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RESEARCH ARTICLE

The Effect of Individual and Environmental Motivations on YouTuber Followers' Behavioral Changes*

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Abstract
This study aimed to determine the effective factors on the behavioral changes of YouTuber followers. Accordingly, it was targeted to determine the effect of the individual, environmental motivations, and YouTuber characteristics on the change of followers' behavior through the online flow process. Meanwhile, the mediating role of opinion seeking and the moderator role of the fear of missing out have been discussed. The main mass consisted of 520 female consumers who live in Istanbul, are at least 18 years of age, and follow at least one YouTuber in the makeup/cosmetic/beauty segment. Structural equation modelling was used to analyze the data. Findings showed that three subdimensions of knowledge-sharing motivations, which are consumer interactivity, trust, and consumer expertise; four subdimensions of fundamental interpersonal relation orientations, which are the need to be part of a group, avoidance of similarity and unpopular choice counter-conformity, creative choice counter-conformity, and the need for personal growth; and social presence have a positive, community identification and that YouTuber characteristics have a negative effect on online flow. However, social norms have no effect. Meanwhile, online flow is effective on the behavioral changes of followers. Finally, opinion seeking has a mediating role whereas the fear of missing out has a moderating role.

Keywords

Individual Motivations, Environmental Motivations, YouTuber Characteristics, Online Flow Theory, Behavioral Changes

Introduction

Nowadays, knowledge-sharing and communication between individuals have been carried out mostly through social media tools, and video content consumption has also increased (Khan, 2017). At this point, understanding individual motivations is important. Therefore, an attempt to reveal individual motivations' effects on online flow has been made. YouTube attracts individuals by emphasizing a sense of community and promoting web-based social relationships (Yang, Hsu, & Tan, 2010). Therefore, the social interactivity needs of the users

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are another factor to be taken into consideration. Therefore, an attempt to examine the environmental motivations' effects on online flow has been done. YouTubers are becoming increasingly famous and have become individuals who are searched for, praised, and imitated by millions of followers (García-Rapp, 2016). It is important to determine the characteristics of following YouTubers and to know which of their characteristics drives people to follow them. For this reason, an attempt has been made to determine YouTuber characteristics' effects on online flow. Online flow theory is important to understand online consumer behavior (Hsu, Chang, & Chen, 2012). Since the conceptual model has a consumer-oriented perspective, change of behaviors has been attempted to be examined through the online flow theory. Because of the changing roles of individuals in online environments, the question of whether opinion-seeking has a mediating effect on the relationship between online flow and followers' behavioral changes was examined. The fear of missing out (FoMO) is a basic source of motivation that arises from an individual's desire for interpersonal attachment and is shaped by the need of being a part of a group (Franchina, Abeele, van Rooij, Lo Coco, & De Marez, 2018). It was thought that individuals with FoMO would become more quickly involved in the online flow process and assumed that the relationship between individual motivations and online flow towards behavioral change would strengthen. Therefore, revealing the moderating role of the FoMO in the relationship between these two variables has been sought. The variables used in the conceptual model were brought together to explain the actions of YouTuber followers and were considered important variables in terms of explaining consumer behaviors. There are many studies on different social media tools in the relevant literature. YouTube has been a relatively neglected tool among the other social media sites. Due to the limited number of studies on this platform, the current study is based on the YouTube platform. In accordance with this, consumer-oriented model proposal, individual motivations, environmental motivations, and YouTuber characteristics can be understood and will enable new and different studies in this field. The findings will provide some insights for researchers. Meanwhile, this study will contribute to the individuals who want to be YouTubers, establish partnerships, and create their own collaborations.

Theoretical Background

Individual Motivations

Knowledge sharing motivations

Knowledge-sharing is defined as "the communication process between two or more participants involving the provision and acquisition of information" (Cited by, Jadin, Gnambs, & Batinic, 2013:2011). Several studies have emphasized the importance of knowledge-sharing motivations in online communities (Lai & Chen, 2014) and asserted that online communities

facilitate knowledge-sharing (Zhang, Liu, Deng, & Chen, 2017). In this study, five knowledge-sharing motivations were addressed.

Consumer interactivity is "the degree to which users of a medium can influence the form or content of the mediated environment" (Steuer, 1992:84). Researchers have found that perceived interactivity affects online consumer behavior, memory, choices, attitudes toward a website, and evaluations of the website's effectiveness (Wu, Hu, & Wu, 2010).

Reciprocity is a fair and mutual knowledge-exchange behavior (Liu, Cheung, & Lee, 2016:692). This dimension facilitates information-sharing in social networking sites (Tang, Zhao, & Liu, 2016) and the effective quality of sharing (Chang & Chuang, 2011).

Reputation is how an individual is perceived by others (Choi, 2015). Reputation in online communities will increase expertise, and individuals will be able to demonstrate their expertise to others (Yan, Wang, Chen, & Zhang, 2016).

Trust is the belief that someone or somethings is honest, trustworthy, good, and influential (Safa & İsmail, 2013). As trust level increases, knowledge-sharing also increases (Chang & Chuang, 2011), and trust has a positive effect on word-of-mouth communication (Choi, 2015).

Consumer expertise is "the ability to perform product-related tasks successfully" (Alba & Hutchinson, 1987:411). Generally, consumers with high expertise are less sensitive to interpersonal effects and rely on their own experience in purchasing decisions (Cheung, Xiao & Liu, 2012). They also share their knowledge more than low expertise consumers (Ku, Wei, & Hsiao, 2012). Accordingly, the following hypotheses have been developed:

- **H1.** Knowledge-sharing motivations are effective on online flow.
- **H1a.** Consumer interactivity is effective on online flow.
- **H1b.** Reciprocity is effective on online flow.
- **H1c.** Reputation is effective on online flow.
- **H1d.** Trust is effective on online flow.
- **H1e.** Consumer expertise is effective on online flow.

Fundamental Interpersonal Relations Orientation Theory (FIRO)

Fundamental interpersonal relations orientation theory is one of the interpersonal behavior theories and is abbreviated as FIRO (Jenster, 2010). According to the theory, three basic interpersonal needs are satisfied through interaction with others: inclusion, affection, and

control, and there are four fundamental needs in terms of online content. These are the need to be a part of a group, the need for individualization (uniqueness), the need to be altruistic, and the need for personal growth (Ho & Dempsey, 2010).

