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Live Streamer's Communication Style on Consumers' Purchase Intention in Live Marketing: Mediated by Consumer Perceived Value

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ABSTRACT

In recent years, with the rapid development of webcasting technology, the e-commerce live broadcasting industry has also become increasingly prosperous, creating one sales miracle after another in just a few years. As the core part of e-commerce live broadcast, e-commerce live streamer becomes a solid bridge between linked products or brands and consumers with its own unique charm, professional product knowledge and real-time and efficient interaction. In order to study the influence of live streamer communication style on consumers' purchase intention during live broadcast, this study adopts a mixed research method combining qualitative and quantitative methods. In qualitative research, in-depth interviews were conducted, and the interview content was coded and analyzed by NVIVO software. In quantitative study, questionnaire survey method was adopted, and AMOS software was used to test direct effect, intermediate effect and moderating effect. The results show that the interactive communication style and task-based communication style of live streamer positively affect consumers' purchase intention through consumers' perceived value, while the self-based communication style of live streamer negatively affects consumers' purchase intention through consumers' perceived value, and the network service scenario during live broadcast has a moderating effect on this process. This study is of great significance to companies or individuals engaged in network live streamer service industry and subsequent literature research.

Introduction

In the past few years, businesses have increasingly started adopting new media technologies for marketing through live streaming. This platform for live streaming facilitates interaction between businesses and their customers, thus enhancing the connection between consumers and enterprises and products. The mode of selling products or services through live streaming has become an important marketing means for enterprises (Chen et al., 2020). Although some scholars have done some research on e-commerce live broadcasting and consumer purchasing behavior, few pay attention to the main anchor of e-commerce live broadcasting, and do not combine the anchor communication style, consumer perceived value and consumer purchase intention. The communication style of e-commerce anchor has a significant impact on consumers' purchase intention, and its internal mechanism and characteristics are worthy of further study. This study adopts SOR and other related theories as the basic theoretical support, divides the communication style of e-commerce anchor into three dimensions, and constructs the conceptual framework of this study by combining consumer perceived value, e-commerce live service scenario and consumer purchase intention.

This study not only redefined, elaborated and divided the concepts, connotations and dimensions of live streamer's communication style, consumer perceived value and consumer online purchase intention under the live streaming scenario, but also developed new measurement tools and expanded the relevant conceptual knowledge structure. On the other hand, through the empirical test of the mechanism model and relationship hypothesis of the impact of live streamer's communication style on consumer online behavior intention. The internal action path and law of the influence of live streamer's communication style on consumer online behavior intention will be clarified. It is of great value to enrich the theoretical system of the role of live streamer's communication style on consumer online purchase intention.

Literature Review and Theoretical Framework

Related Research on Communication Style

Communication styles, as an important element in marketing communication, play a decisive role in the quality of the relationship between consumers and sellers, the efficiency of marketing interaction and marketing performance. Sheth believed that communication style is the form, ritual and habit adopted by the consumer and seller in their communication, and the result of the interaction between the consumer and the seller is the joint effect of communication content and style. Chinese scholars Du Qingling and Liu Ying (2008) also defined the communication style, which refers to the stable communication characteristics that individuals show when communicating with others and can be observed by others. Hansford and Hattie analyzed high school students' self-perception and communication methods,

categorizing them into dominant and amiable types. Dillard and colleagues (1999) elucidated the idea of interpersonal communication, categorizing the style of communication into dominant and subordinate. The depth of Vries' study in communication style has progressively expanded, leading to a corresponding evolution in his categorization of communication styles.

In this study, we use Sheth's (1976) three-party communication style framework, because it is supported by certain concepts and experience in the field of personal marketing. Williams and Spiro (1985), in their study of interaction between consumers and sellers in sporting goods stores, found that communication style, measured by task, interaction, and self-orientation scores, was significant in explaining marketing differences. Their research initially confirmed the rationality of Sheth's classification framework of communication style in the context of personal marketing. In live streaming marketing, communication style is one of the key factors that determine the success or failure of interaction. Haimson & Tang (2017) gave a detailed description of the attraction of the communication style of live streamers in live streaming, believing that different communication style can bring different live streaming experience to users (consumer). Wongkitrungrueng & Assarut (2018) studied the role of different live communication style in building consumer trust and interacting with social commerce sellers.

