



# The Intermediary Effect of Attachment Behavior in Live Streaming Marketing

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**Abstract:** E-commerce enterprises regard the influence of Internet celebrity as a new driving force to stimulate business growth, and e-commerce Internet celebrity are the core basis to attract consumers to achieve corporate profits. The key point of this study is to reveal the influence mechanism of e-commerce Internet celebrity on consumer attachment behavior, and then find out the path to change and influence consumer attachment behavior. This paper hopes to clarify whether fans' attachment behavior plays an intermediary role in consumers' purchase intention through multiple aspects and construct a complete marketing theoretical model for the sales model of live broadcast with goods. The conclusion of this study is that the attachment behavior plays an intermediary role in live streaming marketing. (1) Fan attachment has a mediating effect on the influence of personal characteristics on Internet celebrity attachment and purchase intention. (2) Fan attachment has a mediating effect on the influence of information characteristics on Internet celebrity attachment, brand attachment and purchase intention. (3) Internet celebrity attachment has a mediating effect on the influence of personal characteristics on brand attachment and purchase intention. (4) Internet celebrity attachment has a mediating effect on the influence of information characteristics on brand attachment and purchase intention. (5) Brand attachment has a mediating effect on the influence of Internet celebrity attachment on purchase intention.

**Keywords:** Internet celebrity, Internet celebrity attachment, brand attachment, purchase intention

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## 1. Research motivation and value

As the live broadcast marketing model has become a new outlet of traffic, the development of commodity sales driven by Internet celebrity has become the focus of the layout of major e-commerce sales platforms, and has also attracted extensive attention from the practical and academic circles (Hu, 2017). As the sales conversion core of e-commerce live streaming, Internet celebrity gain consumers' trust and recognition by virtue of their attachment behavior (Haimson and Tang, 2017) (Wongkitrungrueng & Assarut, 201820), which ultimately affects consumers' online purchase intention. Internet celebrity have created a miracle through the sales model of fensi attachment, which has become the focus of common attention and research in the industry and academia. This paper tries to clarify whether the attachment behavior of fusi plays an intermediary role in the purchase intention of consumers through multiple aspects and constructs a complete marketing theory model for the sales model of live broadcast with goods. The research conclusion of this paper has important theoretical significance and practical value for the application of live delivery marketing model and attachment theory.

## 2. Research literature and hypothesis development

Attachment theory, originally proposed by psychiatrist and psychoanalyst John Bowlby in 1982, is a psychological and animal behavior theory with the theme of "interpersonal relationship". Attachment theory holds that it is the emotional connection between people and specific goals. At a young age, people become attached to roles such as parents because of social and emotional needs. Park & Macinnis (2006) believed that attachment refers to the construction of a basic relationship, which can reflect the emotional connection between individuals and the nature of consumption. Objects of attachment include brands, people, places and things. Internet celebrity attachment is one of the most common attachment objects.

Compared with traditional celebrity, Internet celebrity are relatively close to consumers. If they see some characteristics or habits similar to their own or are interested in them, they may increase their favorable impression of this Internet celebrity. When consumers believe that their self-image is very consistent with that of spokespersons (such as celebrity), attachment will be formed and higher purchase intention will be formed (Choi & Rifon, 2012). Brand attachment is applied to study the phenomenon in the field of marketing, and it is established that consumers are interested in brands that can establish emotional attachment relationship with them and influence their positive emotional state (Alex & Joseph, 2012; Flight & Sacramento, 2015).

Tsiotsou (2010) identified two prerequisites for brand attachment, namely the ability to self-express and the importance of brand to consumers. Dolbec & Chebat (2013) found that positive brand experience can make consumers become attached to the brand. The study of Malar, Krohmer, Hoyer, & Nyffenegger (2011) shows that consumers' self-perception has a significant impact on their emotional attachment to a particular brand, and whether the brand image fits with fans or Internet celebrity will affect their attachment degree.

