

Study on Impact of Information Characteristic of Opinion Leaders on Customer Brand Engagement - An Empirical Research Based on China's Social E-commerce Platforms

Jing ZHANG^{1,2}, Yue-ru MA^{1,*}

Abstract

The emergence of social media provides chances for the communication between consumers and enterprise brands, leading to wide attention on network opinions leaders from all sectors of society. The way to develop the positive impact of network leader opinions has become critical to enterprise internet brand marketing, which needs to be addressed urgently. Based on the characteristics of social media, this paper describes the impact of information characteristics of network opinion leaders on social e-commerce platforms on customer brand engagement as well as the effect of brand experience between the above two factors. An empirical study was carried out through a questionnaire for typical social commerce platform users. The results showed that the visual information cue, timeliness and innovation of opinion leaders greatly affected the customer engagement with a brand and there was the intermediary effect of brand experience. This reveals that the information characteristics of opinion leaders have an internal effect on customer brand engagement.

Keywords: Information characteristics of opinion leaders; Customer brand engagement; Social e-commerce platform

I. Introduction

In recent years, as social media becomes mature and the e-commerce industry experiences fast growth, social e-commerce combined with social media and e-commerce characteristics has become a new orientation for the e-commerce industry. In the *2020 Deep Research Report on Social E-commerce* released by Hushen, though traditional e-commerce channels (e.g. Taobao, JD B2C, C2C internet integrated retail platform) remain the mainstream shopping platforms, online consumers using the social e-commerce channel has reached 80%. It indicates that the social traffic dividend developing social relations and personal influence emerges and China's social e-commerce has great market potential. Actually, lots of social e-commerce websites did appear in China. Xiaohongshu, MOGU, Meilishuo and Pinduoduo have outweighed other e-commerce websites, and domestic internet giants entered the social e-commerce field one after another, e.g. cooperation between Alibaba and Sina, WeChat and JD.

Massive opinion leaders have appeared on social commerce platforms. In *China Internet Development Report 2019*, till June 2019, there are more than 60,000 opinion leaders and influencers with network followers of more than 500,000. In the social network, as recognized information resources, opinion leaders feature innovative thinking and interpersonal communication proficiency, able to influence others' decisions (Carpenter, 2010). In *2019 Social Interaction and Content Trend Observation*, ADmaster stated that the voice of opinion leaders existed in the promotion of 60% of marketing plans, and 40% of consumers admitted that the words of opinion leaders did affect their purchase decisions (Ad Master, 2019). Fullscreen Media(2018) carried out a similar investigation and the results went that 37% of consumers would trust the brand after acquiring the opinions from opinion leaders. Valente and Pumpuang (2007) argued that opinion leaders could help to change social norms and accelerate behavior changes. For all industries, especially the fashion industry, social media is far more than an auxiliary tool but a powerful marketing strategy necessary in the current market (Vries, 2012).

Particular attention has been cast on the effect of opinion leaders in the marketing field for the long term and their influence on consumers' behaviors

1. School of Business, Central South University, Changsha Hunan, 410083, China

2. International College, Central South University of Forestry and Technology, Changsha Hunan . 410004, China

*Correspondence author: Yue-ru MA . Email: mayueru_cs@163.com

grows stronger (Tu Hongwei, 2014). Among all researches on social e-commerce opinion leaders, few have focused on the way that opinion leaders affect customer brand engagement. Within the context of social commerce, it is worth discussing whether opinion leaders can affect the recognition, feeling and behavior of consumers through their information characteristics, thus triggering the customer brand engagement. From the marketing practice perspective, social e-commerce platform is the achievement in the progress of social commerce development, and it is critical for enterprises to fully utilize this platform and combine the information characteristics of opinion leaders to enhance customer brand engagement.