Interaction-oriented communication style refers to the communication style displayed by e-commerce live streamer and consumer in the process of mutual communication and communication. Task-oriented communication style refers to the communication style displayed by e-commerce live streamer when guiding consumers watching e-commerce live broadcast to purchase products recommended or displayed by themselves with their professional knowledge or word-of-mouth accumulation in a single or multiple fields. Self-oriented communication style refers to the communication style of the live streamer who only pays attention to himself and ignores the consumer in the process of interacting with the consumer. The live streamer of this communication style is self-centered and it is difficult to think from the standpoint of the consumer. According to the above literature, live streamers with task-oriented and interaction-oriented communication styles have higher sales than live streamers with self-oriented style. This study will focus on task-oriented, interactive-oriented, self-oriented styles and examine the differences in the impact of these three communication styles on consumers' purchase intention and behavior in live streaming marketing.

Related Research on Consumer Perceived Value

The process of consumer perception is bifurcated into two segments: the way consumers process product information and the unchanging knowledge framework that emerges post-processing. Zeithaml expanded upon the concept of consumer perceived value through the lens of consumer psychology in 1988. His definition of consumer perceived value encompassed a

comprehensive assessment of a product or service's utility, taking into account the perceived advantages and the expenses incurred in acquiring the product or service. His conviction is that in the process of designing, generating, and delivering value to consumers, businesses ought to begin with the consumer perspective and consider the consumer's value perception as the key element. The worth of consumers is ascertained by the consumers themselves, not by businesses, and this value is in fact perceived by the consumers.

The notion of perceived value stems from how customers subjectively perceive and assess products or services. The concept is highly subjective, with consumers being the focus of perceived value, which in turn is shaped by their own subjective thought processes. The worth of goods or services hinges on the personal preferences, buying power, and intent of consumers. Identical products or services can hold varying worth for diverse consumers, influenced by their unique environments, professions, and cultural heritages. Consequently, the concept of perceived value is deeply subjective, originating from consumer perceptions rather than being shaped by corporate actions. Additionally, the concept of perceived value holds some practicality. The way consumers view the worth of products or services frequently hinges on their personal understanding, including their buying history, tastes, and mindset. The personal perceptions of consumers evolve progressively through the act of buying, utilizing, and interacting with the products, as well as reaching out to the service staff of the companies supplying these products. Within the realm of consumption, consumers not only develop specific experiences and knowledge but also develop distinct preferences and attitudes. Customers' valuation of future consumption habits is grounded in these experiences, insights, and choices. Consequently, this document will utilize Sweeney and Souter's research approach to delineate perceived value across three dimensions: the emotional recognition of products by consumers, the acknowledgment of value, and their mental processing during real-time online shopping.

Related Research on Consumer Purchase Intention

Purchasing patterns stand out as the most impactful data in studies of consumer behavior. Predicting the behavioral patterns of individuals engaged in live streaming shopping is challenging, influenced by various elements like economic conditions, complicating the acquisition of precise purchasing information. There is a notable and positive correlation between the intent to purchase and actual behavior, serving as a marker of consumer actions. Consequently, this research focuses on the intent to purchase rather than the actual buying patterns to analyze consumer actions. Social-psychological frameworks, like Rational Action Theory (Fishbein & Ajzen, 1975) and Planned Behavior Theory (Ajzen, 1991), advocate replacing measurement with the readiness to purchase. According to these hypotheses, a range of mental frameworks, such as personal behavioral attitudes, personal standards, and observed behavioral

restrictions, are predictive of a person's willingness to participate in behavior. On the other hand, a person's desire to partake in a specific action, in conjunction with other cognitive frameworks like perceived behavioral control, can forecast their actual conduct. Within these frameworks, the primary determinant of behavior is deemed to be intention. Marketing has extensively utilized these models. Consequently, this research considers the intention of consumers to purchase as measure of their future market behavior.