In addition, scholars also found that brand attachment can affect customers' support for attachment brands. When there is negative information about the brand attached to which customers are attached, they tend to be more tolerant. At the same time, when the brand attached is negatively evaluated, they will also show the behavior of maintenance (Japutra, Ekinci, Simkin & Nguyen, 2014). Both attachment theories and psychological studies show that people's cognitive attachment brand is irreplaceable and it is hard to find other substitutes (Bowlby, 1980). In recent years, many scholars have studied the influence range of brand attachment, and the research results show that brand attachment will affect customers' purchase intention and behavior, as well as their loyalty and premium purchase intention (Thomson et al., 2005).

As the above research literature shows, attachment describes the attachment strength between consumers and brands. Attachment behavior not only directly affects consumers' purchase intention and behavior, but also has an indirect effect. Therefore, this study applies the concept of attachment behavior to consumers' purchase intention. To explore whether attachment behavior has the mediating effect of strengthening consumers' purchase intention.

Based on the above literature, this study proposed the following hypotheses:

H1: Inter-fan attachment has a mediating effect on personal traits and purchase intention.

H2: Inter-fan attachment has a mediating effect on purchasing intention in terms of information features.

H3: Internet celebrity attachment has a mediating effect on personal characteristics and purchase intention.

H4: Internet celebrity attachment has a mediating effect on purchase intention in terms of information characteristics.

H5: Brand attachment has a mediating effect on purchase intention in Internet celebrity attachment.

### 3. Research methods

This study mainly conducts exploratory research on the influence of e-commerce Internet celebrity influence and fan attachment on consumers' purchase intention. On this basis, the theoretical model of this study is constructed and the relationship hypothesis is proposed. Then, through empirical test, the mediating effect of consumer attachment behavior on consumers' purchase intention is deeply analyzed. Clarify the path of influence of e-commerce influencers on consumers' purchase intention.

#### 3.1 Study model architecture and assumptions

This study attempts to construct a theoretical model for industrial and academic research, and the relevant model construction mainly refers to the framework proposed by Malar et al. (2011) as the research model basis. The construction of this model is based on the personal characteristics and information characteristics of e-commerce Internet celebrity and the fan attachment theory to measure the factors affecting consumers' purchase intention. Based on the above research variables, a research framework and research hypothesis are proposed to discuss the relationship between the personal influence of Internet celebrity, fan attachment and consumers' purchase intention. The following is the research model shown in Figure 1.

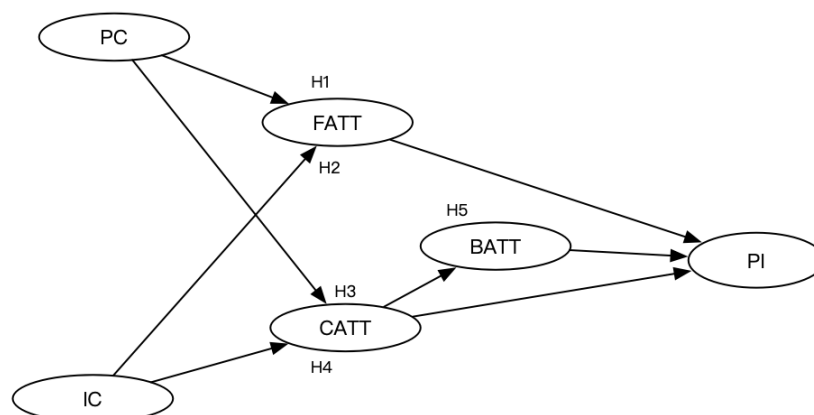


Figure 1. Architecture diagram of mediating effect research model (compiled and drawn by author's references)

### 3.2 Questionnaire design and research process

This study was conducted in three stages. The first stage is qualitative research, including a series of in-depth interviews with experts, scholars and consumers to collect variables related indicators using CIT method. The second stage is to confirm the relevant indicators and construct the research model. The third stage is a questionnaire survey for those who have online shopping experience. The research design and methods adopted in these three stages include qualitative CIT critical analysis, quantitative questionnaire design, sampling design, data collection methods and data analysis techniques, etc.

