By residential area, Seoul/Incheon/Gyeonggi 158 people (59.9%), Busan/Gyeongnam 30 people (11.4%), Daegu/Gyeongbuk 26 people (9.9%), Daejeon/Chungnam 14 people (5.3%), Gwangju/Jeonnam 13 people (4.9%), Jeonbuk 10 people (3.8%), Chungbuk 6 people (2.3%), Gangwon 3 people (1.1%), Ulsan 2 people (0.8%), Sejong 1 person (0.4%), and Jeju Island 1 person (0.4%), respectively appeared. The medium to watch short-form content was YouTube “Shorts” with 244 (92.4%), followed by Instagram “Reels” with 165 (62.5%), TikTok with 107 (40.5%), Kakao TV with 38 (14.4%), Jam Live with 15 (5.7%), Quobi with 6 (2.3%), and others with 0 (0.0%).

4. Analysis and Hypothesis Verification

4.1. Reliability and Validity Analysis

To verify the validity and reliability of the measurement tools used in this study, exploratory factor analysis and reliability analysis were conducted. As a result of the exploratory factor analysis, the eigenvalues of the six extracted factors were all over 0.80, and the overall variance explanatory power was 75.49%, indicating that the six factors explained 75.49% of the total(Table 2).

Table 2 : Exploratory Factor Analysis

Variable	Factors Loading						
	F1	F2	F3	F4	F5	F6	
Signal of utilitarian values	1	0.125	0.834	0.211	0.093	0.029	0.117
	2	0.202	0.777	0.092	0.106	0.218	0.132

	3	0.255	0.736	0.118	0.112	0.238	0.156
	4	0.2	0.741	0.203	0.08	0.044	0.278
Signal of hedonic values	1	-0.115	0.132	0.016	0.16	0.732	0.256
	2	0.185	0.147	0.207	-0.006	0.775	0.139
	3	0.143	0.108	0.097	0.065	0.825	0.114
Signal of social values	1	0.205	0.248	0.799	0.145	0.099	0.201
	2	0.288	0.26	0.788	0.137	0.085	0.18
	3	0.233	0.124	0.722	0.25	0.234	0.216
Signal of affective values	1	0.161	0.155	0.254	0.194	0.189	0.718
	2	0.225	0.266	0.128	0.073	0.162	0.73
	3	-0.014	0.197	0.178	0.179	0.253	0.765
Consumer Participation Behavior	2	0.22	0.077	0.07	0.77	-0.011	0.227
	3	0.316	0.103	0.286	0.74	0.154	0.126
	4	0.265	0.154	0.149	0.767	0.127	0.07
Consideration set	1	0.806	0.156	0.161	0.175	0.06	0.242
	2	0.808	0.24	0.196	0.23	0.071	0.107
	3	0.805	0.238	0.217	0.276	0.08	0.013
	4	0.823	0.208	0.201	0.254	0.093	0.066
Eigenvalue		8.398	2.119	1.536	1.172	1.04	0.834
Variance Explained %		41.99	10.59	7.68	5.86	5.2	4.17
Cumulative %		41.99	52.58	60.26	66.12	71.32	75.49
Cronbach's Alpha		0.926	0.867	0.867	0.808	0.762	0.795

4.2. Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was performed to examine whether the measured variables adequately explained each latent variable. The CFA was analyzed by creating a CFA model based on the results of the exploratory factor analysis. The parameter estimation method of the CFA used the maximum likelihood method.

The CFA is the first step in structural equation model (SEM) analysis. It is used to confirm inherent factor dimensions and hypotheses based on the researcher’s knowledge and is a useful analysis technique for evaluating the validity of measurement scales for specific concepts. Furthermore, by CFA, observed variables that hinder unidimensionality and violate discriminant validity can be organized and reliability and validity confirmed. It can be evaluated by CFA in the following way.

First, the loading of standardized factors was confirmed to confirm concentrated validity. In order to secure concentrated validity, the standardized factor loading should be at least 0.5, and 0.7 or more is desirable. Furthermore, if the t-value (Critical Ratio; C.R., Threshold) is greater than 1.96 at the significance level of 0.05 or greater than 2.57 at the significance level of 0.01 level, the causal relationship between the latent variable and the observed variable is considered significant.