Related Research on Service Scenario

The research findings indicate that the primary categorization of online service scenarios primarily concentrated on the website's physical aspects, disregarding social indicators. Nonetheless, a growing body of research indicates the influence of online comments and interactions on consumers, with some academics now focusing on social signals in digital service contexts. In the context of the significance of digital service models in tourism, Lee and colleagues highlighted the ongoing scarcity of studies on the influence of social elements in online service contexts, and the absence of a comprehensive viewpoint for analyzing such scenarios. Consequently, he suggested categorizing online service situations into environmental, design, and social elements. The term 'atmosphere factor' refers to the way a website creates an appealing and captivating environment for users of online browsing, including elements like music and color. The way a website is displayed to its audience, including aspects like image arrangement, font dimensions, and the website's overall design, influences the mental state of the users. The term 'social factors' denotes the dynamics of personal interactions within digital setting, ranging from customer exchanges to corporate exchanges, exemplified by firms employing technology to create online shopping assistants. Such elements could influence how consumers emotionally respond to web design, resulting in a more favorable acknowledgment and assessment of the design aspects of the website, thereby improving their online experience. Upon examining previous studies, Wang Jiangzhe and colleagues (2017) discovered a lack of adequate focus on social signals within online service contexts. Grounded in the principles of social telepresence and social exchange theories, social indicators in digital service contexts are categorized into tangible social signals and interpersonal social indicators, encompassing service staff and other clients. Physical cues in social contexts encompass words, images, sounds, and more. exhibiting a high level of human interaction; The term 'Service personnel' denotes the demeanor, vernacular, and promptness of services displayed by businesses via instant messaging; Other customers' describe the online feedback and resemblances of other clients.

Theoretical Framework

The Stimulus-Organism-Response (S-O-R) model was originally developed from the Stimulus-Response model. Stimulus refers to the signal given to an individual by the external environment, and response refers to the individual behavior change and result caused by the individual receiving this external environmental signal. Mehrabian and Russell proposed the Stimulus-Body-Response model in 1974 in the context of environmental psychology. Various aspects of the external environment act as stimuli that collectively influence people's internal states and thus drive their behavioral responses. In this paper, SOR model is used to construct a research model on the influence of anchor communication style on consumers' purchase intention in live marketing. Different variables of anchor communication style constitute different stimulus variables (S) in the model. With the help of different body variables such as consumers' perceived value (O), consumers produce different internal body states, which ultimately lead to different reactions of consumers to purchase results (R).

Persuasion is considered to be the process by which individuals expect to influence others' autonomous judgments and actions through communication (Jones, 1982). Persuasion is a fundamental human process in which people try to influence the thoughts and actions of others in all aspects of social interaction, including interpersonal relationships, mass communication, politics, and economics. In the field of live broadcasting commerce, the information source is the anchor, the information is the brand advertisement content, the channel is the advertising communication tool such as video, graphic text, live video, etc., and the information sink is the vast number of consumers. The anchor transmits the brand information to the consumer through the channel, that is, completes a round of information transmission process, and then the consumer will process the information. Persuasion is the act of influencing others, such as recommending a product to buy. Successful marketing communication should influence the consumer's opinion or judgment of things, inspire them to buy the product needs and intentions, such as spending money on products or services, buy or use recommended brand rather than other brands.

Social identity theory (social identity theory) from explains the behavior between groups of ethnocentrism. It was first proposed by social psychologist Tajfel (1979) and defined as: "An individual knows that he belongs to a particular social group, and that his group qualifications confer some emotional and value significance." From the point of view of this study, when consumers enter the live broadcast environment for consumption, some social clues displayed by the anchor and other customers in the live broadcast room, such as the style, dress, attitude and emotion of the anchor, or the comments and participation of other consumers, will leave a perceptual impression on consumers. Consumers will define whether they agree with their own characteristics according to their characteristics. If they agree, Consumers will have positive emotions, cognitive evaluation and strong emotional identification, thinking that such live broadcast environment and the communication style of the anchor conform to their own identity and value tendency, and then form attachment to the anchor, thus producing continuous purchase behavior. This is consistent with the core of social identity theory.

Interpersonal communication is one of the important theories of communication. With the popularization of the Internet and the diversification of communication methods, the main body of interpersonal communication is also reconstructing. Network interpersonal communication refers to the individual rely on the Internet, in the form of non-verbal (such as: text or network symbols, etc.) as a way of transmitting information and emotion, in the context of non-face-to-face communication activities. The cognitive communication behavior among consumers in the network has a significant impact on consumers 'purchasing decisions. As early as 1992, Bochner and Ellis (1992) have shown that cognitive communication between consumers can lead to the "herd effect" of consumer choice behavior.