According to Schutz (1966), *inclusion* is the idea that individuals can establish interpersonal interaction and togetherness; it is also the need to be different from others (Cited by, Hochanadel, 2014:23). The need to be a part of a group, which is the first subdimension of inclusion, is when an individual experiences a system/environment and then feels themself as an inseparable part of it (Zhao, Lu, Wang, Chau & Zhang, 2012: 576). The need for individualization, which is the second subdimension of inclusion, is the desire that the individual has a unique product which will make it different from other individuals (Ruvio, Shoham, & Brenčič, 2008). The need for individualization consists of three main dimensions. These are creative choice counter-conformity, unpopular choice counter-conformity, and avoidance of similarity (Bhaduri & Stanforth, 2016).

Affection is the ability to communicate with others more easily at the point of interaction and communication. This dimension is linked with the concept of altruism (Ho & Dempsey, 2010). Altruism refers to "the degree to which a person was willing to increase other people's welfare without expecting returns" (Hsu & Lin, 2008:68).

Control is the desire to affect other individuals in direction of the need for personal growth (Huang, Chen & Wang, 2012; Ho & Dempsey, 2010). Personal growth, which is a subdimension of control, is the determinant of an individual's need to control their life (Robitschek, 1998:184). The desire of personal growth enables knowledge-sharing and expertise (Hochanadel, 2014).

Hochanadel's (2014) research results have shown that the "need to belong" is the predictor variable in terms of both opinion-seeking, passing, and giving. Besides this "inclusion" dimension was the main motivation for e-word-of-mouth communication behaviors. Ho & Dempsey (2010) determined that individualistic and altruistic internet users tend to use and receive online content more. Accordingly, the following hypotheses have been developed:

- **H2.** FIRO is effective on online flow.
- **H2a.** The need to be part of a group is effective on online flow.
- **H2b.** The need to be different is effective on online flow.
- **H2c.** The need to be altruistic is effective on online flow.
- **H2d.** The need for personal growth is effective on online flow.

Environmental Motivations

Community identification

Identity is the answer to the question of "Who am I?" (Ma & Agarwal, 2007:45). In online communities, users often share their statuses, interests, and behaviors with other users. This data reflects users' personalities, experiences, statuses, and social attitudes. Meanwhile, it helps individuals understand the social and personal identification of other individuals (Jin, Li, Zhong, & Zhai, 2015). Shen, Lee, Cheung, & Chen (2010) found a positive relationship between knowledge-sharing and social identity in online communities. Accordingly, H3 hypothesis has been developed.

- **H3.** Community identification is effective on online flow.

Social norms

According to Wang & Chen (2012:571), social norms are "the common beliefs and acceptable behavioral standards of the social group". Consumers adjust their behavior in accordance with social norms and aim to make a good impression on other individuals (Wang, Oppewal, & Thomas, 2017). Zhou (2011) found that social identity and group norms have an effect on online community user participation. Yang et al. (2010) stated that the intention to use YouTube for video-sharing is affected by social norms. Accordingly, H4 hypothesis has been developed.

- **H4.** Social norms are effective on online flow.

Social presence

Social presence is the degree to which an individual is perceived as "real" in a mediated communication environment (Thomas, West, & Borup, 2017). While social presence is unidimensionally examined, it is also studied multi-dimensionally (Kim, Song, & Luo, 2016). In their study, Shen & Khalifa (2008) proposed a three-dimensional structure. Since the awareness dimension is similar to the reputation dimension, affective and cognitive presences were included in the conceptual model.

Affective social presence means the emotional association of users with others in the online community. Online community members who have affective social presence are more willing to share useful knowledge and establish social relationships (Shen et al., 2010).

Cognitive social presence means the perceived reciprocal understanding between communicators. Users who have cognitive social presence are more likely to maintain more effective, efficient, and satisfactory communication (Shen et al., 2010). Accordingly, the following hypotheses have been developed:

- **H5.** Social presence is effective on online flow.
- **H5a.** Affective social presence is effective on online flow.
- **H5b.** Cognitive social presence is effective on online flow.

YouTuber Characteristics

Source credibility is one of the most important factors that determine individuals' attitudes and behavioral intentions and ultimately determine their behaviors (Hu, 2015). For this reason, YouTuber characteristics were addressed in the source credibility theory. Trustworthiness, expertise, and attractiveness are defined as the most important characteristics of source (Kim, Lee, & Prideaux, 2014; Ohanian, 1990). In addition to these characteristics, authenticity, which has appeared in the literature recently, was addressed.

Trustworthiness is the confidence towards a source and the message and accordingly the degree of acceptance of the message (Teng, Khong, Goh, & Chong, 2014). A YouTuber's trustworthiness depends on the followers' belief that the YouTuber shares their real opinions and experiences related to the products or brands in the video (Zang, 2014).

Expertise is the perception of the source as a valid and correct source of information (Ananda & Wandebori, 2016; Ohanian, 1990). Beauty-related YouTubers expertness is interpreted as whether they have adequate knowledge about the matter discussed in the video (Zang, 2014).

Attractiveness is to what extent the message is defined by the recipients as appealing (Teng et al., 2014). The attractiveness of a source increases as the "interaction" or replay viewing increases (Lee & Watkins, 2016). It has been revealed that physically attractive sources are more successful in changing opinions than unattractive sources (Wang, 2014).

Authenticity according to Moulard, Garrity, & Rice (2015:173) is the behavior of an individual according to their true self. Zietek (2016) found that authenticity is one of the four basic components for influencer marketing. Accordingly, the following hypotheses have been developed:

- **H6.** YouTuber characteristics are effective on online flow.
- **H6a.** Expertise is effective on online flow.
- **H6b.** Trustworthiness is effective on online flow.
- **H6c.** Attractiveness is effective on online flow.
- **H6d.** Authenticity is effective on online flow.

Online Flow Theory

The most comprehensive definition of online flow is "the state occurring during network navigation which is characterized by a seamless sequence of responses facilitated by machine interactivity, intrinsically enjoyable, accompanied by a loss of self-consciousness, and self-reinforcing" (Hoffman & Novak,1996:57). In this study, the following flow dimensions were discussed:

Perceived enjoyment, regardless of the performance results arising from system use, is the degree to which using the virtual world is perceived as pleasurable (Pelet, Ettis, & Cowart, 2017).