Second, the construct reliability (CR) and the average variance extracted (AVE) were confirmed. If the conceptual reliability (CR) is generally higher than 0.7 and the AVE value is higher than 0.5, it is judged to have convergent validity. It is calculated using the following formula:

$$\text{Construct Validity(CR)} = \frac{\sum_{i=1}^k (std.\lambda_i^2)}{\sum_{i=1}^k (std.\lambda_i^2) + \sum_{i=1}^k (1 - std.\lambda_i^2)}$$

$$\text{Average Variance Extracted(AVE)} = \frac{\sum_{i=1}^k (std.\lambda_i^2)}{\sum_{i=1}^k (std.\lambda_i^2) + \sum_{i=1}^k (1 - std.\lambda_i^2)}$$

Third, discriminant validity refers to the degree to which one construct is distinguished from other constructs, and the discriminant validity evaluation method is a method of comparing the \sqrt{AVE} of each construct and the correlation coefficient value between constructs. When the \sqrt{AVE} is large, Discriminant validity is secured it can be said that it has been done.

The analysis model is presented in Figure. 2.

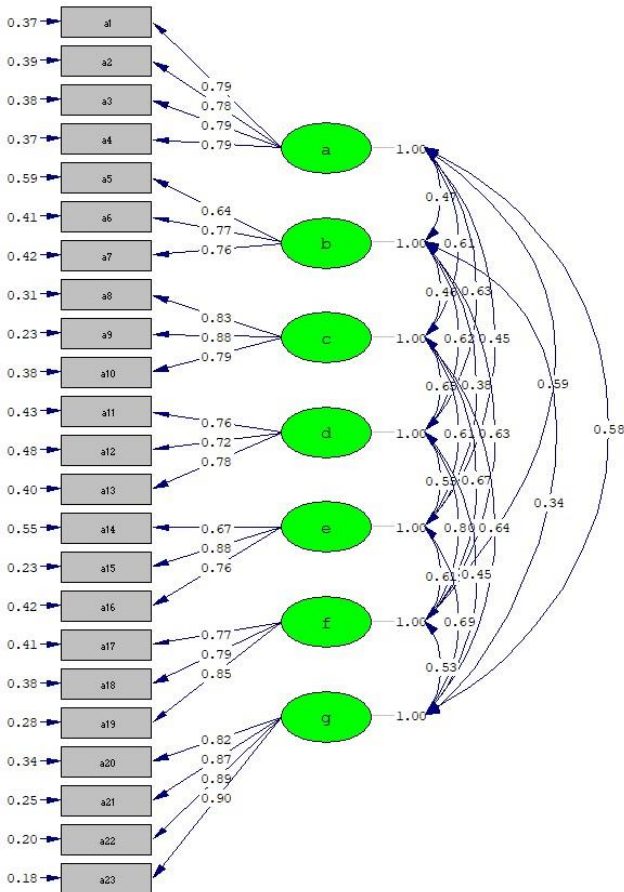


Figure 2 : Amos Analysis Output Model

Table 3 : Confirmatory Factors Analysis

Variables/scale items	Estimate	Standardized Estimate	C.R	Standardized Loading	P	
Signal utilitarian values	1	1		0.794	-	
	2	1.128	0.055	14.188	0.778	***
	3	1.102	0.055	14.488	0.79	***
	4	1.183	0.054	14.597	0.794	***
Signal hedonic values	1	1		0.643	-	
	2	0.969	0.06	12.847	0.768	***
	3	0.982	0.06	12.715	0.762	***
Signal social values	1	1		0.831	-	
	2	1.248	0.051	17.113	0.879	***
	3	1.139	0.054	14.541	0.788	***
Signal affective values	1	1		0.757	-	
	2	1.044	0.058	12.449	0.72	***
	3	1.086	0.056	13.789	0.777	***
Consumer Participation Behavior	2	1		0.668	-	
	3	1.087	0.053	16.367	0.875	***
	4	0.997	0.056	13.592	0.764	***
Empathy	1	1		0.771	-	
	2	1.088	0.055	14.476	0.79	***
	3	1.15	0.053	16.025	0.847	***
Consideration set	1	1		0.815	-	
	2	1.247	0.05	17.242	0.867	***
	3	1.191	0.049	18.124	0.894	***
	4	1.243	0.049	18.443	0.903	***