Based on a large number of literature research and analysis, this paper constructs a theoretical model of the effect of live broadcast style on consumer perceived value and ultimately consumer purchase intention. In practice, in the process of watching e-commerce live broadcast, consumers' perceived value is constantly influenced by the live broadcast style of e-commerce live streamer, which finally leads to the fundamental change of consumers' purchase intention. Along the logical relationship of this "story line", this part constructs a brand-new theoretical framework, that is, the theoretical model framework of the action mechanism of live streamer style on consumer purchase intention, as shown in the figure 1.

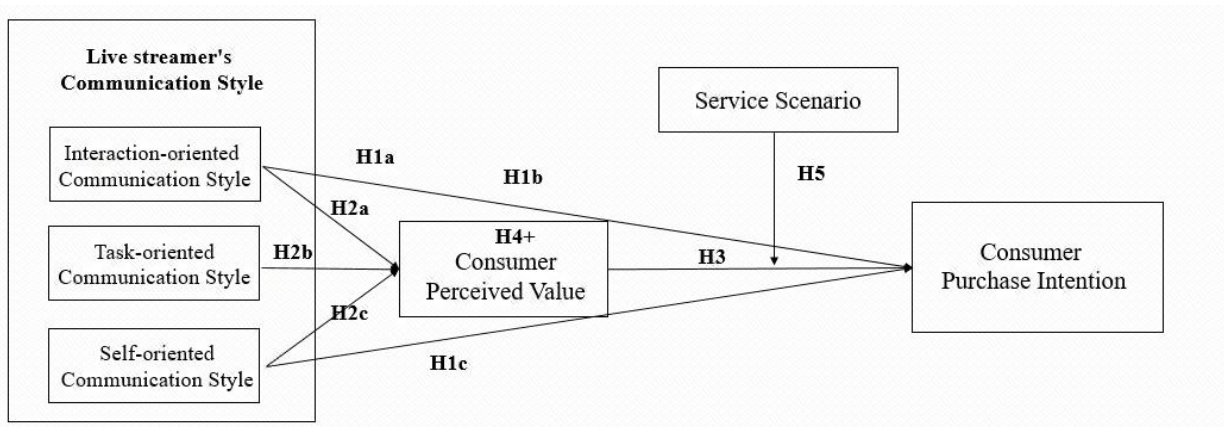


Figure 1 Conceptual Framework

Based on the framework, this study proposes the following relational hypotheses:

H1a: Interaction-oriented communication style has a significant impact on consumer purchase intention.

H1b: Task-oriented communication style has a significant impact on consumer purchase intention.

H1c: Self-oriented communication style has a significant impact on consumer purchase intention.

H2a: Interaction-oriented communication styles have a significant impact on consumer perceived value.

H2b: Task-oriented communication style has a significant impact on consumer perceived value.

H2c: Self-oriented communication style has a significant impact on consumer perceived value.

H3: Consumer perceived value has a significant impact on consumer purchase intention.

H4a: Consumer perceived value mediates the relationship between interactive communication style and consumer purchase intention.

H4b: Consumer perceived value mediates the relationship between task-oriented communication style and consumer purchase intention.

H4c: Consumer perceived value mediates the relationship between self-oriented communication style and consumer purchase intention.

H5: Service scenario plays a moderating role in the process of consumer perceived value affecting consumer purchase intention.

Objectives

This study aims to:

1. To investigate the attributes of live streamer's communication style
2. To investigate the impact of live streamer's communication style on consumer purchase intention.
3. To investigate the extent to an effect of consumer perceived value in the mediation of live streamer's communication style and consumer purchase intention.
4. To investigate the moderating role of live streaming service scenarios between consumer perceived value and consumer purchase intention.

Research Methodology

This paper is based on the principle of combining quantitative research with qualitative research. The specific qualitative research methods include grounded theory research, literature retrieval, questionnaire survey and in-depth interview. The background and problems of the study were analyzed by means of first-hand data collection, literature retrieval and summary of research data. Through the relevant literature research and theoretical basis of combining and reviewing, this paper comes to the research point. In-depth interviews were conducted with 40 consumers who watched the live broadcast. Each interview lasted for about 40 minutes, and 40 interview records were obtained. Then, the qualitative research method based on the grounded theory is adopted to encode and analyze the original interview data, and the theoretical model of this study is constructed.