Perceived control is the degree to which a person feels powerful in an environment (Wang & Hsiao, 2012). Therefore, this dimension is generally used in attitude-based models of consumer behavior and acceptance of innovations (Esteban-Millat, Martínez-López, Huertas-García, Meseguer, & Rodríguez-Ardura, 2014).

Concentration is the focus of an individual's attention on an activity (Shim, 2012). Kaur, Dhir, Chen, & Rajala (2016) have developed a 26-item scale to examine flow experience in social networking services. In the results of their study, six dimensions of flow experience were revealed, one of which was concentration.

Tele-Presence is the perceived experience of presence in an environment through a communication medium (Steuer, 1992). Interactivity affects the level of telepresence (Liu, 2017). It was found that there is positive relationship between interactivity and telepresence. Meanwhile, social presence and telepresence have an impact on instinctive purchases (Shen & Khalifa, 2012).

Time distortion, in terms of the web, means that time seemingly passes quickly and without the perception of the individual in a computer-mediated environment (Bridges & Florsheim, 2008). The use of social media is "immersive and gratifying." Therefore, users forget the elapsed time (Pelet et al., 2017:118). Besides this, time distortion increases opinion leadership behavior (Song, Cho, & Kim, 2017).

According to Csikszentmihalyi (1990:53), the *mergence of action and awareness* is the integration of the individual with the activity. Therefore, this activity becomes spontaneous and automatic, and the individuals do not see themselves different from this activity. Similarly, according to Csikszentmihalyi (1988:33), the *loss of self-consciousness* is a temporary loss of self-awareness (Cited by, Guo, 2004:14).

van Noort, Voorveld, & van Reijmersdal (2012) determined that the flow is the main determinant which explains the cognitive, attitudinal, and behavioral responses of a brand website. At the same time, interpersonal interaction factors are positively associated with flow experience, and flow experiences affect purchase intention and behavior (Yang, Huang,

Yang, & Yang, 2017; Liu, Chu, Huang, & Chen, 2016; Liu & Shiue, 2014). Accordingly, H7 hypothesis has been developed:

- **H7.** Online flow is effective on behavioral changes of followers.

Opinion Seeking

Opinion seekers imitate the purchase and consumption behaviors of the people they admire, collect information from other consumers in the social communication process, and get advice from more knowledgeable and experienced people than them (Flynn, Goldsmith, & Eastman, 1996:137). These individuals are followers of opinion leaders and are sensitive to interpersonal effects. While these consumers try to construct their own opinion, they are under the influence of other individuals (Rose & Kim, 2011). For this reason, opinion seekers see social networking sites as an environment where they can get information and trust these sites (Chu & Kim, 2011). Kang, Johnson, & Wu (2014) cited from Senecal and Nantel's (2004) study that the individuals who receive online product recommendations are twice as likely to purchase those products as those who do not. Accordingly, the hypothesis H8 has been developed:

- **H8.** Opinion seeking has a mediating role in the relationship between online flow and the behavioral changes of followers.

Fear of Missing Out (FoMO)

FoMO is the desire of being constantly connected with what other individuals are doing (Przybylski, Murayama, DeHaan, & Gladwell, 2013:1841). FoMO is actually a source of individual motivation and is associated with the need of belonging (Huguenel, 2017). Yin, Liu, & Lin (2015) found that FoMO is positively associated with continuance intention of using social network sites . Therefore, individuals who have more FoMO are more opinion-seeking (Oberst, Wegmann, Stodt, Brand, & Chamarro, 2017). Accordingly, the hypotheses have been developed in Table 1.

Table 1
FoMO Hypotheses

H9. FoMO has a moderating role in the relationship between individual motivations and online flow.
H9a. FoMO has a moderating role in the relationship between knowledge-sharing motivations and online flow.
H9a.a. FoMO has a moderating role in the relationship between consumer interactivity and online flow.
H9a.b. FoMO has a moderating role in the relationship between reciprocity and online flow.
H9a.c. FoMO has a moderating role in the relationship between reputation and online flow.
H9a.d. FoMO has a moderating role in the relationship between trust and online flow.
H9a.e. FoMO has a moderating role in the relationship between consumer expertise and online flow.
H9b. FoMO has a moderating role in the relationship between FIRO and online flow.
H9b.a. FoMO has a moderating role in the relationship between the need to be part of a group and online flow.
H9b.b. FoMO has a moderating role in the relationship between the need to be different and online flow.
H9b.c. FoMO has a moderating role in the relationship between the need to be altruistic and online flow.
H9b.d. FoMO has a moderating role in the relationship between the need for personal growth and online flow.

Behavioral Changes

The AIDMA model is important in terms of identifying psychological causes in consumer purchasing processes. In the AIDMA model, the consumer goes through the attention, interest, desire, memory, and action steps (Wei & Lu, 2013). The consumer is passive in the attention, interest, desire, and memory steps but are active in the action step. This model guides the consumer purchase decision process in the internet era (Cao, 2015). In Gomes, Sales, Cavalcante, & Carvalho's study in 2014, an attempt to understand the purchasing behavior of consumers who consider web videos was made. As a result of the research, a purchasing decision process model which is based on knowledge shared in videos was developed. At the same time, according to Wei & Lu's (2013) study, celebrity usage in advertising enables the consumer to have more feelings of attention, desire, and action. It also has a significant effect on online customer reviews. In this study, three main dimensions of the theory, which are interest, desire, and action, were discussed.

Methodology

Research Model

The research model is shown in Figure 1.