The results of the convergence validity analysis of the measurement tools are shown in Table 3. As a result of confirming the results of the convergent validity analysis, it can be judged that the convergent validity was secured as all standardized loadings were 0.5 or higher. Since the t-values of all the variables measured were greater than 1.96, it was significant at the significance level $p < 0.05$, indicating that all the variables measured adequately measure the corresponding latent variable. Concept reliability (CR) showed values between 0.727 and 0.870 and AVE showed values between 0.528 and 0.758. CR and average variance extraction (AVE) were both 0.70 and 0.50, indicating that convergent validity was maintained. When the fit index for the CFA model of the measurement tool was checked, $\chi^2 = 356.32$ ($p < .001$) was significant at the significance level of 5%, indicating that the structural model was not appropriate for the collected data. However, because the two test is sensitive to sample size, it is preferable to consider other fitness indices concurrently. The standardized chi-squared (χ^2/df) was 1.705, which was less than 3.00, the RMR was 0.043, which was less than 0.08, and the RMSEA was 0.052, which was less than 0.10. The NFI was 0.969, IFI was 0.987, TLI was 0.984, the CFI was 0.987, higher than

0.90, and the GFI was 0.895, lower than 0.90. In other words, it can be said that the model is suitable when compared comprehensively.

The results of the discriminant validity analysis of the measurement tools are shown in Table 4. The \sqrt{AVE} value of the compositional concept is higher than the correlation coefficient value between the compositional concept, so it can be judged that the discriminant validity has been secured.

Table 4 : AVE & Coefficient of Determination

	AVE	1	2	3	4	5	6	7
1. Signal of utilitarian values	0.789	1						
2. Signal of hedonic values	0.727	0.385	1					
3. Signal of social values	0.834	0.53	0.388	1				
4. Signal of affective values	0.752	0.531	0.493	0.552	1			
5. Consumer Participation Behavior	0.774	0.381	0.287	0.515	0.452	1		
6. Empathy	0.803	0.503	0.523	0.589	0.654	0.525	1	
7. Set of considerations	0.87	0.525	0.277	0.579	0.4	0.606	0.485	1

4.3. Hypothesis Test

This study was analyzed using AMOS 25.0 and the table of results of the model fit analysis evaluated by the structural equation model for model verification is shown in <Table 5>.

Table 5 : Results of The Path Model

Paths	Estimate	S.E	C.R	P
Signal of utilitarian values → Consumer Participation Behavior	0.094	0.086	1.091	
Signal of hedonic values → Consumer Participation Behavior	0.02	0.084	0.239	
Signal of social values → Consumer Participation Behavior	0.47	0.096	4.913	***
Signal of affective values → Consumer Participation Behavior	0.195	0.112	1.745	
Consumer Participation Behavior → Consideration set	0.738	0.082	9.025	***

To test H1, we look at the path coefficient that the short-form content of the utilitarian values and the consumer participation behavior. It was not proven that the higher the signal of the utilitarian values, the higher the consumer participation behavior (path coefficient = 0.094, SE = 0.086, t = 1.091).

To test H2, we look at the path coefficient that the short-form content of hedonic values and the consumer participation behavior. It was not proven that the higher the

signal of the hedonic values, the higher the consumer participation behavior (path coefficient = 0.020, SE = 0.084, t = 0.239).

Meanwhile, we test H3 by looking at the path coefficient of the short-form content of social values and the participation behavior of the consumer, the higher the signal of the social values, the higher the participation behavior of the consumer, so the hypothesis was proven (path coefficient = 0.470, SE = 0.096, t = 4.913).

H4. The short-form content of the affective-value signal positively affects consumer participation behavior.

To test H4, we look at the path coefficient of the short-form content of affective values and the consumer participation behavior. It was not proven that the higher the affective values signal, the higher the consumer participation behavior (path coefficient = 0.195, SE = 0.112, t = 1.745).

H5. Consumer participation behavior in short-form content positively affects entry into the consideration set.