In the quantitative research, the research object must be the consumers who have watched the e-commerce live broadcast for more than three months (including three months)

accumulatively, and have a deep understanding and understanding of the e-commerce anchor and e-commerce live broadcast. The sample size of the study is 420 consumers aged 18 to 50 years old in Shaanxi Province, who have certain shopping habits and abilities. In the study, random sampling method is selected, and the gender, education background and region of the research objects are randomly distributed to minimize the partial alienation of the respondents.

This questionnaire mainly relies on the questionnaire star to make the designed questionnaire online. In order to ensure the validity of the respondents to fill in the value, the author joined the major e-commerce anchor fans QQ group, and paid the questionnaire, at the same time, due to the author's previous work experience, has more than 300 people in the micro channel group, and the online questionnaire link issued in which the request group members to fill in. We screened the returned questionnaires for those that were incomplete, had the same answers to all options, and were completed in a very short time, resulting in 420 valid questionnaires.

This paper constructs 6 variables (3 independent variables, 1 mediator variable, 1 moderator variable and 1 dependent variable), including interactive communication style, task-based communication style, self-oriented communication style, consumer perceived value, consumer purchase intention and live broadcast service scenario.

Results

The 420 samples data were analyzed by descriptive, reliability and confirmatory factor analysis (CFA), path analysis, mediating effect analysis of bootstrap estimation, and moderating effect analysis of multi-group analysis.

1. Demographic Profile of Respondents

In the process of questionnaire distribution, a total of 420 valid questionnaires were collected. Demographic analysis of valid questionnaires is shown in the table above. In the gender distribution, 174 (37.3%) were males and 246 (62.3%) were females. It can be seen that the proportion of women who watch and buy goods in the group who watch the live streamer and shop on the e-commerce platform has exceeded that of men. In terms of age, 52.5% were under 25 years old, 34.1% were 26-30 years old, 12.5% were 31-40 years old, and only 1.3% were over 40 years old. Most of the samples were distributed between 25-40 years old. In terms of educational background, 3.5% have high school education or below, 82.7% have university education and 11.1% have postgraduate education or above. It basically conforms to the population distribution characteristics of Chinese live webcast users.

2. Reliability Analysis and Confirmatory Factor Analysis

In this study, SPSS 22.0 software was used to calculate Cronbach's alpha coefficient, and finally Cronbach's alpha value of variables was calculated. It is not difficult to see that the minimum variable of Cronbach's α coefficient determines the online behavior intention, and the

corresponding coefficient is 0.786. The Cronbach's α coefficient formed by all variables must exceed 0.7, and only the online behavior intention data is within 0.8. Thus, the calculated Cronbach's α coefficient meets the reliability standard. In addition, the total correlation of the corresponding items of each item exceeds 0.5. Even if some items are deleted, Cronbach's α coefficient will not be greatly affected, that is, the reliability level of the scale research results is relatively high.

Table 1 Reliability Test Results of Sample Data

Variables	Items	Deleted α	Cronbach's α
Interactive communication style	AA1	0.846	0.886
	AA2	0.815	
	AA3	0.926	
	AA4	0.833	
	AA5	0.847	
	AA6	0.882	
	AA7	0.890	
	AA8	0.855	
Task-based communication style	AB1	0.832	0.915
	AB2	0.857	
	AB3	0.937	
	AB4	0.842	
	AB5	0.941	
	AB6	0.871	
Self-directed communication style	AC1	0.818	0.862
	AC2	0.849	
	AC3	0.822	
	AC4	0.809	
	BA1	0.924	
	BA2	0.913	
	BA3	0.822	
	BA4	0.813	
Consumer perceived value	BA5	0.885	0.923
	BA6	0.829	
	BA7	0.826	
	BA8	0.837	
	BA9	0.869	
	BA10	0.921	
	BA11	0.903	
	BA12	0.932	
	BA13	0.837	
	BA14	0.871	
	BA15	0.855	
Consumer purchase intention	CA	0.830	0.786
	CB	0.917	

Variables	Items	Deleted α	Cronbach's α
Service scenario	CC	0.868	0.923
	DA	0.792	
	DB	0.811	

As can be seen from Table 2, χ^2/df is 2.899, which is less than 3, indicating that the adaptability is ideal. RMSEA was 0.071, less than 0.08 indicated good adaptability, and GFI AGFI greater than 0.8 indicated good adaptability. NFI, RFI, IFI, TLI, and CFI values greater than 0.9 indicate a good fit. It was proved by the instance that the fitting degree of the model was satisfactory.