II. Theoretical analysis and research hypothesis

(I) Impact of information characteristics of opinion leaders on customer brand engagement

The concept of Opinion Leader was first proposed by Lazarsfeld et al. in 1940, referring to active opinion spreaders in social network communities and idea and opinion providers (Lazarsfeld, 1944). The appearance of social media and the reoccurrence of network interpersonal relationships emphasize that personal influence is still important in news and opinion communication (Schafer and Taddicken, 2015). An opinion leader can be defined as an individual casting great influence on other's thoughts, attitudes, or behaviors (Godey et al., 2016 & Nunes et al., 2018). Based on the achievements of previous researches and combined with social media information communication features, information characteristics of opinion leaders on social commerce platforms including visual information cue, innovation and timeliness were selected in this paper (Luis, 2018). Customer brand engagement is customer's non-trade behavior beyond the brand purchase behavior (Van et al., 2010), to be specific, customer's investment degree concerning recognition, feeling and behavior for certain brand(s) (Hollebeek, 2011). Opinion leaders are important spreaders of product, service and brand information and influence other consumers' purchase decisions (Gnambs and Batinic, 2012), brand recognition and brand attitude (Chaudhry, 2013).

Visual information cue refers to communication means concerning images and texts adopted during product or service property evaluation (Davis, 2008). Social media opinion leaders turn from the initial product copy sharing to the current video making and online live streaming. Information communication has

become more vivid and easier to arouse consumers' affection for the product, stimulating consumption (Park, 2007). Therefore, the following hypothesis is proposed based on the above analysis:

H1: The visual information cues of social e-commerce platform opinion leaders can positively influence customer brand engagement

Zhilin (2005) believed that the information timeliness could not only reflect the time interval between the event occurrence to information formation but the latest product and prevailing outfit (Yang, 2005). The timely update by opinion leaders can guarantee that consumers obtain product-related information within an effective time period and lead their recognition of prevailing products. Therefore, the following hypothesis is proposed based on the above analysis:

H2: The information timeliness of social e-commerce platform opinion leaders can positively influence customer brand engagement

Innovative information can attract members in the interaction and improve customers' innovative perception of the product. When consumers perceive the innovation, they are likely to view the website more and share shopping information with others. Kaplan (2017) found in research that the higher the consumer's innovative perception is and more active the customer's mental response to this brand is. Consumers are also more willing to interact with the brand. Therefore, the following hypothesis is proposed based on the above analysis:

H3: The information innovation of social e-commerce platform opinion leaders can positively influence customer brand engagement

(II) Intermediary effect of brand experience

Bennett et al. (2004) argued that brand experience was the differentiated feeling about the brand throughout the process from knowing and understanding the brand, generation of brand purchase willingness to the purchase behavior and repeated purchase behavior. Contact with items related to the brand can trigger consumers' perception and recognition, thus influencing their behavior response (Brakus & Schmitt et al., 2009). Davis & Khazanchi (2008) defined visual information cues as any relevant image or video communication means adopted during the product or service property evaluation. As social commerce develops, the information presentation forms of opinion leaders turn to be diversified and intelligent, from oral or text communication to video and live streaming. This triggers consumers to communicate about relevant

products and post real-time opinionsto better integrate social behaviors in the shopping process and customer engagement with the brand (Zhang, 2017). Therefore, the following hypothesis is proposed based on the above analysis:

H4: The impact of visual information cues of social e-commerce platform opinion leaders on customer brand engagement is realized with brand experience as the intermediary

Zhilin (2005) believed that information timeliness could not only reflect the time interval between the event occurrence to information formation but the latest product and prevailing outfit (Yang, 2005). Therefore, the timely update by opinion leaders can guarantee that consumers obtain product-related information within an effective time period and lead their recognition of prevailing products.

H5: The impact of information timeliness of social e-commerce platform opinion leaders on customer brand engagement is realized with brand experience as the intermediary

O’Cass and Carison (2012) found that the innovative perception of consumers could add their viewing frequency of shopping websites. When they had enough innovative perception, they would like to share shopping information with others. Kaplan (2017) concluded that the higher the consumer’s innovative perception is and more active the customer’s mental response to this brand is. Consumers are also more willing to interact with the brand. Therefore, the following hypothesis is proposed based on the above analysis:

H6: The impact of information innovation of social e-commerce platform opinion leaders on customer brand engagement is realized with brand experience as the intermediary

(III) Regulating effect of relationship strength

According to the social network theory, a strength relation shows the intimacy of individuals with social relations (Granovetter,1973). Due to the fast-growing internet technology, online relation has

also become an important part in interpersonal relationships. Existing researches show that relationship strength affects the reputation communication behavior among consumers (Zhang, 2013), and changes the information influence degree for receivers (Voyer, 2015). When members of a community are highly connected, people tend to share their experiences and feelings (Bansal&Voyer et al.,2000) and are more willing to actively promote brand information and repeatedly purchase certain products. This can better improve the receptivity of a brand. The following hypothesis is proposed based on the above analysis:

H7: Relationship strength regulates the relation between brand experience and customer brand engagement.