To test H5, we look at the path coefficient that the consumer participation behavior and the consideration set, the higher the consumer participation behavior, the higher the consideration set, so the hypothesis was proven (path coefficient = 0.738, SE = 0.082, t = 9.025).

4.4. Verification of Mediation Effect

First, independent variables affect parameters significantly.

Second, the independent variable has a significant effect on the dependent variable.

Third, independent variables and parameters have a significant effect on dependent variables. However, in the third regression analysis, the value of the dependent variable for the independent variable must be lower than the value in the second regression analysis.

Baron and Kenny (1986) referred to the case where the independent variable does not affect the dependent variable in the third stage as fully mediation and the case where the independent variable affects the dependent variable in the third stage as partially mediation. The Sobel test was used to confirm the statistical significance of indirect effects. The Sobel test, which is the most representative method for determining the significance of indirect effects, has the following formula.

$$Z = \frac{ab}{\sqrt{b^2 s_a^2 + a^2 s_b^2}}$$

In the Sobel test formula, a is the non-standardized regression coefficient between the independent variable and the parameter, and b is the non-standardized regression coefficient between the parameter and the dependent variable.

s_a^2 and s_b^2 is the standard error of a and b, respectively.

1) Verification of the mediation effect of empathy between short-form content of utilitarian value signal and consumer participation behavior

Before verifying the mediation effect, as a result of checking whether the assumption of multiple regression analysis was not violated, the variance inflation factor (VIF) was 1.338, which was lower than the standard value of 10, confirming that there was no multicollinearity problem. The short-form content of the independent variable, utilitarian values signal, had a significant positive (+) influences on empathy, the parameter ($\beta = 0.503, t = 9.42, p < .001$). And the short-form content of the independent variable, utilitarian values signal, had a significant positive (+) influences on the dependent variable, the behavior of consumer participation behavior ($\beta = 0.381, t = 6.67, p < .001$). At the same time, empathy, a parameter, had significant positive (+) influences on consumer participation behavior, the dependent variable ($\beta = 0.446, t = 7.42, p < .001$). Moreover, the independent variable, the short-form content of the utilitarian values signal, had a significant positive (+) influence on the dependent variable, consumer participation behavior ($\beta = 0.156, t = 2.60, p = 0.010$). Based on this, it was found that the short-form content of the utilitarian values signal influences consumer participation behavior, with empathy serving as a partial mediation variable. Sobel's Z value was 5.83 as a result of the Sobel test to confirm the statistical significance of the indirect effect, and if the $|Z|$ value was greater than 1.96, the indirect effect was significant. Therefore, the utilitarian values of this model, signal's short-form content, in the relationship between consumer participation behavior and the indirect effect of empathy were significant at the $p < .05$ level.

Tables 6–9 present the results of the mediation effect.

Table 6 : Results of The Mediation Effect (Utilitarian Values)

Stage	Dependent variable	Independent variable	B	SE	β	t	p
2	Consumer Participation Behavior	(Constant)	-	0.441	-	-	0.115
		Utilitarian	0.698	0.119	0.381	6.67	<.001
F = 44.42, p<.001, R ² = 0.1450, adj R ² = 0.1417							
3	Consumer Participation Behavior	(Constant)	-2.65	0.48	-	5.52	<.001
		Utilitarian	0.326	0.125	0.156	2.6	0.01
		Empathy	0.992	0.134	0.446	7.42	<.001
F = 54.31, p<.001, R ² = 0.2939, adj R ² = 0.2885, VIF ⁽¹⁾ = 1.338							

2) Verification of the mediation effect of empathy between short-form content of hedonic values signal and consumer participation behavior

