

# How does E-Commerce Anchor Information Source Dynamism Impact Consumers' Impulse Buying? a Dual-Path Study of Loneliness and Flow Experience

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**Abstract:** With the vigorous development of live broadcast e-commerce, many companies around the world are using live broadcast to sell products to improve conversion rate. Therefore, as an important source of information, e-commerce anchors not only introduce products but also influence consumers' feelings. In this context, there are few existing studies on how anchor and consumer characteristics and feelings affect consumers' impulse buying. This study explores the relationship between anchor characteristics and consumer impulse buying by introducing three factors: e-commerce anchor information source dynamism, loneliness, and flow. Through a survey of 466 consumers in China, it is found that e-commerce anchor information source dynamism is significantly negatively correlated with consumer loneliness and significantly positively correlated with consumer flow, loneliness and impulse buying are significantly negatively correlated, and flow and impulse buying are significantly positively correlated. Based on the above conclusions, relevant recommendations are made for the industry.

**Keywords:** E-commerce anchor information source dynamism; Loneliness; Flow experience; Impulse buying

## 1. Introduction

In today's digital age, the rapid development of the internet and social media has changed people's consumption habits. Especially in the live broadcast industry, anchors play an important role as a source of information, attracting the attention of a large number of consumers through real-time audio-visual sharing. With the vigorous development of the two-way integration of live streaming and e-commerce, many companies have been attracted to live-streaming e-commerce. However, due to the low conversion cost of the live broadcast room, consumers may frequently switch between different live broadcast rooms, which makes it increasingly difficult for companies to retain customers. The live broadcast room cannot attract consumers' attention and stimulate their desire to buy, resulting in a low purchase conversion rate. Therefore, it is necessary to study the impulsive buying behavior of consumers in live broadcast rooms..

Although some studies have focused on the impact of anchors on consumers' purchasing decisions, in previous studies, most scholars focused only on information source credibility or information source capabilities<sup>[1]</sup> However, there are few existing studies on how e-commerce

anchor information source dynamism affects consumers' impulse purchases. In addition, less attention has been paid to the characteristics and feelings of consumers in live broadcast rooms. In view of the high degree of pressure to survive and unstable social habits, loneliness has become an increasingly common social phenomenon that exists widely among individuals of all ages and affects people's daily lives<sup>[2]</sup>, especially given the current increase in the prevalence of live broadcasting. Research has pointed out that watching live broadcasts can alleviate individuals' loneliness<sup>[3]</sup>. In previous studies, Some scholars have studied the impact of different types of loneliness on consumers' impulse purchases<sup>[4]</sup>, but research on the impact of anchor characteristics on consumers' loneliness has not yet been done. Therefore, this paper continues to explore the mediating role of loneliness between e-commerce anchor information source dynamism and consumer impulse buying.

Loneliness is a negative emotion produced when the social connections felt in real life cannot meet one's expectations<sup>[4]</sup>. Flow experience is an emotional experience that brings pleasure and satisfaction. Some scholars have previously studied the mediating role of flow experience between e-commerce anchor information source dynamism and consumers' purchase intention<sup>[5]</sup>. However, previous scholars only used anchor passion to measure e-commerce anchor information source dynamism<sup>[5]</sup>, considering that consumers' emotional arousal is not only affected by the anchor's passion, but also by the interaction and anchor's charm<sup>[6]</sup>. Therefore, this study uses the three dimensions of anchor charm, interactivity, and passion to measure e-commerce anchor information source dynamism. Therefore, this paper explores the relationship between e-commerce anchor information source dynamism and consumers' impulse purchases by introducing consumer loneliness and flow experience.

## **2. Literature review and research hypotheses**

### **2.1 E-commerce anchor information source dynamism, consumer loneliness and impulse buying**

Information source **dynamism** refers to the degree to which the information disseminator can create an energetic or attractive image<sup>[5]</sup>. In this study, e-commerce anchor information source dynamism is defined as the effect of the emotional arousal intensity of the anchor features on consumers in e-commerce live broadcast rooms<sup>[5]</sup>. On the basis of the S-O-R model, this study assumes that external stimuli affect the individual's internal state and, then, his or her behavioral tendency<sup>[7]</sup>. This paper regards e-commerce anchor information source dynamism as an external stimulus that affects consumers' impulse purchases.. Individuals with a high level of loneliness can satisfy the need for quasisocial interaction in the process of interacting with highly dynamic anchors, thereby alleviating feelings of loneliness, which may lead to impulse buying<sup>[4]</sup>. Based on this, The following hypotheses are proposed:

**H1:** E-commerce anchor information source dynamism is negatively correlated with consumer loneliness.

**H2:** Consumer loneliness is negatively correlated with impulse buying.

### **2.2 E-commerce anchor information source dynamism, flow and impulse buying**

Flow experience refers to a psychological state in which people are completely immersed in an

activity, forgetting time, and feeling happy<sup>[8]</sup>. According to attention theory, when an information source is more attractive, consumers are more likely to pay more attention to it<sup>[1]</sup>. And the frequent interaction between the anchor and the audience in the live broadcast room and strong emotional expression and vitality can make consumers feel temporarily out of reality and forget their troubles, thus creating a sense of immersion, enter the flow experience<sup>[1]</sup>. And then stimulate their interest and exploration behavior in terms of products. Such exploratory behavior often leads consumers to make unplanned purchase decisions and exhibit impulsive purchase behavior<sup>[8]</sup>. Based on this, The following hypotheses are proposed:

**H3:** E-commerce anchor information source dynamism is positively correlated with consumers' flow experience.

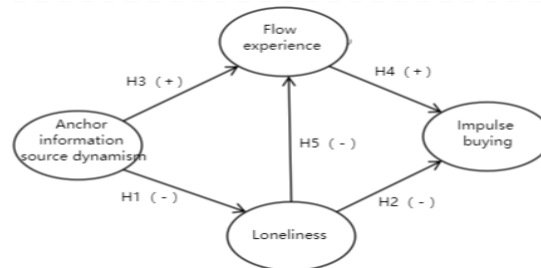
**H4:** Consumers' flow experience is positively correlated with impulse buying.

### 2.3 Relationship between consumer loneliness and flow experience

Some studies have pointed out that the same person may be more likely to enter flow in different states or in certain situations<sup>[8]</sup>. According to JD-R theory, due to the close relationship between flow and engagement, flow may be widely disrupted in the presence of loneliness, and loneliness may have a negative impact on flow<sup>[9]</sup>. Based on this, the following hypothesis is proposed:

**H5:** Consumer loneliness is negatively correlated with flow experience.

Integrating the above assumptions, a research hypothesis model is proposed, as shown in Fig. 1



**Fig. 1.** Research hypothesis model diagram

## 3. Methods

### 3.1 Sample selection, data collection and Measurement

The questionnaire developed for data collection was adapted to measure the subjective experience of the participants. We distributed an online questionnaire from February 19 to May 15, 2023, and prior to taking the survey, participants were informed of the purpose of the survey, that participation was voluntary and that responses were guaranteed to be anonymous. Of the 510 questionnaires returned in this process, 466 were valid. The scales selected for the questionnaire are all from the mature research scales of existing scholars. In addition, the information source dynamism scale of e-commerce anchors in this article is a scale that was

modified and designed after adding two dimensions based on previous scholars' research. The questionnaire is divided into three parts, the first part of the questionnaire aims to screen samples for the items of whether they have watched live e-commerce previously and whether they have purchased products in a live broadcast room. The second part of the questionnaire measures all the variables explored in this study, including e-commerce anchor information source dynamism, loneliness, flow experience, and impulse buying. The survey uses a Likert scale. Response options range from one to seven points, from strongly disagree to strongly agree. The third part of the questionnaire measures some demographic characteristics of respondents.

## 4. Results

This study uses Amos 27 and adopts the structural equation modeling (SEM) analysis method. Before testing the hypotheses of the model, it is first necessary to test its reliability, convergent validity and discriminant validity. The reliability test uses Cronbach's  $\alpha$  coefficient, followed by confirmatory factor analysis, to test the discriminant validity and convergent validity of the model variables.

### 4.1 Reliability test

**Table 1** Reliability test results

Variables		Cronbach's $\alpha$		Number of items	
E-commerce anchor	Anchor charm	0.797		3	
information source	Interactivity	0.866	0.934	3	10
dynamism	Passion	0.944		4	
	Flow experience		0.866		4
	Loneliness		0.894		3
	Impulse buying		0.873		4

The results are shown in **Table 1** The Cronbach's alpha values of most questions are above 0.8. The results show that the overall reliability of the questionnaire is good.