III. Research design

(I) Data collection

In this research, MOGU and Meilishuo were selected as typical social e-commerce platforms, but regarding respondents, 2 conditions must be met: experience about social e-commerce website (namely, Xiaohongshu, Meilishuo and Mogu in this research) and influence of opinion leaders in some fashion brand products or services. Therefore, the questionnaire objects in this paper were finally defined as users of Xiaohongshu, Meilishuo and MOGU websites who also actively responded to recommendations of opinion leaders and were sensitive to new things. Aquestionnaire was first generated on a questionnaire website and then the questionnaire link was released in the forums of Xiaohongshu, Meilishuo and MOGU members, QQ groups, and WeChat groups. These members were invited to participate in this research. According to statistics, 430 effective samples were collected with 376 final effective questionnaires after ineffective ones were removed. The effective rate reached 87%. Table 1 describes basicdemographic characteristics and conditions in samples of this research.

Table 1 Basic Statistical Characteristic of Samples

Index	Option	Frequency	Percentage
Gender	Male	197	52.4
	Female	179	47.6
Age	Under 18	155	41.2
	18-22	101	26.9
	23-25	50	13.3
	26-30	41	10.9
	Over 30	29	7.7

	Under senior high school (included)	49	13
	Junior college	170	45.2
Education	BA	93	24.7
	MA	44	11.7
	Doctor and above	20	5.3
	Less than RMB 3000 (included)	22	5.9
Consumption level	RMB 3001-5000	143	38
	RMB 5001-7000	202	53.7
	More than RMB 7000	9	2.4
	Less than once	72	19.1
Online shopping frequency	Once – thrice	101	26.9
	4-6 times	99	26.3
	More than 7 times	104	27.7
	Students	78	20.7
Occupation	Employees of enterprises and public institutions	108	28.7
	Self-employed people/freelancers	114	30.3
	Other	76	20.2
Time involved in the social e-commerce platform	Less than 6 months	69	18.4
	6 months-1 year	136	36.2
	1year -2 years	109	29
	2year –3 years	42	11.2
	Over 3 years	20	5.3
Login frequency of the social e-commerce platform in the previous month	Seldom	59	15.7
	Occasionally	161	42.8
	Once –twice per week	89	23.7
	3-6 times per week	55	14.6
Do you follow opinion leaders on these websites	Almost everyday	12	3.2
	Yes	376	100
What kind of opinion leaders do you follow or are you willing to follow	Fashion	130	34.6
	Technology	110	29.3
	Culture	78	20.7
	Life	58	15.4

(II) Variable measurement

The scale in this research is an existing scale at home and abroad and has been revised according to characteristics of social e-commerce platforms investigated and objects. Information characteristics of opinion leaders mainly referred to scales of Wixom & Todd(2005), Frank(2008), and Gatignon&Robertson (1985)to conclude three dimensions, i.e., visual cues, innovation and timeliness. There are 9 questions, including 0.900 for Cronbach's Alpha of visual cues, 0.911 for innovation and 0.862 for timeliness. Brand experience referred to scales of Matzler (2007), Becerra (2013) with 7 questions and Cronbach's α

coefficient of 0.922. Customer brand engagement referred to scales developed by Hollebeek(2014), etc. with 9 questions and Cronbach's α 0.929. Relationship strength referred to scales of Frenzen,1990&Daivs(1990) and Gill et al.(1998) with 3 questions and Cronbach's α 0.846. All scales in this paper are subject to the 7-point Likert scale. To avoid the influence of irrelevant variables on result interpretation, factors chosen in this research include gender, age, education, consumption level, time involved in social e-commercial platform, and login frequency of e-commerce platform.