Before verifying the mediation effect, it was confirmed that the assumption of multiple regression analysis was not

violated, and as a result, the variance inflation factor (VIF) was 1.377, which was lower than the standard value of 10, confirming that there was no multicollinearity problem. As a result of examining the mediation effect of empathy in the relationship between the short-form content of the hedonic value signal and the consumer participation behavior, the short-form content of the hedonic values signal, an independent variable, had a significant positive (+) influences on empathy, a parameter ($\beta = 0.523, t = 9.94, p < .001$). And the short-form content of the hedonic values signal, an independent variable, had a significant positive (+) influences on the dependent variable, consumer participation behavior ($\beta = 0.287, t = 4.85, p < .001$). The short-form content of the hedonic values signal, an independent variable, had a significant positive (+) influences on the dependent variable, consumer participation behavior ($\beta = 0.287, t = 4.85, p < .001$). At the same time, empathy, a parameter, had significant positive (+) influences on consumer participation behavior, the dependent variable ($\beta = 0.516, t = 8.35, p < .001$). And the short-form content of the hedonic values signal, an independent variable, did not have significant influences on the behavior of consumer participation, the dependent variable ($\beta = 0.017, t = 0.28, p = 0.782$). Based on this, it was found that the short-form content of the hedonic values signal has influence on consumer participation behavior, and empathy acts as a complete mediation variable. As a result of the Sobel test to verify the statistical significance of the indirect effect, Sobel's Z value was 6.42, and if the $|Z|$ value was greater than 1.96, the indirect effect was said to be significant. Therefore, the indirect effect of empathy was found to be significant at the $p < .05$ level in the relationship between the short-form content of the hedonic value signal of this model and the consumer participation behavior.

Table 7 : Results of The Mediation Effect (Hedonic Values)

Stage	Dependent variable	Independent variable	B	SE	β	t	p
2	Consumer Participation Behavior	(Constant)	-	0.685	-	-	0.105
		Hedonic	1.117	0.163	0.287	4.85	<.001
F = 23.55, p<.001, R ² = 0.0825, adj R ² = 0.0790							
3	Consumer Participation Behavior	(Constant)	2.235	0.625	-	3.58	0
		Hedonic	0.047	0.171	0.017	0.28	0.782
		Empathy	1.146	0.137	0.516	8.35	<.001
F = 49.71, p<.001, R ² = 0.2758, adj R ² = 0.2703, VIF ⁽¹⁾ = 1.377							

3) Verification of the mediation effect of empathy between short-form content of social-value signal and consumer participation behavior

Before verifying the mediation effect, as a result of checking whether the assumption of multiple regression analysis was not violated, the variance inflation factor (VIF) was 1.532, which was lower than the standard value of 10, confirming that there was no problem of multicollinearity.

As a result of examining the mediation effect of empathy in the relationship between the short-form content of the social-value signal and consumer participation behavior, the short-form content of the social values signal, an independent variable, had a significant positive (+) influences on empathy, a parameter ($\beta = 0.589$, $t = 11.80$, $p < .001$). And the independent variable, the short-form content of the utilitarian values signal, had a significant positive (+) influence on the dependent variable, consumer participation behavior ($\beta = 0.156$, $t = 2.60$, $p = 0.010$). Based on this, it was found that the short-form content of the utilitarian values signal influences consumer participation behavior, with empathy serving as a partial mediation variable. Sobel's Z value was 5.83 as a result of the Sobel test to confirm the statistical significance of the indirect effect, and if the $|Z|$ value was greater than 1.96, the indirect effect was significant. Therefore, the utilitarian values of this model, signal's short-form content, in the relationship between consumer participation behavior and the indirect effect of empathy were significant at the $p < .05$ level.

Table 8 : Results of The Mediation Effect (Social Values)

Stage	Dependent variable	Independent variable	B	SE	β	t	p		
2	Consumer Participation Behavior	(Constant)	-	0.34	-	-	-		
			1.05	3	-	3.0	0.002		
			3			7			
		Social	0.95	0.09	0.51	9.7	<.00		
			8	9	5	2	1		
		F = 94.45, p<.001, R ² = 0.2650, adj R ² = 0.2622							
			(Constant)	-	0.42	-	-	<.00	
			2.57	8	-	-6	<.00		
			2			1			
			Social	0.58	0.11	0.31	5.0	<.00	
3	Consumer Participation Behavior		6	6	5	6	1		
		Empathy	0.75	0.13	0.34	5.4	<.00		
			4	8		6	1		
		F = 67.31, p<.001, R ² = 0.3403, adj R ² = 0.3352, VIF ¹⁾ = 1.532							

4) Verification of the mediation effect of empathy between the short-form content of the affective-value signal and consumer participation behavior

