



The Influence of Anchor Interactive Behavior on Consumer Purchase Rate-- Evidence from Characteristic Agricultural Products of Yunnan Plateau

Donghui Yang^{1*}, Wanbao Yuan¹, Yihang Guo¹, Chenxi Yang², Suping Shen¹

¹School of Economics, Yunnan Normal University, No.768 Juxian Street, Chenggong District, Kunming, Yunnan 650500, China

²School of Geography, Yunnan Normal University, No.768 Juxian Street, Chenggong District, Kunming 650500, China

*Corresponding author: 502693830@qq.com

Abstract. Agricultural e-commerce has increasingly become a crucial marketing method in China's agricultural sector. In 2023, online consumption of agricultural products rose by 12.5%. This paper conducted an online survey of consumers, collecting 110 responses. The empirical test revealed the following findings: (1) Anchors' dynamic behaviors positively influence consumers' purchase rate; (2) Interactive experience mediates the effect of anchors' behaviors on consumers' purchase decisions. Based on these findings, this research contributes positively to the development of Yunnan's e-commerce live broadcasting industry for its unique agricultural products.

Keywords: agricultural products; Anchor interaction behavior; Purchase rate

1 Introduction

Currently, China is the world's largest online retail market [1], and Yunnan's agricultural products have developed distinct characteristics and clear advantages in recent years. Moreover, with the development of Internet technology and the digital economy, e-commerce platforms have become a key channel in the new retail landscape. E-commerce live broadcasting emerged in this context and gradually became a powerful tool for promoting rural revitalization. Although e-commerce live broadcasting of agricultural products has achieved good results in the consumer market, there are still several issues that need urgent attention. Firstly, e-commerce live broadcast consumption largely relies on anchors' interactions, and the guidance methods can lead to impulsive purchasing behavior, posing risks to the long-term stability of the retail industry [2]. Secondly, there is a connection between emotional guidance and consumer cognitive behavior [3], which may make consumer behavior more subjective and volatile. Therefore, to explore the underlying patterns and promote the long-term, stable development of the agricultural products e-commerce retail market, this paper collects

consumer survey data and constructs a theoretical model to test the correlation between the interactive behaviors of anchors and consumer purchasing behavior.

The potential contributions of this paper are as follows: 1) To provide empirical evidence on the influence between agricultural product retail platforms and consumers. 2) It can promote rational consumer purchasing behavior and offer insights for the management of agricultural product e-commerce platform development.

2 Existing Research Basis

The academic community generally views the interactive behavior in e-commerce live broadcasts from two psychological perspectives. The first aspect is the relationship between the platform and consumers. Anchors serve as intermediaries between the platform and consumers, playing a key role in content delivery. The quality of their interaction can influence consumer behavior [4]. The second aspect is the influence of emotion and cognition. An individual's perception of external factors can evoke emotional and cognitive reactions [5], and the intensity and nature of emotion can interact with cognition [6]. The way anchors introduce products aligns with the process of cognitive communication guided by emotion. Existing research provides a foundation for understanding the potential relationship between anchors' interactive behaviors and consumer responses, which requires further testing with empirical data.

3 Research Hypotheses

3.1 The Impact of Interactive Behavior of Anchors and Consumer Purchase Rate

Compared to traditional e-commerce, live streaming better meets consumer demand by overcoming the time and location constraints of online communication, facilitating more effective interaction with consumers. Based on the analysis above, it is evident that anchors, as media, use emotional and cognitive communication in various forms, such as product introductions and the celebrity effect, to influence consumer decision-making. This section argues that anchors influence consumers' positive interactive behaviors. Studies also indicate that positive emotions and cognitive factors can promote consumer behavior [7-9]. Similarly, the interactive behaviors of anchors during agricultural product livestreams influence consumers' purchasing decisions, positively affecting the purchase rate. Therefore, Hypothesis 1 is proposed.

Hypothesis 1: The interactive behavior of anchors will affect the purchasing rate of consumers.

3.2 The Role of Interactive Experience in Improving Consumer Purchase Rate

Interactive experience refers to the psychological emotions elicited by a product or service during consumption, with individuals experiencing varying feelings. Trust is a key factor in consumer decision-making. Compared to trust in merchants, trust in an-

chors relies more on emotional and cognitive communication. Therefore, consumer behaviors during live broadcasts on agricultural e-commerce platforms are more influenced by the interactive experience with anchors. The professional qualities demonstrated in anchors' interactions can foster a sense of trust in consumers to some extent [10]. Therefore, this section argues that for consumers, merchants and products are more substitutable than the interactive experience with anchors, leading to the proposal of Hypothesis 2.

Hypothesis 2: Interactive experience plays an intermediary role in the process of influencing the interactive behaviors of anchors on the purchasing rate of consumers.

4 Research Design

4.1 Data Sources

This paper conducted a preliminary survey of consumers on the e-commerce platform for plateau agricultural products in Yunnan Province and distributed questionnaires to those who had purchased Yunnan-specific agricultural products. The researchers screened out questionnaires with short completion times, those with patterns, and those with high repetition rates. The questionnaire was then improved and supplemented, followed by a second survey. A total of 127 questionnaires were collected. After screening and exclusion, 110 valid questionnaires were retained, resulting in an effective rate of 86.61%. Of the respondents, the proportion of male consumers is lower than that of female consumers, at 45.45%. Additionally, the frequency of agricultural product consumption is relatively high.

4.2 Variable Measurement

(1) Dependent variable: This paper chooses consumer purchase rate (Cpr) as the dependent variable.