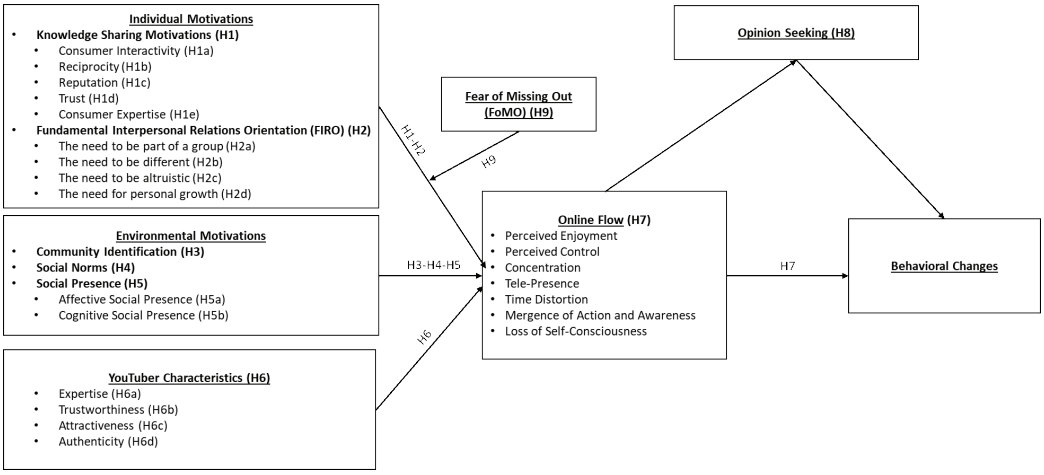

Figure 1. Research Model

Sampling Process

The main mass consisted of female consumers who live in Istanbul, are at least 18 years of age, and follow at least one YouTuber in makeup/cosmetic/beauty segment. This sample was chosen because Istanbul is a cosmopolitan city and can represent female consumers with different lifestyles. Within the scope of the study, it was not focused on any product group, brand, or YouTuber and/or YouTuber follower, only a specific segment was selected. This segment was makeup/cosmetic/beauty. In order to obtain accurate and reliable information, the respondents were to follow one or more YouTubers in the makeup/cosmetic/beauty segment as a prerequisite. Convenience sampling was used as the sampling method, and a survey procedure was conducted by a research company in Istanbul. The sample size was determined as n=384 with 95% confidence interval and 5% margin of error (Kurtuluş, 2004: 186). A total of 850 questionnaires were applied. As a result of the elimination of incomplete and incorrect questionnaires, 520 questionnaires were evaluated.

Measures

The research scales were adapted from the studies shown in Table 2.

Table 2
Research Scale

Scales	Adapted From
"Why do you follow makeup/cosmetics/beauty YouTuber(s)?"	Whiting & Williams (2013)
Knowledge Sharing Motivations	Wu et al. (2010), Lee, Park,
Consumer Interactivity (ET)	Kim, Kim, & Moon (2011)
Reciprocity (KFB), Reputation (ITI) and Trust (G)	Hsu & Lin (2008)
Consumer Expertise (TU)	Sohn (2005)
FIRO	
The need to be part of a group (AIT)	Leary, Kelly, Cottrell, & Schreindorfer (2013)
The need to be different (BEN,YAR)	Ruvio, et al. (2008)
The need to be altruistic	Ma & Chan (2014)
The need for personal growth (KGL)	Robitschek (1998)
Environmental Motivations	
Community Identification (TK)	Hsu & Lin (2008)
Social Norms (SN)	Wang & Chen (2012)
Social Presence (SM)	Shen & Khalifa (2008)
YouTuber Characteristics (YOU)	
Expertise (U), Trustworthiness (GV), Attractiveness (C) and Authenticity (O)	Ohanian (1990), Chapple & Cownie (2017)
Online Flow (OAT)	
Concentration (KON), Perceived Enjoyment (AZ) and Perceived Control (AKO)	Koufaris (2002)
Time Distortion (ZB)	Agarwal & Karahanna (2000)
Tele-Presence (TM)	Novak, Hoffman & Yung
Mergence of Action and Awareness and Loss of Self-Consciousness	(2000), Guo (2004) Guo (2004).
Opinion Seeking (FIA)	Flynn et al. (1996)
FoMO	Przybylski et al. (2013)
Behavioral Changes (DD)	
Interest (IB), Desire (AB) and Action (HG)	Wei & Lu (2013)

Individual and environmental motivations, online flow, opinion-seeking, FoMO, and behavioral changes were measured with the 5-point Likert scale (5 = Totally agree, 1 = Strongly disagree), and YouTuber characteristics were measured by a 7-Point Scale (1= Close to me, 7= Not close to me). The data was analyzed using SPSS and AMOS. In the analysis of the data, descriptive statistics, reliability, exploratory and confirmatory factor analyses, structural equation modeling, and mediating and moderating analyses were employed.

Results

Sample Characteristics and Descriptive Statistics

Participants generally were single (56%), in 18-25 (35.4%) and 26-33 (33.6%) age range, university graduates (51.2%), and private-sector employees (33.8%). They had a monthly household income of 4301 TL and above.

Many of the participants (55.6%) stated that they have followed YouTuber(s) for one year or longer and that they watched the video contents "1-3 hours a week." Finally, they generally followed the YouTubers for "entertainment" (49.2%), "providing convenience and benefits" (41.1%), "searching for information" (42.1%), "sharing information" (%40.0), and "time passing" (34.6%).

Reliability, Exploratory and Confirmatory Factor Analysis

Firstly, the reliability of the scales was separately tested.

After this analysis, an exploratory factor analysis was applied to determine the reliability and sampling adequacy of the scales. Due to the sample size, factor loads of 0.40 and above were considered. According to the exploratory factor analysis results, FIRO has five factors. Therefore, in the direction of the new factor structure, H2 and H9b and its sub-hypothesis were *revised*.

Meanwhile, according to the exploratory factor analysis results, online flow has five factors. Eliminated variables were the variables of the "mergence of action and awareness" and the "loss of self-consciousness" dimensions. Therefore, these two dimensions are out of the analysis.

Lastly, a confirmatory factor analysis was applied to determine whether the factors were compatible with the sample. The results of each analysis are shown in Table 3, and the fit index values are shown in Table 4.

Table 3
Reliability, Exploratory and Confirmatory Analysis Results

	Reliability Analysis		Exploratory Factor Analysis			Confirmatory Factor Analysis				
Scales	**Eliminated Variables**	**Cronbach Alpha**	**Explain Total Variance**	**Factor Loading (Ranged Form)**	**Eigenvalue**	**Cronbach Alpha**	**Eliminated Variables**	**CR**	**AVE**	**Cronbach Alpha**	**Eliminated Variables**
Knowledge Sharing Motivations		**0.935**									**6**
Consumer interactivity			68.499	0.871-0.731	4.110	0.908		0.905	0.705	0.905	
Reciprocity			83.141	0.925-0.901	2.494	0.898		0.899	0.749	0.898	
Reputation			92.102	0.960	1.842	0.914	1	0.915	0.843	0.914	
Trust			72.051	0.878-0.827	2.162	0.804		0.805	0.580	0.804	
Consumer Expertise			62.136	0.866-0.679	6.214	0.932		0.906	0.619	0.920	
FIRO	**4**	**0.899**	**64.895**				**3**				**9**
Factor 1: The need to be altruistic			25.761	0.910-0.816	9.274	0.972		0.947	0.749	0.947	
Factor 2: The need for personal growth			12.532	0.819-0.556	4.512	0.879		0.888	0.532	0.885	
Factor 3: Avoidance of similarity and unpopular choice counter-conformity			10.868	0.834-0.663	3.912	0.877		0.879	0.595	0.875	
Factor 4: Creative choice counter-conformity			8.194	0.800-0.628	2.950	0.831		0.819	0.533	0.811	
Factor 5: The need to be part of a group			7.539	0.804-0.545	2.714	0.759		0.771	0.413	0.759	
Environmental Motivations											
Community Identification		0.852	77.288	0.914-0.843	2.319	0.852		0.858	0.669	0.852	
Social Norms	1	0.848	76.740	0.904-0.849	2.302	0.848	1	0.851	0.656	0.848	