Before verifying the mediation effect, as a result of checking whether the assumption of multiple regression analysis was not violated, and as a result, the variance inflation factor (VIF) was 1.747, which was lower than the standard value of 10, confirming that there was no problem of multicollinearity. As a result of examining the mediation effect of empathy in the relationship between the short-form content of the affective-value signal and the consumer participation behavior, the short-form content of the affective values signal, an independent variable, had a significant positive (+) influences on empathy, a parameter ($\beta = 0.654$,

$t = 13.99$, $p < .001$). Furthermore, the short-form content of the affective values signal, an independent variable, had a significant positive (+) influence on consumer participation behavior, a dependent variable ($\beta = 0.452$, $t = 8.20$, $p < .001$). Simultaneously, empathy, a parameter, had a significant positive (+) influence on the dependent variable, consumer participation behavior ($\beta = 0.401$, $t = 5.84$, $p < .001$). Furthermore, the short-form content of the affective values signal, an independent variable, had a significant positive (+) influence on consumer participation behavior, the dependent variable ($\beta = 0.190$, $t = 2.76$, $p = 0.006$). Based on this, it was found that the short-form content of the affective-value signal has influences on consumer participation behavior, and empathy acts as a partial moderator variable. Sobel's Z value was 5.40 as a result of the Sobel test to verify the statistical significance of the indirect influences, and if the $|Z|$ value was greater than 1.96, the indirect effect was said to be significant. Therefore, in the relationship between the short-form content of this model's affective values signal and consumer participation behavior, the indirect effect of empathy was significant at the $p < .05$ level.

Table 9 : Results of The Mediation Effect (Affective Values)

Stage	Dependent variable	Independent variable	B	SE	β	t	p		
2	Consumer Participation Behavior	(Constant)	-	0.541	-	-	<.001		
		Affective	1.154	0.141	0.452	8.2	<.001		
		F = 67.18, p<.001, R ² = 0.2041, adj R ² = 0.2010							
		(Constant)	-	0.525	-	-	<.001		
3	Consumer Participation Behavior	Affective	0.484	0.175	0.19	2.76	0.006		
		Empathy	0.891	0.152	0.401	5.84	<.001		
		F = 54.92, p<.001, R ² = 0.2962, adj R ² = 0.2908, VIF ¹⁾ = 1.747							

5. Conclusion

5.1. Summary

The conclusions of this study are summarized below.

First, it was confirmed that the short-form content of the independent variables of this study, the utilitarian values signal, the hedonic values signal, the social values signal, and the affective values signal, were significant factors. However, the higher the intention to use the short-form content of the utilitarian values signal, the hedonic values signal, and the affective values signal, excluding the social values signal, the less significant positive (+) influences on consumer participation behavior could not be demonstrated. However, it was confirmed that the short-form content of the social-value signal had significant positive (+) influences on consumer participation behavior.

Second, a high level of consumer participation behavior was found to have significant positive (+) influences on entry

into the consideration set.

Third, it was confirmed that empathy partially mediates the user participation behavior that short-form contents of signal of utilitarian values, signal of social values, and signal of affective values. And it was confirmed that empathy has a full mediation effect on the user participation behavior that short-form contents of signal of hedonic values.

5.2. Discussion

As a new media format based on the mobile Internet environment, short-format video applications that allow people to create, share, and view short videos are gaining great popularity worldwide (Wu, 2021). This study, which began as short-form content boomed, seeks to gain a deeper understanding of consumer behavior. In addition, we wanted to find out whether the short-form content platform could be used as an SNS channel. Signaling theory can provide an effective framework for senders to convey useful signals to receivers (Wang et al., 2019). The motivation for viewing short-platform content was approached based on the motivation for viewing SNS platforms, and most of these studies can be accessed based on Katz's "Usage and Gratification Theory" that SNS users choose a specific platform to satisfy their needs (Katz et al., 1973). This study used U&G theory and signaling theory as a theoretical framework to investigate the impact of short-form content advertising on consumer participation behavior.

