



Unraveling the Complexities of Agricultural Live-streaming: Study on the Synergistic Effects of Streamer and Appeal Variations on Purchase Intention

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Abstract. This study explores the impact of streamer type and appeal variation on consumer purchase intentions in agricultural live-streaming commerce, using the Elaboration Likelihood Model (ELM). By conducting a 2x2 experiment, the research investigates how New Farmer streamers using soft-sell appeals, and institutional streamers using hard-sell appeals, influence consumer purchase intentions. Findings indicate that New Farmer streamers are perceived as more credible and appealing, with soft-sell appeals enhancing emotional engagement and purchase intention. Conversely, hard-sell appeals from institutional streamers increase perceived diagnosticity and rational purchase intention. Perceived pleasure and diagnosticity significantly mediate these effects. The study offers insights for agricultural marketers, suggesting that aligning narrative strategies with streamer can optimize consumer engagement and purchasing behavior.

Keywords: Live-streaming, Agricultural Product, Streamers, Narrative Appeals, Elaboration Likelihood Model.

1 Introduction

Agricultural products often have minimal product differentiation and weak brand effects, making the quality of product explanations a key factor in driving consumer purchases. According to a study by iiMedia Research (2021)^[1], during agricultural live broadcasts, over 60% of viewers choose to purchase agricultural and sideline products due to the reliable quality of the products and the attractiveness and entertainment value of the Streamers. While there has been extensive research on live-streaming commerce in academia, there is relatively little research on the specific category of agricultural products. With the continuous growth of the agricultural live broadcast market, the relationship between streamers and narratives will be of great significance for the branding development of agricultural products. Therefore, the study will systematically explore the impact of different appeal narratives and streamer types on consumer perceived value and purchase intention through a 2*2 experiment.

2 Literature Review and Theoretical background

2.1 Agricultural Live Streaming Commerce

Agricultural products typically belong to non-standardized categories, characterized by minimal product differentiation and weak brand effects, resulting in consumers' limited perception of their differences. However, the rise of live commerce has provided a platform for showcasing the value of agricultural products. On China's largest live commerce platform Douyin, agricultural live broadcasts often feature fields and other original locations as backgrounds, accompanied by explanations of the planting and processing processes, even relevant historical narratives, greatly stimulating consumers' desire to purchase. According to a survey provided by Douchacha(2024)^[2], an well-known innovative agricultural account in China, Dongfang Selection, conducted a total of 26 live broadcasts in December 2023, with a total viewership of 640 million and cumulative sales of 957 million yuan, which also has provided new ideas for brand differentiation for those involved in agricultural live-streaming.

Zhu et al. (2022)^[3] examined the consistency effect between spokesperson type, message appeal and brand characteristics. Huang et al. (2021)^[4] explored the interactive effects of streamer types (institutional streamers vs. celebrity streamers) and product types (practical vs. hedonic products) on consumer purchase intentions and behaviors. Wang et al. (2022)^[5] investigated the interaction effects of regional typicality and advertising appeals on consumer attitudes. However, there is still a relatively limited amount of research on the specific strategies in both product characteristics and streamer discourse in the field of agricultural assistance. Therefore, it is necessary to conduct further relevant discussions and studies in this area.

2.2 Elaboration Likelihood Model

The Elaboration Likelihood Model (ELM) serves as a theoretical framework to elucidate the pathways through which audiences process information. According to the ELM, audiences may engage with received information via two distinct routes that determine their acceptance of it: the central route, which is related to the content of the information, and the peripheral route, which relates to environmental characteristics (Petty and Cacioppo, 1984)^[6]. Within the niche of agricultural livestreaming, "New Farmer" streamers, who appear as charismatic experts, and institutional streamers, who direct-sell agricultural products, often adopt different presentation strategies. New Farmer streamers tend to present themselves in the guise of simple friends, focusing on the daily life of farming and rural sentiments as their content, which is markedly different from other pure sales-oriented livestreams. Previous research has extensively explored the match between streamer product types, yet the match between streamer types and narrative modes has not been scrutinized.

3 Hypothesis Development

3.1 Streamers Type

The field of agricultural live broadcasting in China is primarily dominated by two types of streamers: institutional streamers, represented by Chinese rural cooperatives and flagship stores of agricultural companies, and “New Farmer” streamers, who document and share rural production and lifestyle engaging in live commerce. The latter, known as “New Farmers” within the Chinese internet sphere, are individuals who live in rural areas or earn their livelihood through agriculture (Duan et al., 2023)^[7]. They exhibit a blend of personal charisma and expertise, that aligns with the concept of vertical influencers as discussed in marketing literature. It is estimated that there are only 83,000 registered agricultural product brands, significantly fewer than other categories (Ali-research, 2022)^[8]. While official endorsements in sectors such as electronics can enhance consumer recognition of products, agricultural products often suffer from a lack of consumer education, which diminishes their awareness. Compared to institutional streamers, consumers tend to place more trust in New Farmer streamers who possess specialized knowledge. Furthermore, New Farmers, with their uniquely distinctive styles, attract followers and possess stronger personal charm than typical institutional streamers.