Table 2 Model Fit Index of Variables

Model Fit	Absolutely Model Fit					Incremental Model Fit			
	χ^2/df	RMSEA	GFI	AGFI	NFI	RFI	IFI	TLI	CFI
Criterion	$1 < \chi^2/df < 3$	<0.08	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9
Results	2.146	0.068	0.913	0.946	0.911	0.908	0.912	0.955	0.951

As can be seen from Table 3, during the research phase of this topic, convergence validity test was carried out, mainly based on AMOS 22.0 data analysis software, and confirmatory factor analysis was carried out. The final test results are summarized in the table below. Survey data information shows that during the study, the minimum data of the corresponding standardized factor load is 0.698, all greater than 0.5, and all reach statistical significance within the range of $P < 0.001$, the minimum value of CR is 0.818, all greater than 0.7, and the minimum value of AVE is 0.529, all greater than 0.5. From this, we can see that all the scales used in the thesis research process can meet the objective requirements in convergence validity.

Table 3 Confirmatory Factor Analysis (CFA) of Variables

Variables	Items	Significance Estimation of Parameter					Convergent validity		
		Un-std.	S.E.	t-value	P	Std.	SMC	CR	AVE
AA	AA1	1.014	0.054	18.913	***	0.761	0.58	0.86 2	0.610
	AA2	0.878	0.045	19.376	***	0.776	0.601		
	AA4	0.925	0.051	18.159	***	0.742	0.55		
	AA5	1	0.065	19.157	***	0.772	0.596		
	AA6	0.981	0.057	17.327	***	0.739	0.546		
	AA7	1.068	0.06	17.868	***	0.758	0.575		
	AA8	1.252	0.065	19.157	***	0.803	0.644		
	AB1	1.22	0.07	17.334	***	0.739	0.546		
AB	AB2	1.286	0.064	20.075	***	0.834	0.695	0.91 7	0.612
	AB3	1.229	0.062	19.818	***	0.825	0.681		
	AB4	1	0.07	17.334	***	0.764	0.584		
	AB6	0.996	0.064	15.567	***	0.716	0.512		

Variables	Items	Significance Estimation of Parameter				Convergent validity			
		Un-std.	S.E.	t-value	P	Std.	SMC	CR	AVE
AC	AC1	1.027				0.698	0.487		
	AC2	1	0.068	15.153	***	0.737	0.543	0.81	0.529
	AC3	1.135	0.062	18.305	***	0.841	0.707	8	
	AC4	1.174	0.062	18.879	***	0.87	0.756		
	BA1	1				0.813	0.661		
BA	BA2	1.048	0.049	21.415	***	0.814	0.663		
	BA3	1.041	0.044	23.436	***	0.865	0.748		
	BA5	1.083	0.046	23.691	***	0.871	0.758		
	BA6	1	0.044	23.436	***	0.793	0.629		
	BA7	1.014	0.054	18.913	***	0.761	0.58		
	BA8	0.878	0.045	19.376	***	0.776	0.601	0.92	0.669
	BA9	0.987	0.052	18.869	***	0.76	0.578	8	
	BA10	1.165	0.053	21.948	***	0.85	0.723	0	
	BA11	1.113	0.048	23.342	***	0.888	0.788		
	BA12	1	0.044	23.436	***	0.825	0.68		
CA	BA13	0.953	0.053	17.919	***	0.734	0.539		
	BA14	1.062	0.051	20.748	***	0.819	0.67		
	BA15	0.995	0.063	15.895	***	0.73	0.533		
	CA	0.996				0.716	0.512		
DA	CB	1.027	0.068	15.153	***	0.698	0.487	0.91	0.722
	CC	1	0.064	15.567	***	0.737	0.543	7	
DA	DA	0.995				0.73	0.533	0.91	0.650
	DB	0.996	0.064	15.567	***	0.716	0.512	1	

Note. Adapted from Amos Software. *p<0.1, **p<0.05, ***p<0.01.

Discriminatory validity refers to the study of differences between variables. Under normal circumstances, the square root data corresponding to the AVE value exceeds the correlation coefficient formed by the variable and other variables. The results of comparing the square root value of AVE with the correlation coefficient of each variable in the course of topic research are summarized as shown in the table below. It can be seen from the table that diagonal data reflect the square root value of AVE of different variables, and the minimum data is 0.745. Above 0.7 (data below diagonal), the difference characteristics between representative variables are significant, thus proving that there is no serious problem in the discrimination validity corresponding to this research scale.