In this study, online questionnaires were distributed. The design of the questionnaire was based on the suggestions of Finn (1972), and a seven-degree scale was used as the measurement index. The value from 1 to 7 indicated the degree of strong disagreement to strong agreement.

This study was conducted from May 11 to 13, 2022 by using electronic questionnaire on wenjuanxing platform, which is widely used in China. The subjects of this study are all users of E-commerce platforms in China. Netizens with experience of live streaming and purchase of goods and followers of Internet celebrity are valid questionnaires. Respondents discussed fans' attachment degree to their favorite Internet celebrity, brand attachment degree and purchase intention according to their favorite types of popular Internet celebrity. A total of 632 questionnaires were collected, and a total of 530 valid questionnaires were collected after deducting those unqualified for this study.

### 3.3 Reliability and convergence validity analysis

The reliability of each dimension in this study is above 0.8, which can be inferred that the scale in this study is of high reliability, that is, the internal consistency of the variables in each dimension is good.

**Table 1. Surface reliability analysis table**

Major components	Structure	Cronbach's $\alpha$	Number
Personal characteristics of Internet celebrity [PC]	Professionalism		3
	Interactivity	0.898	3
Informational content of Internet celebrity [IC]		0.899	2
		0.884	3
inter-Fans attachment [FATT]		0.894	4
Internet celebrity attachment [CATT]		0.857	3
Brand attachment [BATT]	Self link	0.867	3
	Importance	0.867	3
Purchase Intention [PI]		0.946	4

Validity analysis is mainly to know whether the measured tool can measure the content to be measured. Construction validity was used in this study. Construction validity refers to the degree to which measuring tools can measure an abstract concept or trait. Common construction validity includes convergent validity and discriminate validity.

**Table 2. Parameter estimation table of measurement model**

Latent variables	Sub dimensions	Measurement	Factor loading	Cronbach's $\alpha$	Composite reliability(CR)	Average extraction capacity(AVE)
Personal characteristics of Internet celebrity I[PC]	Expertise	EX1	0.929	0.850	0.874	0.704
		EX2	0.917			
		EX3	0.638			
	Interaction	IN1	0.916			
		IN2	0.925			
Informational content of Internet celebrity [IC]	Informativeness value	IN3	0.890	0.898	0.935	0.908
		IV1	0.952	0.899	0.952	0.865
		IV2	0.954			
Inter-Fans attachment [FATT]		FATT1	0.898	0.884	0.927	0.810
		FATT2	0.899			
		FATT3	0.903			

Latent variables	Sub dimensions	Measurement	Factor loading	Cronbach's $\alpha$	Composite reliability(CR)	Average extraction capacity(AVE)
Internet Celebrity attachment [CATT]	Similarity	CATT-S1	0.827	0.894	0.925	0.755
		CATT-S2	0.898			
		CATT-S3	0.876			
		CATT-C3	0.873			
Brand attachment [BATT]	brand-self connection	BATT-C1	0.828	0.857	0.912	0.776
		BATT-C2	0.767			
		BATT-C3	0.774			
		BATT-P1	0.840			
		BATT-P2	0.775			
Purchaser intention [PI]		BATT-P3	0.783	0.867	0.917	0.787
		PI1	0.937			
		PI2	0.920			
		PI3	0.929			
		PI4	0.924	0.946	0.961	0.860

Convergence validity mainly measures whether the measured variables can effectively represent the dimension, that is, the correlation degree between observed variables from the same latent variables is high. Fornell & Larcker (1981) suggested that if the average variation extraction (AVE) value of each facet is greater than 0.5, it indicates convergence validity. The AVE of the scale in this study is above 0.7, indicating that the measurement variables can effectively represent this dimension.