Table 2 Measurement Scale

Measured variable	Number of questions	Question content	Cronbach's Alpha value
		Vivid text description is provided when the opinion leader recommends brand products and services	
Visual cues	3	A vivid picture is provided when the opinion leader recommends brand products and services	0.900
		Visual video explanation is provided when the opinion leader recommends products and services	
Innovation	3	Brand product and service information recommended by the opinion leader is unique. Brand product and service recommended by the opinion leader is original. Brand product and service information recommended by the opinion leader is innovative.	0.911
Timeliness	3	The opinion leader recommends the latest contents The opinion leader always shares his/her current dynamics with followers. The opinion leader can lead the fashion trend.	0.862
Brand experience	4	The brand product and service are sensually impressive. The brand product and service are sensually unique for me. The brand can lead me in a unique feeling. Contact with the brand arouses my thinking about relevant matters The brand emphasizes the exchange and interaction with consumers Some innovation of the brand surprise me I want to buy the product or clothes of the brand	0.922
Customer brand engagement	8	I can make decisions about products and/or brands based on the user output of this virtual brand community. I obtain massive valuable information based on the user output of this virtual brand community. I can better understand the company and its products based on the user output of this virtual brand community. This virtual brand community makes me feel comfortable. This virtual brand community makes me feel satisfied. Using this virtual brand community makes me feel proud. I will provide positive comments on the products or services of this virtual brand community. I will recommend products and services of this virtual brand community to others	0, 929
Relationship strength	3	Opinion leaders on the social e-commerce platform are trustworthy and I believe them. I am satisfied with friends on the social e-commerce platform. Social e-commerce platforms arouse my sense of belonging and I expect to keep a long-term relationship with opinion leaders of the platforms.	0.846

IV. Empirical analysis

(I) Descriptive statistics and correlation analysis

The results of statistical analysis about the mean, standard deviation and correlation of variables with the SPSS21.0 software are shown in Tables 3 & 4. It can be clearly found that the variables share a

significant correlation, which provides preliminary support for subsequent hypothesis testing of this research.

Table 3: Descriptive Analysis of All Variables

Variable	Visual cues	Innovation	Timelines	Brand experience	Relationship strength	Brand fit	
N	376	376	376	376	376	376	
Minimum	1	1.33	1.33	1.43	1.33	1.5	
Maximum	7	7	7	6.71	7	6.63	
Mean	4.224	4.895	4.837	5.137	5.375	4.99	
Standard deviation	1.354	1.347	1.221	1.058	1.032	1.2	
Skewness	Statistical magnitude	-0.289	-0.677	-0.803	-1.441	-0.903	-0.786
	Standard error	0.126	0.126	0.126	0.126	0.126	0.126
Kurtosis	Statistical magnitude	-0.536	-0.204	0.28	2.816	1.05	-0.127
	Standard error	0.251	0.251	0.251	0.251	0.251	0.251

Table 4: Correlation Analysis Results

Variable	Gen der	Age	Educa tion	Consumpti on level	Online shopping frequency	Occup ation	Time involved in e-commerce platform	Platform login frequency	Visual cues	Innova tion	Timeli ness	Brand experience	Relationship strength	Bran d fit
Gender	1													
Age	0.064	1												
Education	0.05	.155**	1											
Consumption level	-0.06	-0.025	0.004	1										
Online shopping frequency	0.084	0.027	-0.057	.158**	1									
Occupation	0.033	0.012	0.097	0.096	-0.125*	1								
Time involved in e-commerce platform	-0.008	-0.06	0.002	0.027	-0.043	0.024	1							
Platform login frequency	-0.009	0.057	0.01	0.034	0.077	0.05	0.065	1						
Visual cues	-0.043	0.007	-.174*	-.235**	-0.001	-0.082	-0.003	-0.052	1					
Innovation	-0.082	0.051	-0.095	-.176**	0.041	-0.047	-0.014	-0.078	.227**	1				
Timeliness	-0.076	0.011	-0.03	-.293**	-0.024	-0.022	0.066	0.019	.365**	.401**	1			
Brand experience	-.114*	-.116*	-0.1	-.225**	-0.015	-0.084	0.029	-0.037	.402**	.379**	.412*	1		
Relationship strength	0.025	0.034	-0.012	-.176**	0.08	0.042	0.054	0.06	.183**	.292**	.349*	.173**	1	
Brand fit	0.091	0.033	-.135*	-.338**	0.047	-0.126*	-0.003	-0.041	.431**	.442**	.557*	.505**	.373**	1

Note: * means $p < 0.05$; * * means $p < 0.01$; * * * $p < 0.001$

(II) Testing of validity and reliability

To ensure the reliability of these data analysis results, confirmatory factor analysis is used to test the validity and reliability of the scale measurement model. The results are shown in Table 5. The standard factor loading of each question is greater than 0.5

with the composite reliability CR larger than 0.7, indicating that all measurements of each latent variable can explain the latent variable in a consistent way. The square error extraction of all variables is greater than 0.5, showing that the index has a rather high convergent validity.