### 4.2 Validity test

**Table 2** Model confirmatory factor analysis results

Index	$\chi^2/df$	GFI	RMSEA	IFI
Reference value	<5	>0.9	<0.08	>0.9
Actual value	2.864	0.910	0.063	0.957

The results are shown in **Table 2** above. The results show all test values meet the requirements of the suggested values. It can be concluded that the overall fitness of the CFA model is better. A confirmatory factor analysis is then performed, which includes the calculation of combined reliability (CR) and AVE values. The results show the combined reliability (CR) coefficient values of the latent variables are all greater than 0.60, and the average variance extracted (AVE) values are all greater than 0.50, reaching the recommended standards according to related research. To verify the discriminant validity, the correlation coefficient is compared

with the square root of the AVE. The square roots of the AVE of e-commerce anchor information source dynamism, loneliness, flow experience and impulse buying are calculated manually, obtaining values of 0.760, 0.870, 0.796 and 0.817, respectively. The results show that the square roots of the AVE are greater than the correlation coefficients of the vertical and horizontal columns. Therefore, the variables in the questionnaire in this study have good convergent and discriminant validity and are suitable for the hypothesis testing of the model.

### 4.3 Structural Equation Model Hypothesis Testing

After verifying the effectiveness of the model, Amos 27 is used to analyze the fit of the model, followed by hypothesis testing analysis. First, to check the fit of the overall model. The results are shown in **Table 3**.

**Table 3** Model fitting pointer list

Index	$\chi^2/df$	GFI	RMSEA	NFI	IFI	PGFI	PNFI
Recommended value	<3	>0.9	<0.08	>0.9	>0.9	>0.5	>0.5
Result	2.864	0.910	0.063	0.935	0.957	0.674	0.762

It can be seen from **Table 3** that all indicators meet the characteristic values. Therefore, further model analysis can be performed. The results show e-commerce anchor information source dynamism is significantly negatively correlated with consumer loneliness ( $r=-0.209$ ,  $p<0.01$ ) and is significantly positively correlated with consumer flow experience ( $r=0.489$ ,  $r<0.001$ ). Consumer loneliness is significantly negatively correlated with impulsive buying ( $r=-0.486$ ,  $p<0.001$ ) but not significantly correlated with consumer flow experience ( $r=0.066$ ,  $p>0.05$ ). There is a significant positive correlation between consumer flow experience and impulse buying ( $r=0.856$ ,  $p<0.001$ ). Therefore, Hypothesis 1 is supported. Hypothesis 2 is supported. Hypothesis 3 is supported. Hypothesis 4 is supported. Hypothesis 5 is not supported.

## 5. Discussion

### 5.1 Theoretical implications and Practical implications

The findings of the study are of great value to the literature. First, based on the SOR theory, e-commerce anchor information source dynamism is used as an external stimulus factor that affects consumers' impulse purchases, and two dimensions are added based on previous studies by scholars. Second, this study further explores the influence mechanism of e-commerce anchor information source dynamism on consumer impulse buying behavior. Using empirical methods to verify the mediating role of consumer flow experience and consumer loneliness in the relationship between the above mentioned. This study provides a new perspective on the influencing factors of consumer impulse buying.

In the practice of e-commerce live broadcast marketing, this study guides e-commerce companies in how to select or cultivate anchors with characteristics appropriate for the growing lonely group, formulate reasonable marketing strategies, and then improve the purchase conversion rate of live broadcast rooms. E-commerce companies need to consider the importance of e-commerce anchor information source dynamism in live broadcasts, as well as the inner feelings of consumers, especially those who feel lonely. For example, choose highly dynamic anchors to recommend products that can alleviate loneliness, or design

activities during live broadcasts that can increase participation and promote interaction to satisfy their sense of belonging. In addition, e-commerce companies should choose highly dynamic anchors to let consumers enter the flow experience, and let consumers have a sense of participation and interaction, thereby strengthening the presence and attention of recommended products in the live broadcast room and prompting consumers to make impulse purchases.

## 5.2 Limitations and future research directions

This study has several limitations. First, the questionnaire method used in this paper may affect the accuracy of the research conclusions due to consumer recall bias. Follow-up research can introduce experimental methods. Second, in the future, Python can be used to crawl the real consumption data of the e-commerce live broadcast platform to support the generation of consumers' actual impulse buying behavior .

## 6. Conclusions

This study examines how e-commerce anchor information source dynamism affects consumers' impulse purchases through the dimensions of consumer loneliness and consumer flow experience, stimulating consumers to make impulse purchases. According to our results, we suggest that e-commerce companies can alleviate consumers' loneliness and encourage consumers to enter the flow experience by selecting or cultivating highly dynamic anchors to stimulate consumers to buy impulsively.

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