### 3.4 Discriminant validity

In this study, the square root of the average extraction amount of variation of the potential variables of personal characteristics, information characteristics, brand attachment, Internet celebrity attachment and purchase intention were 0.953, 0.847, 0.795, 0.869 and 0.927, respectively, and the correlation coefficients between the potential variables ranged from 0.663 to 0.775. The value of the main diagonal is greater than the value of the non-diagonal of the row and column, indicating that there is a good discriminant validity between the dimensions, indicating that there is no high correlation between different dimensions, which is a suitable model.

Table 3. Table of discriminant validity

	Informational content of Internet [IC]	Personal characteristics of Internet celebrity [PC]	Brand attachment [BATT]	Inter-Fans attachment [FATT]	Internet celebrity attachment [CATT]	Purchase intention [PI]
Informational content of Internet celebrity [IC]	0.953					
Personal characteristics of Internet celebrity [PC]	0.757	0.847				
Brand attachment [BATT]	0.663	0.678	0.795			
Inter-Fans attachment [FATT]	0.703	0.698	0.563	0.900		
Internet celebrity attachment[CATT] (Similarity)	0.732	0.735	0.753	0.638	0.869	
Purchase intention [PI]	0.786	0.755	0.671	0.775	0.743	0.927

## 4. Research and analysis

### 4.1 Sample background information

The samples of this study all have experience in purchasing live broadcast goods, and the majority of consumers are concerned about Internet celebrity. The majority of consumers are female, accounting for 69.8%, and the majority are 25-40 years old, accounting for 79.2%. In terms of educational background, college/university accounts for 78.5%, and they live in East China (37.7%), North China (18.1%), and Central and Southern China (14.3%). Southwest (11.7%), manufacturing industry (27.9%), finance and insurance (14.3%), service industry (13.6%) and students (13.8%), the majority of monthly

disposable income of 5001-10000 YUAN (37.7%), followed by 3001-5000 yuan (23.4%).

#### 4.2 Consumer live broadcast with goods experience

In terms of consumer experience of the sample, 84.7% of the sample have more than one year of live streaming shopping experience, and li Jiaqi (39.2%) is the highest, followed by Luo Yonghao (14%), Weiya (11.3%), Li Xiang (7.7%), Lier Baby (5.7%), Sydney (4.3%). Tiktok (58.1%) is the most frequently used shopping platform, followed by Taobao (28.1%), Kuaishou (11.1%), etc. 57.2% of consumers spend two to three hours watching live shopping every day. 97.7% of consumers spend 1,000 YUAN on each live shopping. The most commonly purchased products were cosmetics (69.8%), food (78.9%) and clothing (76.4%).

#### 4.3 Mediating effect

The unique effect of the independent variable on the dependent variable is called the direct effect, and the part that the independent variable affects the dependent variable through the intermediary variable is called the indirect effect, and the sum of the two effects is called the total effect. This paper mainly discusses whether attachment behavior plays a mediating role. The research results are shown in Table 4, and all hypotheses are supported.

Table 4. Mediation effect verification table

Hypothesis	Independent variable	Metavariable	Dependent variable	Direct effect	The indirect effect	Overall effect	P value
H1	Personal characteristics of Internet celebrity	Fans attachment [FATT]	Purchase intention	0.139 (t=2.87)	0.131 (t=4.845)	0.270	0.000
H2	Informational content of Internet celebrity	Fans attachment [FATT]	Purchase intention	0.264 (t=5.01)	0.137 (t=4.475)	0.401	0.000
H3	Personal characteristics of Internet celebrity	Internet celebrity attachment[CATT]	Purchase intention	0.139 (t=2.870)	0.063 (t=2.571)	0.202	0.010
H4	Informational content of Internet celebrity	Internet celebrity attachment[CATT]	Purchase intention	0.264 (t=5.01)	0.061 (t=2.83)	0.325	0.005
H5	Internet celebrity attachment[CATT]	Brand attachment [BATT]	Purchase intention	0.168 (t=2.984)	0.043 (t=2.03)	0.211	0.042