Table 5 Reliability Confirmatory Factor Analysis Results

	Path		Estimate	S.E.	C.R.	P	CR	AVE
Visual cue 1	<---	Visual cue	0.843					
Visual cue 2	<---	Visual cue	0.876	0.056	20.518	***	0.901	0.753
Visual cue 3	<---	Visual cue	0.884	0.056	20.714	***		
Innovation 1	<---	Innovation	0.862					
Innovation 2	<---	Innovation	0.900	0.041	22.730	***	0.913	0.777
Innovation 3	<---	Innovation	0.882	0.044	22.151	***		
Timeliness	<---	Timeliness	0.849					
Timeliness 2	<---	Timeliness	0.825	0.055	17.709	***	0.863	0.678
Timeliness 3	<---	Timeliness	0.795	0.053	16.999	***		
Brand experience 1	<---	Brand experience	0.838					
Brand experience 2	<---	Brand experience	0.779	0.049	17.778	***		
Brand experience 3	<---	Brand experience	0.718	0.049	15.827	***		
Brand experience 4	<---	Brand experience	0.803	0.049	18.619	***	0.922	0.628
Brand experience 5	<---	Brand experience	0.758	0.049	17.073	***		
Brand experience 6	<---	Brand experience	0.849	0.050	20.317	***		
Brand experience 7	<---	Brand experience	0.794	0.048	18.304	***		
Relationship strength1	<---	Relationship strength	0.830					
Relationship strength2	<---	Relationship strength	0.789	0.062	15.368	***	0.846	0.647
Relationship strength3	<---	Relationship strength	0.794	0.060	15.429	***		
Brand fit 2	<---	Brand fit	0.746	0.052	16.408	***		
Brand fit 3	<---	Brand fit	0.787	0.053	17.668	***		
Brand fit 4	<---	Brand fit	0.733	0.055	16.003	***		
Brand fit 5	<---	Brand fit	0.799	0.053	18.086	***		
Brand fit 6	<---	Brand fit	0.794	0.054	17.895	***	0.929	0.622
Brand fit 7	<---	Brand fit	0.770	0.053	17.137	***		
Brand fit 1	<---	Brand fit	0.820					
Brand fit 8	<---	Brand fit	0.854	0.053	19.941	***		

Discriminant validity analysis results are shown in Table 6 with AVE of all factors greater than 0.5 and the square root of AVE greater than correlation coefficient

between dimensions. This shows that the scale is equipped with good discriminant validity and the discriminant validity between factors is satisfactory.

Table 6 Discriminant Validity Analysis

Variable	Visual cue	Innovation	Timeliness	Brand experience	Relationship strength	Brand fit
Visual cue	0.867					
Innovation	.227**	0.881				
	.365**	.401**	0.823			
Brand experience	.402**	.379**	.412**	0.792		
Relationship strength	.183**	.292**	.349**	.173**	0.804	
Brand fit	.431**	.442**	.557**	.505**	.373**	0.788

(III) Hypothesis testing

Data in this research are collected through a questionnaire. To ensure the accuracy of statistical analysis results, the most common Harman single factor method is used for the same source bias testing of statistical data. In other words, all questions in the measurement scale are analyzed as exploratory factors. Under the principal component analysis method, 6 common factors with characteristic values greater than 1 are extracted. The cumulative variance explanation rate is 73.929% with the explanation capacity of all factors lower than 40%. A common factor that can explain most variation does not exist. In addition, from relevant empirical analysis results, the correlation coefficient between variables varies from 0.173 to 0.557, significantly lower than the common method standard of 0.90. Based on these

two above analysis methods, it can be found that this research does not suffer from serious common source bias and it is available to proceed with the analysis of relevant empirical test results.