Table 3
Reliability, Exploratory and Confirmatory Analysis Results

	Reliability Analysis		Exploratory Factor Analysis				Confirmatory Factor Analysis				
Scales	**Eliminated Variables**	**Cronbach Alpha**	**Explain Total Variance**	**Factor Loading (Ranged Form)**	**Eigenvalue**	**Cronbach Alpha**	**Eliminated Variables**	**CR**	**AVE**	**Cronbach Alpha**	**Eliminated Variables**
Social Presence	3	0.892	76.750				1				
Factor 1: Cognitive Social Presence			48.458	0.862-0.686	3.392	0.895		0.890	0.620	0.895	
Factor 2: Affective Social Presence			28.292	0.928-0.908	1.980	0.895		0.898	0.816	0.895	
YouTuber Characteristics	**2**	**0.965**	**74.530**				**1**				**4**
Factor 1: Attractiveness			21.676	0.818-0.641	4.769	0.927		0.918	0.736	0.917	
Factor 2: Authenticity			19.530	0.728-0.688	4.296	0.916		0.906	0.660	0.903	
Factor 3: Expertise			17.951	0.823-0.635	3.949	0.922		0.924	0.710	0.922	
Factor 4: Trustworthiness			15.373	0.808-0.530	3.382	0.913		0.885	0.657	0.884	
Online Flow	**5**	**0.929**	**80.869**				**7**				
Factor 1: Tele-Presence			24.579	0.884-0.784	4.670	0.942		0.938	0.718	0.942	
Factor 2: Time Distortion			16.891	0.870-0.772	3.209	0.909		0.883	0.716	0.878	
Factor 3: Perceived Enjoyment			15.220	0.871-0.698	2.892	0.866		0.872	0.630	0.866	
Factor 4: Concentration			14.378	0.889-0.855	2.732	0.944		0.944	0.849	0.944	
Factor 5: Perceived Control			9.801	0.932-0.927	1.862	0.922		0.922	0.856	0.922	
Opinion Seeking	**3**	**0.968**	**60.223**	**0.833-0.586**	**3.011**	**0.827**				**0.827**	
FoMO		**0.803**	**36.332**	**0.695-0.500**	**3.633**	**0.803**				**0.726**	
Behavioral Changes		**0.948**	**84.744**				**1**				
Factor 1: Action			32.537	0.802-0.736	2.603	0.906		0.907	0.765	0.906	
Factor 2: Desire			27.515	0.841-0.609	2.201	0.901		0.915	0.781	0.901	
Factor 3: Interest			24.692	0.869-0.747	1.975	0.822		0.829	0.708	0.822	

Table 4
Fit Index Values

Scales	CMIN/ df	GFI	AGFI	RMR	RMSEA	CFI	NNFI	NFI
Knowledge Sharing Motivations	3.030	0.923	0.895	0.043	0.063	0.960	0.952	0.942
FIRO	2.232	0.905	0.887	0.065	0.049	0.948	0.943	0.911
Environmental Motivations	4.294	0.933	0.894	0.056	0.080	0.956	0.940	0.944
YouTuber Characteristics	3.698	0.905	0.877	0.074	0.072	0.954	0.947	0.939
Online Flow	2.897	0.928	0.902	0.072	0.060	0.968	0.962	0.953
Opinion Seeking	4.957	0.984	0.941	0.020	0.087	0.984	0.960	0.980
FoMO	3.584	0.982	0.953	0.048	0.071	0.963	0.930	0.950
Behavioral Changes	2.698	0.980	0.955	0.015	0.057	0.992	0.987	0.988

Generally, goodness of fit values criteria is as follows; CMIN/df is between the range of 1-5, GFI value is 0.90<GFI< 0.95, AGFI value is 0.85<AGFI<0.90, RMR value is 0.05≤RMR≤0.08, RMSEA value is 0.05<RMSEA<0.08, CFI value is 0.95<CFI<0.97, NNFI value is 0.95≤NNFI≤0.97, and NFI value is 0.90≤NFI≤0.95 (Schermelleh-Engel & Moosbrugger, 2003). After the confirmatory factor analysis, it was seen that the goodness of fit values are at an acceptable level.

In addition to this, for each scale, Cronbach's alpha values exceed 0.70, CR values exceed 0.70, and the AVE is generally larger than 0.50 (Hair, Black, Babin, & Anderson, 2014). According to discriminant and convergent validity, all the scales are both reliable and valid.

Research Model Testing

The research model comprehensively addresses individual and environmental motivations as well as YouTuber characteristics and analyzes the behavioral changes of followers through online flow. For this reason, model testing was carried out over three different paths, and the results are shown below.