It was based on previous research related to Katz et al.'s (1973) "Usage and Gratification Theory." We studied the consumption value of users' short-form content by categorizing it as "affective" and "hedonic" as emotional dimensions, "utilitarian" as a practical dimension, and "social" as a social dimension. Furthermore, according to Homer and Kahle's (1988) value-attitude-behavior model and prior research by Homer and Kahle's Cheung et al. (2021), customer participation is formed around a specific level of cognitive, emotional, and behavioral dimensions occurring in consumer-brand interactions. Thompson and Sinha's (2008) previous study examined the impact of users engaging in participatory behavior on entering the consideration set by expressing product preference and increasing propensity to purchase.

In addition, we tried to find the mediating effect according to the degree of cognitive empathy, which is the degree of intellectual understanding of other people's emotions and mental states, and the degree of emotional empathy that matches or responds to other people's emotions.

The conclusions of this study are summarized as follows, along with the implications.

First, it was confirmed that the short-form content of the independent variables of this study, the utilitarian values signal, the hedonic values signal, the social values signal,

and the affective values signal, were significant factors. However, the higher the intention to use the short-form content of the utilitarian values signal, the hedonic values signal, and the affective values signal, excluding the social values signal, the less significant positive (+) influences on consumer participation behavior could not be demonstrated. Ünal et al. (2011) suggested that the informativeness and reliability of social media advertisements have an insignificant influence because users have a high level of awareness about informativeness and reliability. However, it was confirmed that the short-form content of the social-value signal had significant positive (+) influences on consumer participation behavior. It was confirmed that sharing, SNS participation behavior, and reproduction of short-form content significantly influence entry into the consideration set according to the results of user participation behavior in short-form content advertising. Based on this, it can be deduced that the greater the degree of social values signal, the greater the consumer participation behavior for short-form content, implying that social ties greatly improve user participation in social media advertisements due to the uniqueness of social media platforms (Cheung et al., 2011). As a result, corporate short-form content advertisements must adhere to social values.

Second, a high level of consumer participation behavior was found to have significant positive (+) influences on entry into the consideration set. Based on previous research by Thompson and Sinha (2008), this is the same as the research conclusion that product preferences of users who engage in consumer participation behavior are shown and product acceptance increases. When advertising short-form content, companies will need to consider short-form content consumption values signal to form high consumer participation in emotional, cognitive, and behavioral intentional aspects.

Third, it was confirmed that empathy partially mediates the user participation behavior that short-form contents of signal of utilitarian values, signal of social values, and signal of affective values. It was also confirmed that empathy fully mediates user participation behavior that short-forms the contents of hedonic value signals. Empathy experience is the same as Escalas and Stern's (2003) research conclusion: it affects advertising, brand, and product attitudes.

This study reveals how short-form content of consumption-value signals can affect consumer participation behavior, and how consumer participation behavior affects the acquisition of the Consideration set, and how it affects the continuous intention to use the short-form content platform as an SNS channel by examining short-form content, a new type of social media platform.

5.3. Suggestions

The limitations of this study are explained, and the following tasks are suggested for future research to supplement them. However, this result can be applied only to this study.

First, in this study, consumer participation behavior in short-form content was measured from the perspective of the consumption value of short-form content. Therefore, research should be supplemented with the influence of consumer participation behavior at multiple levels rather than at a single level. Future research should diversify and measure content consumers' participation behavior using newly provided short-form platform functions. The results of various short-form content advertisement participation behaviors caused by individual companies' and brands' management of social platforms and differences in consumer perception of brands and products will be confirmed.

Second, in the digital customer engagement model proposed by Gavilanes et al. (2018) digital customer engagement was organized in a three-step structure, suggesting high- and low-level engagement behaviors, but in this study in sophisticated research it was not conducted by measuring it as a single dependent variable of participatory behavior. In future research, if the research is conducted by dividing the stages of consumer participation behavior, it will be able to contribute to the establishment of more sophisticated marketing strategies.

Third, future research will investigate the negative causes of CEB for short-form content advertisements (e.g., perceived social media advertising interference) as well as the range of related effects.

Finally, in light of the research limitations and suggestions, this study provides reference materials for future research on short-form content advertising. Furthermore, it is proposed to further explore the predisposing factor of CEB in short-form content advertising to provide a more comprehensive study.

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