H1: *Compared to institutional streamers, consumers perceive New Farmer streamers as more credible and appealing.*

3.2 The Interaction Between Appeal and Streamer Type

According to Mueller's (1987)^[9] definition, soft-sell appeals emphasize human emotions to induce responses from the audience that are often subtle and indirect. In soft-sell appeals, images or atmospheres can be conveyed through beautiful scenes, stories or other indirect mechanisms. This corresponds to the most distinctive marketing model of “Dongfang Selection” in current agricultural broadcasts—by narrating the cultural origins associated with the product to evoke emotional resonance. Hard-sell appeals explicitly mention factual information, including comparisons with competing products or specific features of the product (Okazaki et al., 2010)^[10]. In the context of agricultural broadcasts, hard-sell appeals correspond to the basic introductions for agricultural products, such as delivery and discounts. Compared to institutional streamers without brand benefits and distinct markers, New Farmers, with unique charm and high fan loyalty, are more likely to activate the peripheral route and resonate with consumers via soft-selling. Conversely, for information sources lacking trust, such as institutional streamers without brand recognition, consumers are more inclined to process information through the central route. Therefore, we propose:

H2: *There is an interaction effect between streamer type and appeal in influencing consumers' purchase intention.*

H2a: *Institutional Streamers using a hard-sell appeal are more likely to increase purchase intention.*

H2b: *New farmers using a soft-sell appeal are more likely to increase consumers' purchase intention.*

3.3 The Mediating Role of Perceived Diagnosticity and Perceived Pleasure

Jiang and Benbasat (2004)^[11] introduced perceived diagnosticity to denote consumers' perception of the ability to convey information, which helps them understand and evaluate the product quality and performance. Perceived pleasure is a measure of consumer emotions (Vieira, 2013)^[12]. When individuals feel good, happy, satisfied, or pleased, they experience perceived pleasure (Holmqvist & Lunardo, 2015)^[13]. Consumers tend to process through the central route when they distrust the information source, which aligns with the case of institutional streamers as they focus on the message itself rather than the streamer's halo effect. Institutional streamers often stimulate consumers' discrimination thinking (Erdogan, 1999)^[14] which helps them evaluate quality. In contrast, for New Farmers, consumers are more inclined to rely on peripheral routes, being emotionally aroused, easily accepting soft appeals from streamers. Therefore, when New Farmers introduce agricultural products, the use of soft appeals can better cater to cognitive styles, enhancing consumers' perceived pleasure.

H3: *Perceived diagnosticity and perceived pleasure mediate the interaction between appeal type and Streamer type.*

H3a: *The positive effect of consumers' intention by New Farmers using soft sales appeals is mediated by perceived pleasure.*

H3b: *The positive effect of consumers' intention by institutional streamers using hard sales appeals is mediated by perceived diagnosticity.*

4 Methodology

4.1 Manipulation Check

Manipulation verification was executed employing a sample size of 44, utilizing a 27-item measurement scale developed by Okazaki et al (2010)^[10]. In accordance with the theoretical underpinnings, the stimuli for hard-sell messaging were articulated as "...Screened according to the standard of being greater than 250 grams...". Conversely, the soft-sell stimuli were designed to evoke emotional response, as exemplified by "...Freshly picked corn was emitting aroma. You couldn't wait to take a bite of the just-cooked corn, and the slightly warm and sweet taste lingered in your mouth...". The paired samples t-test results showed a significant difference between hard-sell (Mean = 4.24, SD = 0.54) and soft-sell (Mean = 3.09, SD = 0.95), with $t(43) = 7.107$, $p < .001$.

4.2 Measurements and Data Collection

Questionnaire items were adapted from prior studies, including Munnukka et al. (2016)^[15] for source credibility, Abzari et al. (2014)^[16] for purchase intention, Jiang & Ben (2007)^[18] for perceived diagnosticity, Wang et al. (2022)^[5] and Yu (2014)^[17] for

perceived pleasure. A total of 243 questionnaires were distributed through professional platform Credamo. After excluding responses failing the attention test, 200 valid observations were collected, out of which 75% are female and 25% are male. Regarding age, 33% are in the 18 - 25 group, 32% in 26 - 30, 31.5% in 31 – 40 and 3.5% in 41 and above.

4.3 Results and Discussions

The collected data was subjected to ensure its reliability and validity utilizing RStudio (See Table 1). The Cronbach's α coefficients exceeded 0.75. Convergent and discriminant validity were acceptable ($AVE > 0.4$ and $CR > 0.7$). Ideal discriminant validity was established, as indicated by significant correlations between variables ($p < 0.001$) and correlation coefficients less than the square root of the corresponding AVE.