(1) Main effect verification

The AMOS21 Software is used in this research to verify the path coefficient and hypothesis of the model, and then the maximum likelihood method is adopted for the significance estimate of all path coefficients. According to Table 7, χ^2/df equals 2.497, smaller than 3; GFI 0.891, greater than 0.8; AGFI 0.864, greater than 0.8; NFI 0.910, greater than 0.9; CFI 0.944, greater than 0.9; RMSEA=0.063, smaller than 0.08. All the above data show that the model fitting degree is satisfactory and the model is acceptable.

Table 7 Model Fitting Indexes

Reference index	χ^2/df	GFI	AGFI	NFI	IFI	TLI	CFI	RMSEA
Statistical value	2.497	0.8891	0.864	0.910	0.944	0.936	0.944	63
Reference value	<3	>0.8	>0.8	>0.9	>0.9	>0.9	>0.9	<0.08
Qualified or not	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Analysis results of the structural equation model are shown in Table 8. According to the table, it can be found that all hypothesis paths are significant, that is, hypotheses 1, 2 and 3 are all qualified. It also shows that visual cues can significantly and positively influence the customer brand engagement with higher visual cues and higher customer brand engagement. So hypothesis 1 is valid. Information

timeliness can significantly and positively influence the customer brand engagement with higher information timeliness and higher customer brand engagement. So hypothesis 2 is valid. Information innovation can significantly and positively influence the customer brand engagement with higher information innovation and higher customer brand engagement. So hypothesis 3 is valid.

Table 8 Path Coefficients between Variables

Hypothesis path	Standard path coefficient	Residual error	T value	Hypothesis verification
Brand experience <--- Visual cue	0.283***	0.046	5.147	Valid
Brand experience <--- Innovation	0.23***	0.049	4.108	Valid
Brand experience <--- Timeliness	0.238***	0.066	3.832	Valid
Brand fit <--- Brand experience	0.236***	0.057	4.467	Valid
Brand fit <--- Visual cue	0.172***	0.045	3.454	Valid
Brand fit <--- Innovation	0.174***	0.048	3.486	Valid
Brand fit <--- Timeliness	0.363***	0.067	6.253	Valid

(2) Intermediary effect verification

To explore the customer brand engagement of social e-commerce platforms, the brand experience in this research acts as the intermediary between the information characteristic of opinion leaders and customer brand engagement. The BootStrap method in AMOS21.0 software is used to verify the intermediary effect between information characteristics of opinion leaders and customer brand engagement. The sample is repeated 5000 times with 95% of the confidence interval is calculated. As shown in Table 9, the interval for intermediary path of visual cues-brand experience-brand fit does not include 0 with the P-value smaller than the significant level 0.05, so hypothesis H4 is valid. On social e-commerce platforms, the impact of visual information cues of

opinion leaders on customer brand engagement is realized with brand experience as an intermediary. The interval for intermediary path of innovation-brand experience-brand fit does not include 0 with the P-value smaller than the significant level 0.05, so hypothesis 5 is valid. On social e-commerce platforms, the impact of innovation of opinion leaders on customer brand engagement is realized with brand experience as an intermediary. The interval for intermediary path of timeliness-brand experience-brand fit does not include 0 with the P-value smaller than the significant level 0.05, so hypothesis H6 is valid. On social e-commerce platforms, the impact of information timeliness of opinion leaders on customer brand engagement is realized with brand experience as an intermediary.

Table 9 Intermediary Effect Testing Results

Parameter	Estimate	Lower	Upper	P
Visual cue -Brand experience -Brand fit (standard)	0.067	0.025	0.121	0.000
Innovation -Brand experience -Brand fit (standard)	0.054	0.017	0.101	0.000
Timeliness-Brand experience -Brand fit (standard)	0.056	0.014	0.124	0.004

(3) Regulating effect verification

To further improve the explanatory capacity of the model, demographic variables are introduced in the regulating effect testing concerning community identity as controlled variables. Customer perceived values and community identity are deemed as independent variables with customer brand engagement as a dependent variable to build a multiple regression model. The results are shown in Table 10. Brand experience × relationship strength

significantly and positively influences customer brand engagement (model 3, $\beta=0.109$, $p<0.001$). It shows that the relationship strength plays a positive regulating role in brand experience and customer brand engagement, that is, high relationship strength is and stronger the effect of brand experience on customer brand engagement and vice versa. So the hypothesis H7 is valid.