Table 4 Discriminant Validity Test Result

	AA	AB	AC	BA	CA	DA
AA	0.754					
AB	0.259**	0.775				
AC	0.311**	0.364**	0.777			
BA	0.276**	0.333**	0.327**	0.799		
CA	0.475**	0.241**	0.396**	0.781	0.764	
DA	0.157**	0.176**	0.167**	0.174**	0.156	0.766

Note. Adapted from Amos Software. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

3. Hypotheses Test by Structural Equation Modelling

Firstly, with gender, age, occupation and income as independent variables and consumers' perceived value as dependent variables, a model 1 (see M1 in the table) is constructed as a benchmark model to reflect the relationship between the control variables and the dependent variables; Secondly, model 2 (see M2 in the table) was constructed by adding three independent variables of task-based communication style, interactive communication style and self-oriented communication style to model 1, and the relationship between task-based communication style, interactive communication style and self-oriented communication style and perceived value was analyzed.

Table 5 Direct Effect Test of E-commerce Live Streamer Communication Style on Consumer Perceived Value

Variables	Perceived value		Purchase intention	
	M1	M2	M3	M4
Gender	-0.043	-0.017	0.245	-0.049
Age	-0.021	-0.022	0.367	-0.028
Vocational	0.049	0.024	0.238	0.046
Income	0.025	0.007	0.037	0.015
Task-based communication style		0.370***		0.458***
Interactive communication style		0.230***		0.391***
Self-directed communication style		0.245***		0.368***
R2	0.005	0.301	0.015	0.435
Adjusting R2	0.003	0.298	0.005	0.354
R2 Change		0.298		0.361
F	2.069	86.670***	3.513	56.561***
F Change		170.401***		241.322***

Note. Adapted from Amos Software. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

In terms of the influence of e-commerce live streamer communication style on perceived value, the regression coefficient of task-based communication style on excitement is 0.370, $p < 0.010$, indicating significant influence, assuming H1b gets support; the regression coefficient of interactive communication style on excitement is 0.230, $p < 0.010$, indicating significant influence, assuming H1a gets support; The regression coefficient between task-based communication style and arousal was 0.245 ($p < 0.010$), indicating that there was a significant effect.

In terms of the influence of e-commerce live streamer communication style on purchase intention, the regression coefficient of task-based communication style on excitement is 0.458, $p < 0.010$, indicating significant influence, assuming H2b gets support; the regression coefficient of interactive communication style on excitement is 0.391, $p < 0.010$, indicating significant influence, assuming H2a gets support; The regression coefficient between task-based communication style and arousal was 0.368, $p < 0.010$, indicating that there was a significant effect. Hypothesis H2c was supported.

Similarly, we get the test results of direct effects of live streamer communication style, consumer purchase intention and consumer internal state on online behavior intention.

Table 6 Direct Effect Test of Consumer Perceived Value on Consumer Purchase Intention

Variables	Purchase intention	
	M1	M2
Gender	-0.037	0.001
Age	0.061	0.042
Vocational	0.008	0.034
Income	0.043	0.072
Perceived value		0.130***
R2	0.025	0.412
Adjusting R2	0.023	0.419
R2 Change		0.358
F	12.3	105.220***
F Change		231.437***

*Note. Adapted from Amos Software. * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.*

From the data in the above table, we can see that the regression coefficient of consumer perceived value on online purchase intention is 0.130, $p < 0.001$, indicating that there is a significant impact, assuming that H3 is supported.

According to the above hypothesis and structural equation model, this study believes that the live streamer communication style will affect consumers' purchase intention by affecting consumers' perceived value, that is, consumers' perceived value plays a mediating role in the relationship between live streamer communication style and consumers' purchase intention.