Table 1. Reliability & validity tests

Construct	Items	Std.	α	AVE	CR	AVE ^{0.5}	1	2	3
1. Source Credibility	Trust	.831							
	Exper	.754	.815	.524	.763	.723			
	Attract	.558							
2. Perceived Diagnosticity	PD1	.842							
	PD2	.891	.820	.625	.830	.791	.098		
	PD3	.612					***		
3. Perceived Pleasure	PE1	.860							
	PE2	.762	.775	.548	.780	.740	.490	-.527	
	PE3	.568					***	***	
4.Purchase Intention	PI1	.558							
	PI2	.817	.809	.625	.827	.791	.562	.051	.515
	PI3	.947					***	***	***

Note: *** $P < 0.001$.

Independent samples t-test revealed that consumers perceive New Farmer streamers as significantly more credible ($t = 6.842, p < 0.001$) and appealing ($t = 3.506, p < 0.001$) than institutional streamers. H1 is verified. Between-subjects effect tests were conducted with streamer type and sales appeal approach as fixed factors and purchase intention as the dependent variable. The results show that streamer type has a significant effect on purchase intention ($F(1,197) = 52.061, p < 0.001$), and there is a significant interaction between anchor type and claim type on purchase intention ($F(1,197) = 15.296, P < 0.001$). H2 is verified. Further simple effects analyses indicate a significant difference between hard and soft sell appeals, with soft sell appeals being more likely to trigger consumers' intention than hard sell appeals ($M_{hard} = 4.180, M_{soft} = 4.471, p = 0.006$). H2a is verified. For institutional streamers, there is also a significant difference between hard and soft sell appeals, in which hard-sell-appeals are more likely to trigger consumers' purchase intention compared to soft-sell-appeals ($M_{hard} = 3.933, M_{soft} = 3.640, p = 0.006$). Therefore, H2b is validated.

The mediator model proposed by Hayes (2013)^[18] is employed with moderation. A Bootstrap test with a sample size of 5000 is conducted at a 95% confidence interval. Streamers type is modeled as the independent variable, appeal type as the moderator variable, perceived diagnosticity and perceived pleasure as the mediator variables, and purchase intention as the dependent variable. The results indicate that the interaction between streamers and appeal type significantly impacts consumers' perceived diagnosticity ($\beta = 0.6584$, $p = 0.0006$) and perceived pleasure ($\beta = 0.3063$, $p = 0.0142$), and the direct effect on the final purchase intention is also significant ($\beta = 0.3074$, $p = 0.0246$), thus testing Hypothesis H2. Further exploration of the conditional indirect effect reveals that in the context of soft-sell appeals, the conditional indirect effect of perceived pleasantness is significant ($\beta = -0.14$, 95%CI [-0.2249, -0.0679]), testing Hypothesis H2a. In the context of hard-sell appeals, the conditional indirect effects of perceived diagnosticity are significant ($\beta = 0.1301$, 95%CI [0.0654, 0.2143]), testing Hypothesis H2b. The result is presented in Figure 1.

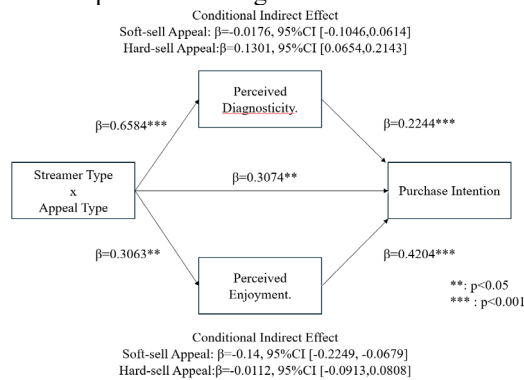


Fig. 1. Results of the overall model

5 Conclusions and Limitations

The research, grounded on observing current Chinese agricultural live-streaming industry, utilizes the Elaboration Likelihood Model to test the matching of streamer types and narrative appeals. By targeting agricultural product marketing, the study uncovers matching paths of new rural New Farmer with soft sell appeals and institutional hosts with hard sell appeals, considering consumers' rational and emotional aspects, guiding how narratives shape product cognition. Practically, marketers can boost consumers' perceptions and intentions by tailoring narratives to streamers traits.

Nonetheless, several limitations should be taken into account. Firstly, while the survey sample generally represents live-stream viewers, it may not fully reflect the broader consumer base. Future data mining efforts could provide more comprehensive insights. Secondly, the emphasis on host-content interaction tends to overlook the unique characteristics of agricultural products. Future research could delve deeper into exploring product features. Finally, brand building for agricultural products warrants further

attention, with future studies focusing on brand awareness to help marketers create meaningful differentiation.

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