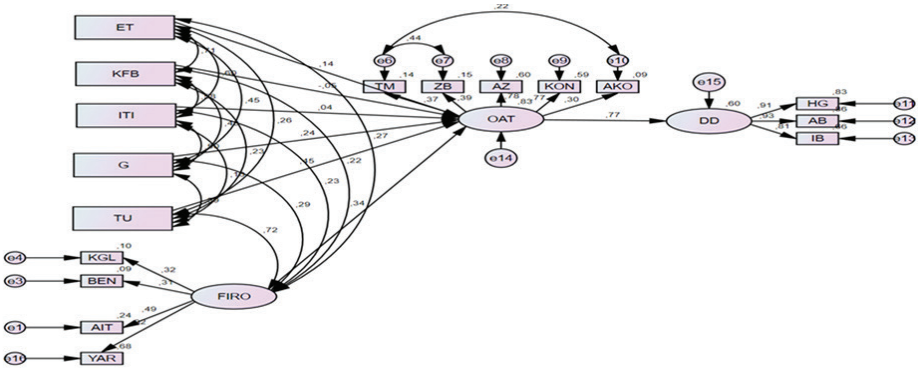

Figure 2. Path 1-The Effect of Individual Motivations on Online Flow and the Effect of Online Flow on Behavioral Changes of Followers

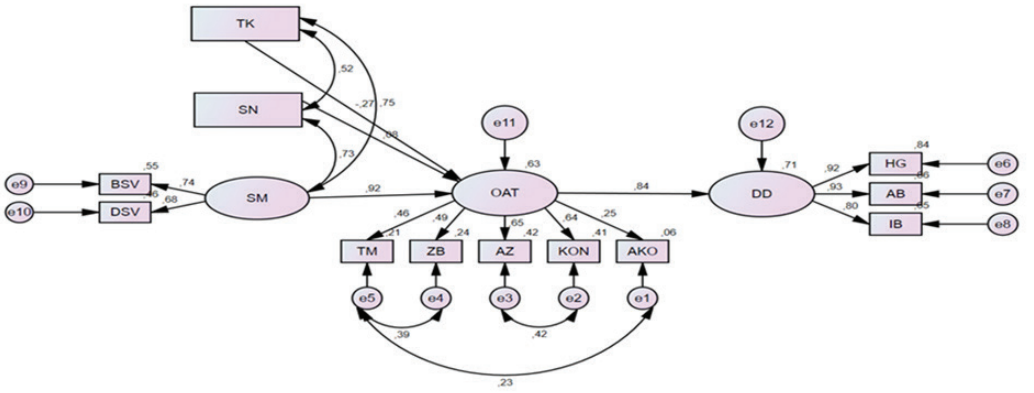

Figure 3. Path 2-The Effect of Environmental Motivations on Online Flow and the Effect of Online Flow on Behavioral Changes of Followers

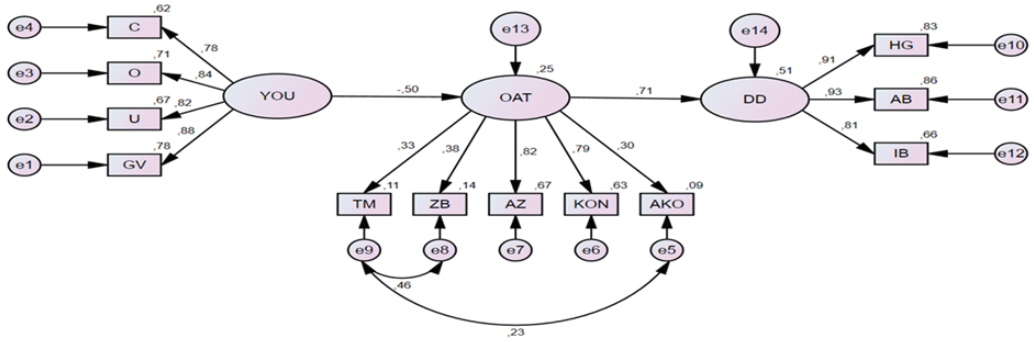

Figure 4. Path 3-The Effect of YouTuber Characteristics on Online Flow and the Effect of Online Flow on Behavioral Changes of Followers

The fit index for the path analyses is shown in Table 5.

Table 5
Fit Index Values of the Paths

Models	Fit Index							
	CMIN/df	GFI	AGFI	RMR	RMSEA	CFI	NNFI	NFI
Path 1	3.626	0.922	0.881	0.059	0.071	0.936	0.913	0.914
Path 2	4.699	0.931	0.882	0.048	0.084	0.944	0.920	0.931
Path 3	4.607	0.946	0.915	0.055	0.071	0.962	0.950	0.949

In the Path 1 analysis, it was seen that the model variables did not have fit values for the individual motivations step, and the recommended modifications were made. The “Altruism”

dimension was excluded from the analysis, and H2d was rejected. After completing the recommended modifications, it was seen that the goodness of fit values are at an acceptable level. Path results are shown in Table 6.

Table 6
Paths Results

PATH 1				
Hypothesis	**C.R.**	**S.R.W.**	**p**	
H1a	3.082	0.145	0.002	H1a (+)
H1b	-1.176	-0.051	0.240	H1b (-)
H1c	1.060	0.043	0.289	H1c (-)
H1d	5.243	0.238	***	H1d (+)
H1e	5.828	0.451	***	H1e (+)
H2	4.307	0.341	***	H2 (+)
H2a		0.493	***	H2a (+)
H2b	5.688	0.307	***	H2b (+)
H2c	9.791	0.824	***	H2c (+)
H2e	5.883	0.320	***	H2e (+)
H7	8.069	0.775	***	H7 (+)
PATH 2				
H3	-2.290	-0.273	0.022	H3 (+)
H4	0.827	0.085	0.408	H4 (-)
H5	3.599	0.915	***	H5 (+)
H5a		0.682		H5a (+)
H5b	14.485	0.743	***	H5b (+)
H7	5.121	0.844	***	H7 (+)
PATH 3				
H6	-5.547	-0.502	***	H6 (+)
H6a	23.202	0.816	***	H6a (+)
H6b		0.882		H6b (+)
H6c	21.789	0.785	***	H6c (+)
H6d	24.467	0.844	***	H6d (+)
H7	6.059	0.711	***	H7 (+)

C.R.= t value, S.R.W.= Standardized Regression Weight, $p < 0.05$, ***$p<0.001$
Table Note: Accepted hypotheses have been shown with (+), rejected hypotheses have been shown with (-).

Testing the Mediating Effect of Opinion Seeking

Within the scope of the study, it was assumed that opinion-seeking has a mediating effect on the relationship between online flow and behavioral changes. The results are presented in Table 7.