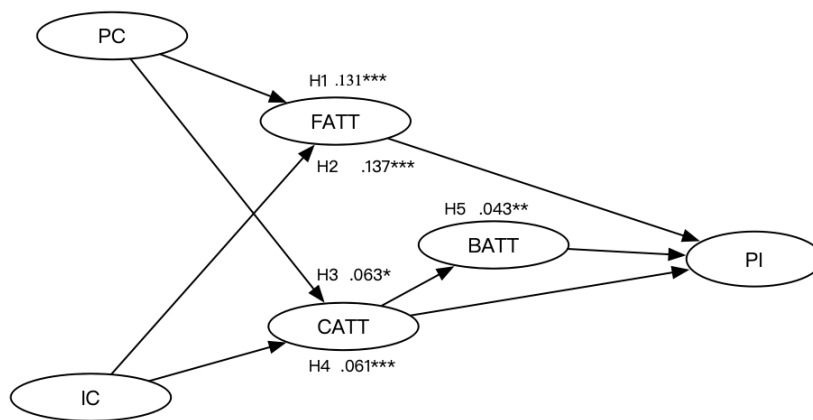


Figure 2. Statistical results of mediating effect in this study

### 5. Conclusions and suggestions

This study mainly uses attachment behavior as a mediating variable to explore whether attachment behavior plays a mediating role in live delivery marketing, and all the hypotheses are supported. This section presents research conclusions based on the research results, reveals the management implications and research contributions, and explains the limitations and recommendations of this study.

## 5.1 Research Conclusions

This paper mainly discusses whether attachment behavior plays a mediating role, and the research results show that the mediating effect is as follows:

- (1) Inter-fan attachment has a mediating effect on personal traits and purchase intention.
- (2) Inter-fan attachment has a mediating effect on purchasing intention.
- (3) Internet celebrity attachment has a mediating effect on personal characteristics and purchase intention.
- (4) Internet celebrity attachment has a mediating effect on purchase intention in information characteristics.
- (5) Brand attachment has a mediating effect on purchase intention.

## 5.2 Management implications

Live broadcast marketing is a new online sales model emerging with the maturity of network broadcast technology and the development of online sales platforms. Online celebrity present product information to users in a more vivid and three-dimensional way through trial and experience sharing on live broadcast platforms, so as to encourage users to buy products. Internet celebrity created a miracle through the live broadcast with goods sales model, which contains the management implications of the common concern of the industry and academia. The research results of this paper show that consumer attachment behavior has a mediating effect on consumers' purchase intention. Therefore, e-commerce providers should not only pay attention to the influence of Internet celebrity in brand and product marketing, but also strengthen consumers' attachment behavior, so as to improve consumers' purchase intention.

## 5.3 Research Contribution

Literature on the influence of attachment behavior on purchase intention points out that emotional attachment strongly influences motivation and behavior, such as wanting to keep close (the attached product or person) and strong attachment to the product (Feeney & Noller, 1996). If consumers worship and identify with Internet celebrity and have attachment behaviors, they are more likely to be persuaded by Internet celebrity and have purchase intention. Kim and Villegas (2009) believe that strong attachment will have higher purchase intention for products. This means that after consumers form attachment to things (or individuals), they will be willing to invest for the continued existence of such attachment and continuous cognition (Johnson & Rusbult, 1989; Van Lange et al., 1997). The results of this study show that attachment behavior application has a mediating effect on purchase intention of live broadcast goods. This conclusion is of great significance to the future theoretical and practical research of live streaming cargo.

## 5.4 Research limitations and recommendations

This study shows that different consumers are concerned about different online celebrity. How do live streaming Internet celebrity get consumers' attention and attachment? This question should be the concern of many people. Due to the limitation of research time and capacity, it is expected that future research can explore the answer to this question more deeply through qualitative analysis method and literature analysis and interview. Second, what are the main factors that affect consumers' use of the platform? This is an issue that operators are concerned about, and it is also a topic worthy of study. It is expected that there will be more in-depth research in the future as a reference for industry practitioners to operate live streaming platforms.

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