Table 10 Regulating Effect Testing Results

Controlled variable	Brand fit		
	Model 1	Model 2	Model 3
Gender	-0.105*	-0.062	-0.064
Age	-0.013	0.018	0.016
Education	-0.126*	-0.090*	-0.093*
Consumption level	-0.344***	-0.202***	-0.198***
Time involved in e-commerce platform	0.007	-0.021	-0.016
E-commerce platform login frequency	-0.028	-0.035	-0.030
Independent variable			
Brand experience		0.398***	0.397***
Relationship strength		0.271***	0.291***
Interaction items			
Brand experience x relationship strength			0.109**

R ²	0.144	0.389	0.400
Regulating R ²	0.130	0.376	0.386
F	10.367***	29.194***	27.162***

V. Conclusion and implication

(I) Conclusion and discussion

Based on the “stimulation-individual’s physiology and psychology - response” S-O-R perspective and with the empirical study method, this research demonstrates the positive impact of information characteristics of opinion leaders on customer brand engagement. In addition, within the context of social e-commerce platforms, the intermediary effect of brand experience on customer brand engagement is researched. The following conclusions are realized. First, all three variables (visual information cues, information timeliness and innovation) among information characteristics of opinion leaders positively influence customer brand engagement. When opinion leaders are equipped with these information characteristics, consumers are more likely to be influenced by these opinion leaders and produce customer brand engagement. Possible causes are that on social e-commerce platforms, customers pay more attention to the timely update of brand or service information and timely information push can provide them with more asymmetric information and arouse their sense of value. Under such circumstances, customers are more willing to accept timely information recommended by opinion leaders; when opinion leaders recommend innovative information, customers tend to produce the feeling of freshness and discriminate recognition. This further helps to enhance the impact of opinion leaders on customer brand engagement. Secondly, brand experience can significantly and positively influence customer brand engagement. On social e-commerce platforms, stronger customer experience always cause easier production of customer brand engagement, indicating that individual customer’s personal feeling due to certain experience of a brand can influence the customer brand engagement behaviors. Thirdly, regulating analysis shows that relationship strength plays a certain role in the customer brand engagement process. According to the social network theory, on social e-commerce platforms, the relationship strength between customers allows both customers to think and act alike and then produce brand fit to different extents.

(II) Management implication

Operators of enterprise brands or social e-commerce platforms should highlight the effect of opinion leaders in marketing and help to enhance the influence of opinion leaders to improve customer brand engagement. The management implications of this paper include: (1) Opinion leaders should timely update product or service information, recommend prevailing and fashionable contents in the field, and frequently share his/her own dynamics to develop the public praise effect of opinion leaders, enhance the customer stickiness and promote the realization of community business value. (2) On social e-commerce platforms, vivid pictures and original videos are preferred during information presentation by opinion leaders to make the product or service vivid as possible. Opinion leaders should also use video, live streaming and other methods to satisfy customers’ perception and emotional demands for products. (3) Information provided by opinion leaders should be innovative. At present, the business environment changes fast, and the prevailing and fading of “hot” products are even faster, usually in the form of a dramatic drop. Social e-commerce opinion leaders can provide innovative information to stimulate customers’ sensual experience about products, thus improving customer brand engagement.

(III) Limitations and prospects

In this research, the influence factors of customer brand engagement are researched within the context of social e-commerce platforms and several meaningful conclusions have been drawn. But limitations also exist. First, the data in this paper are cross-sectional. Due to the property of the questionnaire, the common method bias problem is unavoidable. However, the impact of user-produced content quality on customer brand engagement and the process of perceived value are dynamic and changing. In the future study, the data collection method by time sequence is also available. Second, information characteristics of opinion leaders considered in this paper are restricted to timeliness, visual cues and innovation. Other information characteristics of opinion leaders can be selected in the future, e.g. consistent recommendation. Moreover, the impact of personal characteristics of opinion leaders on customer brand engagement also deserves further discussion. Third, besides the regula-

ted variables from a personal perspective and based on personal experience, social commerce platform environment factors can also be included, e.g. platform environment to further perfect the research model.

Acknowledge

1. The Projects of the National Social Science Foundation of China under Grant No. 17ZDA326
2. The Key projects of Hunan Social Science Foundation of China under Grant No.19ZDB52

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