Table 7
Mediation Test Results

	Fit Index Values			Standardized Path Coefficients
Direct Model	• CMIN/df=4.215 • GFI=0.969 • AGFI=0.926 • RMR=0.053 • RMSEA=0.079 • CFI=0.976 • NNFI=0.956 • NFI=0.969	Online Flow →	Behavioral Changes of Followers	• S.R.W.= 0.712 • C.R.= 6.027 • p=***
Mediation Model	• CMIN/df=3.510 • GFI=0.969 • AGFI=0.933 • RMR=0.050 • RMSEA=0.070 • CFI=0.975 • NNFI=0.957 • NFI=0.966	Online Flow →	Opinion Seeking	• S.R.W.= 0.291 • C.R.= 4.456 • p=***
		Online Flow →	Behavioral Changes of Followers	• S.R.W.= 0.657 • C.R.= 5.950 • p=***
		Opinion Seeking →	Behavioral Changes of Followers	• S.R.W.= 0.191 • C.R.=5.156 • p=***

Sobel Test Results[1]
Test Statistics=2.019, Standard Error=0.027, p=0.04

Bootstrap Confidence Intervals
Total Effect=0.013, Direct Effect=0.009, Indirect Effect=0.007, Bootstrap Confidence Interval=0.034–0.083

[1] http: //quantpsy.org/sobel, 2019, ***p<0.001.

According to the mediation model test results, it was seen that the variables in the mediating effect model are at an acceptable level. The relationship between online flow and followers' behavioral changes weakened with the addition of opinion-seeking. Thus, mediation conditions were provided, and partial mediating effects emerged (Baron & Kenny, 1986). After the mediation test, the Sobel and Bootstrap Confidence Interval tests were performed. According to the results of both the Sobel and Bootstrap Confidence Intervals Tests, opinion-seeking had a partial mediating effect. The H8 hypothesis was accepted.

Testing the Moderating Role of FoMO

An attempt to determine the moderator role of FoMO in the relationship between individual motivations and online flow was made. For the moderator variable test, participants were grouped as having a low FoMO (score below 3, N=174, M=2.98) and having a high FoMO (score above 3, N=228, M=3.22). After determining the group numbers, a moderator variable test was conducted. For this purpose, Excel macro was used as well as the AMOS program (http: //statwiki.kolobkreations.com, 2019). The moderating effect of FoMO is shown in Table 8.

Table 8
Moderating Effect of FoMO

Participants with Low FoMO	**C.R.**	**S.R.W.**	**p**
Online Flow<---Consumer Interactivity	**2.110**	**0.227**	**0.035**
Online Flow<---Reciprocity	-0.184	-0.016	0.854
Online Flow<---Reputation	-0.559	-0.044	0.576
Online Flow<---Trust	**2.334**	**0.220**	**0.020**
Online Flow<---FIRO	**3.087**	**0.674**	**0.002**
The need to be part of a group<---FIRO		0.658	
Creative choice counter-conformity<---FIRO	7.619	0.811	***
Avoidance of similarity and unpopular choice counter-conformity <---FIRO	3.479	0.301	***
The need for personal growth<---FIRO	2.528	0.216	0.011
Tele-presence<---Online Flow		0.283	
Time Distortion<---Online Flow	3.756	0.492	***
Perceived Enjoyment<---Online Flow	3.483	0.882	***
Concentration<---Online Flow	3.400	0.804	***
Participants with High FoMO			
Online Flow<---Consumer Interactivity	0.928	0.075	0.354
Online Flow<---Reciprocity	-0.631	-.0048	0.528
Online Flow<---Reputation	-0.621	-0.044	0.535
Online Flow<---Trust	**4.222**	**0.407**	***
Online Flow<---FIRO	**3.870**	**0.571**	***
The need to be part of a group<---FIRO		0.397	
Creative choice counter-conformity<---FIRO	5.148	0.897	***
Avoidance of similarity and unpopular choice counter-conformity <---FIRO	3.836	0.342	***
The need for personal growth<---FIRO	4.361	0.423	***
Tele-presence<---Online Flow		0.408	
Time Distortion<---Online Flow	2.838	0.176	0.005
Perceived Enjoyment <---Online Flow	5.162	0.848	***
Concentration<---Online Flow	5.505	0.796	***

C.R.= t value, S.R.W.= Standardized Regression Weight, $p < 0.05$, ***$p<0.001$

In the moderation analysis, the model variables did not have fit values, and the recommended modifications were made. The "consumer expertise" and "perceived control" dimensions were excluded from the analysis. After these modifications, it was seen that the goodness of fit values were at an acceptable level. The Fit indexes are CMIN/df=1.750, RMR=0.06, RMSEA=0.043, GFI=0.943, AGFI=0.891, NFI=0.918, NNFI=0.939, and CFI=0.962.

In terms of participants with low FoMO, there are statistically significant relationships between the following variables: consumer interactivity and online flow (Estimate= 0.060; t value= 2.110), trust and online flow (Estimate= 0.075; t value= 2.334), and FIRO and online flow (Estimate= 0.336; t value= 3.087).

In terms of participants with high FoMO, there are statistically significant relationships between the following variables: trust and online flow (Estimate= 0.188; t value= 4.222)

and FIRO and online flow (Estimate= 0.881; t value= 3.870). The chi-square difference test results are presented in Table 9.

Table 9
Chi-Square Differences Test Results

	High		Low		
	Estimates	**p**	**Estimates**	**p**	**z-score**
Online Flow<---Consumer Interactivity	0.027	0.354	0.06	0.035	0.788
Online Flow<---Reciprocity	-0.018	0.528	-0.005	0.854	0.359
Online Flow<---Reputation	-0.015	0.535	-0.011	0.576	0.118
Online Flow<---Trust	0.188	***	0.075	0.02	-2.058**
Online Flow<---FIRO	0.881	***	0.336	0.002	-2.161**
The need to be part of a group<---FIRO	1		1		
Creative choice counter-conformity<---FIRO	3.005	***	1.263	***	
Avoidance of similarity and unpopular choice counter-conformity <---FIRO	1.247	***	0.511	***	
The need for personal growth<---FIRO	0.88	***	0.261	0.011	
Tele-presence<---Online Flow	1		1		
Time Distortion<---Online Flow	0.49	0.005	1.846	***	
Perceived Enjoyment <---Online Flow	1.788	***	2.559	***	
Concentration<---Online Flow	1.835	***	2.993	***	

The results of the moderator variable test showed that hypotheses H9, H9a and sub-hypothesis H9a.d were accepted. However, H9a.a, H9a.b, H9a.c, and H9a.e were rejected. In addition to this, H9b and sub-hypotheses H9b.a, H9b.b, H9b.c, and H9b.e were accepted, while H9b.d was rejected.