(2) Independent variable: This paper chooses anchor interaction behavior (Aib) as independent variable.

(3) Mediating variable: Interactive experience (Ie) is selected as the mediating variable in this paper

(4) Control variables: Referring to previous studies, this study controlled the influence of the following variables on consumers' live streaming purchasing behavior: gender (sex), education level (Edu), number of fans (Nf) and consumption frequency (Cf).

4.3 Reliability and Validity Analysis

The reliability analysis of the manually collected questionnaire revealed that Cronbach's α coefficient was 0.858, indicating good reliability. After the KMO test and Bartlett's sphericity test, the KMO value was 0.846 ($P = 0.000^{***}$), indicating a high correlation between the variables. Additionally, confirmatory factor analysis showed

that the factor load of each variable was greater than 0.7, indicating good convergence among the variables.

5 Result Analysis

5.1 Common Method Deviation and Collinearity Test

This paper analyzes consumer purchase rates on live streaming platforms using questionnaires. To ensure the validity of the experimental results, the Harman single-factor test was used to eliminate homogeneity bias in the data. The results indicated that the explained variance of the questionnaire factor was 33.848%. Since the explained variance was below the 40% critical value, the results excluding common method bias are more reliable. Additionally, a collinearity test was conducted, and the results showed that the variance inflation factor (VIF) for all variables was below the critical value of 5, indicating no multicollinearity issues. This further validated the stability of the data and the credibility of the research findings.

5.2 Model Path Verification

A structural equation model regression analysis of Table 1 reveals a significant correlation between the non-standardized coefficient and the significance level of each variable. The structural equation model regression was performed on the data, and Table 1 was generated. Assuming H1 is true.

Table 1. Model regression coefficient table

Factor	→	Analysis item	Nonnormal-ized coeffi- cient	Standardiza- tion coeffi- cient	Standard error	Z	P
Aib	→	Ie	1	1	0.189	5.29	0.000***
Ie	→	Cpr	0.262	0.27	0.081	3.248	0.001***
Aib	→	Cpr	0.709	0.73	0.081	8.797	0.000***

Note: ***, **, *They represent the significance level of 1%, 5% and 10% respectively

5.3 Confirmatory Factor Analysis

In this chapter, confirmatory factor analysis was conducted on the data, and Table 2 presents the fitting index report. Table 2 shows that the three-factor benchmark model yields the optimal path. The three-factor model data from Table 2 are as follows: $X^2 = 82.716$, $df = 62$, $X^2/df = 1.564$, $RMSEA = 0.055$, $RMR = 0.078$, $CFI = 0.953$, $NNFI = 0.94$. Differences in the X^2/df (chi-square freedom ratio), CFI, and NNFI between models indicate that the four-factor model has better validity.

Table 2. Fitting index report

Common index	X ²	df	X ² /df	RMSEA	RMR	CFI	NNFI
Aib; Cpr; Ie	82.716	62	1.334***	0.055	0.078	0.953	0.94
Aib+Ie; Cpr	87.724	64	1.371***	0.058	0.079	0.946	0.934
Aib; Ie+Cpr	87.759	64	1.371***	0.058	0.079	0.946	0.934
Aib+Cpr; Ie	87.76	65	1.35***	0.057	0.079	0.948	0.937

5.4 Mediation Effect Test

This section uses the hierarchical regression method proposed by Hayes F to test the hypothesis [11], with results shown in Table 3. Table 3 shows a significant positive correlation between anchor interaction behavior and consumer purchase rate in e-commerce live broadcasting, even after adding user experience ($\beta = 0.229$, $p < 0.05$). To further test the model's mediation mechanism, the Bootstrap method is used with 1000 samples, yielding an intermediary effect value of 0.415. The 95% confidence interval is 0.241–0.622, which is consistently positive, indicating that self-user experience partially mediates the relationship between the two. Thus, H2 is supported.

Table 3. Intermediate effect regression model coefficient table

	Results of mediation analysis (n=110)		
	Cpr	Ie	Cpr
Con	0.439 (1.176)	0.335 (1.097)	0.237 (0.722)
Aib	0.644 (7.741)***	0.69 (10.132)***	0.229 (2.231)**
sex	0.076 (0.612)	0.09 (0.891)	0.021 (0.197)
Edu	0.036 (0.466)	0.085 (1.351)	-0.015 (-0.226)
Nf	-0.05 (-0.86)	-0.035 (-0.747)	-0.028 (-0.561)
Cf	0.214 (3.134)***	0.149 (2.658)***	0.125 (2.019)**
Ie			0.105 (5.746)***
R ²	0.518	0.615	0.635
Adj.R ²	0.495	0.592	0.61
F	22.389***	33.194***	29.905***

Note: ***, **, *They represent the significance level of 1%, 5% and 10% respectively

6 Conclusion

This paper, based on existing studies, analyzes the influence of anchors' behaviors on consumers' purchase rate through questionnaires collected from live broadcasts of characteristic agricultural products in Yunnan Province. The analysis finds that (1) Anchors' dynamic behaviors can positively affect consumers' purchase rate. (2) Interactive experience mediates the influence of anchors' interactive behaviors on consumers' purchase rate.

From the perspective of anchors, positive interactions can enhance consumers' interactive experience. Therefore, anchors should leverage their strengths, minimize their weaknesses, and provide a positive consumer experience to promote the sale of agricultural products. Meanwhile, enterprises should provide standardized training for anchors to ensure their behavior positively influences consumers' purchase decisions. Based on this research, it positively contributes to the development of Yunnan Province's characteristic agricultural products e-commerce and live broadcasting industry.

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