Conclusions

Within the scope of the research, a comprehensive model was proposed by bringing together variables that had not been studied before. The findings obtained are as follows:

In terms of individual motivations, consumer interactivity, trust, and consumer expertise have a positive effect on online flow. According to results, as interactivity level increases, the knowledge-sharing tendency also increases. Therefore, the two-way communication between YouTubers and followers accelerates the online flow process. For trust, it can be stated that if the trust of the followers in both each other and in YouTubers increases, knowledge-sharing increases, and followers are involved in the online flow. Lastly, in regards to consumer expertise, individuals will spend more time in the mediated environment to learn more and

contribute to the process, but as for the reciprocity and reputation dimensions, they have no effect on online flow.

Meanwhile personal growth, avoidance of similarity and unpopular choice counter-conformity, creative choice counter-conformity, and the need to be part of a group have a positive effect on online flow. For personal growth, consumers who are characterized with intense opinion-seeking consume more video content to ensure personal growth and experience all stages of the online consumer behavior decision making process. Followers have an avoidance of similarity and want to be different from others. Therefore, they tend to consume video content which emphasizes on difference. Due to creative choice counter-conformity, they prefer products which are accepted by the society. At this point, the need for uniqueness depends on different usage and applications and brand preference. Finally, in terms of the need to be part of a group, they want to consume the same content and applications as the online community. In this direction, for all individual motivations, the online flow process is accelerated, and the process ends with behavioral change.

In terms of environmental motivations, community identification has a negative effect on online flow whereas affective and cognitive social presences have a positive effect. However, social norms have no effect.

For community identification and social norms, individuals follow a YouTuber and video content. However, they do not consider themselves as part of the community. Followers do not act with a community identity, and this situation causes a negative effect on the online flow. Similarly, this situation does not lead to a behavioral change in terms of social norms. This is because the online consumer is more of an individual and independent. For social presence, it is seen that considering important to the individual both affectively and cognitively, and the community will reveal online flow and behavioral changes.

YouTuber characteristics have a negative effect on online flow. At this point, individuals follow YouTubers and care about their characteristics, but these are not the unique factor in online flow. However, it was seen that the subdimensions of YouTuber characteristics have a positive effect.

Opinion-seeking has a partial mediator role in the relationship between online flow and behavioral changes. Due to followers' need for information and the importance of information, online flow has an effect on opinion-seeking, and opinion-seeking has an effect on behavioral change.

Finally, the results demonstrate that high FoMO individuals have more trust in the information shared by YouTubers. Meanwhile, individuals with high FoMO have more need to be part of a group, need for creative choices, and need for personal growth. However, they avoid

similarity less. Finally, these individuals have fears of missing out, of not being informed, and of falling behind other individuals. For this reason, personal growth needs are also high.

Implications

According to findings, it is seen that individuals attach importance to the knowledge-sharing motivation. YouTubers can concentrate more on videos that explain product promotions, content, and usage. This proposal can also be evaluated in terms of community identification.

Knowledge-sharing between followers has essential for an effective communication process. Therefore, effective content production can be supported with applications such as augmented reality. It is important to offer followers quality content which can draw attention in terms of video structure and fiction. YouTubers can enable their followers to get involved in their content production and sharing process. Also, when businesses can present video content which followers can talk about and which trigger the discussion and commentary process about said video content, they will be able to convert the interaction process to online flow. The increasing number of shares and likes will bring new followers, comments, and popularity at that rate.

To increase the sense of trust in the community, it is necessary to provide effective feedback to the followers, to get feedback from them, and to report the satisfaction or dissatisfaction under the heading "from you." YouTubers should demonstrate that they are not supported by any brand and are neutral to increase the level of trust from the followers.

Today, customers are connecting with brands to which these customers can access, and the brands can access their customers. Therefore, the consumer should be included in the co-creation process. The emphasis on expertise can be brought to the forefront with "you can improve" competitions.

YouTubers are virtual opinion leaders. However, it should not be ignored that expert consumers also have the potential to become opinion leaders. Businesses can make these people as brand ambassadors who can support the process of creating their own followers.

Followers care about their personal growth. In this sense, "How did I do it?", "How is it done?", and "Request videos from followers" videos will have a significant effect.

Followers have an avoidance of similarity. For these consumer groups, "limited" can be a strategy. An "emphasis on uniqueness and different from the others," "customized products/messages," and a "perception of high quality" are among the strategies that can be applied. With this strategy, individuals with a high FoMO can also be satisfied. Market segmentation is another strategy that can be recommended. Meanwhile this proposal can also be evaluated in terms of community identification, and one-to-one marketing practices might be preferred.

In terms of the need to be part of a group, YouTube is a platform which emphasizes on community culture. YouTubers tend to share their everyday lives. This can make practitioners' work easier.

Today, individuals are active in two distinct worlds—the real world and the virtual world. For this reason, businesses should effectively integrate them. This can be achieved by creating avatars and developing augmented reality and 3D applications for social presence.

In the online flow process, YouTuber characteristics are not the sole factor. YouTubers should clearly introduce themselves to their followers to provide effective and accurate communication. YouTubers can determine which characteristic stands out in the eyes of their followers and constitute differentiation strategies.

Influencers have considerable importance in the sense of brand storytelling. Therefore, marketers and professionals should look for a way to use these individuals in brand dialogues.

In order to influence opinion-seekers, virtual experiences, testing products, sending a prototype of new products to YouTubers, the use of a product by a YouTuber in a video, and applying for in-video advertising strategies can be used. These applications are valuable for individuals who have a high FoMO as well as individuals who are connected to their electronic devices and can be considered as an "innovator" consumer group. For this reason, it is necessary to act quickly in the communication of these individuals and to make and emphasize this innovation, and behavioral changes can be achieved by creating the perception of "being special."

Limitations and Future Studies

This study was carried out Istanbul, and within the scope of the research, a particular product group, brand, or YouTuber was not focused on; merely a specific segment was selected. Limitations of the study are that a product/brand group or YouTubers in general were not evaluated since the study was established on a specific segment and city.

In future studies, personality, lifestyles, values, expectations, and different motivational processes can be included in the model. Purchasing and decision-making styles which are active in the virtual world and in online flow can be discussed. Furthermore, opinion leadership and opinion-passing behaviors can be added to the model. Through the consumer-oriented model, consumer characteristics can be determined, and this can create consumer profiles. Similarly, a YouTube consumer inventory can be designed for YouTubers, and market segmentation studies can be carried out. How the model will give results in terms of different social media tools and vlog fields can be investigated, and a comparative study can be carried out.

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