Bootstrap method was used to calculate confidence intervals for multiple mediating effects analysis. Mediating effects were tested according to whether indirect effects included zero in the 95% confidence interval, which indicated significant effects when the confidence interval did not include zero and insignificant effects when it did. Next, the Bootstrap method of SPSS was used to test the mediation effect of consumer perceived value. The sample size was selected as 5000, the confidence interval of bias correction and promotion was set as 95%, and the coefficient product and its confidence interval were calculated by Bootstrap method. The following data were obtained:

Table 7 Mediating Effect Results

Effect Type	Estimate	S.E.	95% confidence interval	
			Lower	Upper
Direct Effect				
AA-->DA	0.2086	0.0484	0.1092	0.3079
AB-->DA	0.1686	0.0814	0.0792	0.2379
AC-->DA	0.1432	0.0447	0.0505	0.2740
Indirect Effects				
AA-->BA-->DA	0.2151	0.0539	0.1582	0.2834
AB-->BA-->DA	0.1416	0.0647	0.0146	0.1022
AC-->BA-->DA	0.1538	0.0743	0.0116	0.0583

First, the direct effect coefficient of interactive communication style on consumer purchase intention is 0.2086, and its bias corrected bootstrap confidence interval at 95% confidence level is [0.1092, 0.3079]. The confidence interval does not include zero, indicating that the direct effect is significant. Secondly, the mediating effect test results of mediating variables show that the mediating effect coefficient of consumer perceived value is 0.2151, and its bias corrected bootstrap confidence interval at 95% confidence level is [0.1582, 0.2834]. The confidence interval does not include zero, indicating that consumer perceived value has a significant mediating effect on consumer purchase intention in interactive communication style, and the relationship hypothesis H4a is verified.

The direct effect coefficient of task-based communication style on online purchase intention is 0.1686, and its bias-corrected bootstrap confidence interval at 95% confidence level is [0.0792, 0.2379]. The confidence interval value does not include zero, indicating that the direct effect is significant. Secondly, the mediating effect test results show that the mediating effect coefficient of consumer perceived value is 0.1416, and its bias corrected bootstrap confidence interval under 95% confidence is [0.0146, 0.1022]. The confidence interval does not include zero, indicating that consumer perceived value has a significant mediating effect on task-based communication style. The hypothesis H4b is verified.

The direct effect coefficient of self-directed communication style on online purchase intention is 0.1432, and its bias-corrected bootstrap confidence interval at 95% confidence is [0.0505, 0.2740]. The confidence interval does not include zero, indicating that the direct effect is significant. Secondly, the mediating effect test results of mediating variables show that the mediating effect coefficient of consumer perceived value is 0.1538, and its bias corrected bootstrap confidence interval under 95% confidence is [0.0116, 0.0583]. The confidence interval does not include zero, indicating that consumer perceived value has a significant mediating effect on consumer purchase intention in self-directed communication style, and the relationship hypothesis H4c is verified.

This study considers that the environment of direct broadcast plays a moderating role in the relationship between consumers' perceived value and consumers' purchase intention, and puts forward the corresponding relationship hypothesis. With the help of SPSS 22.0 software, we standardized the data of independent variables and moderating variables, and then tested the hypothesis of moderating effect by hierarchical regression analysis. Model 1 (M1) is constructed by taking sex, age, occupation and income as independent variables and online purchase intention as dependent variable to reflect the relationship between control variables and dependent variables. Then, model 2 (M2) is constructed by adding live broadcast service environment as independent variable on the basis of model 1. The analysis results are shown in Table 4.15. It can be found that after adding the direct broadcast room environmental impact interaction item to Model 2, the R² value of Model 2 has been significantly improved, from the original 0.126 to 0.726, indicating that the explanatory power of Model 2 has been enhanced. The regression coefficient of the interactive item of "environmental impact of direct broadcast room" on online purchase intention is 0.175, $p=0.000<0.001$, indicating that the moderating effect of environmental factors of direct broadcast room on consumer perceived value and consumer purchase intention is significant, assuming H5 holds.

Table 8 Test table for the moderating effect of Service scenario

Variables	Consumer purchase intention		
	M1	M2	M3
Gender	0.019 (0.555)	0.015 (0.435)	-0.014 (0.426)
Age	0.035 (0.335)	0.029 (0.302)	0.009 (0.107)
Career	0.045 (0.505)	0.033 (0.085)	0.012 (0.095)
Income	0.028 (0.083)	0.018 (0.08)	-0.165 (0.085)
Perceived Value		0.235***	0.175***

Variables	Consumer purchase intention		
	M1	M2	M3
		(0.000)	(0.000)
Service scenario		0.072*	0.085*
		(0.036)	(0.040)
Perceived Value			0.174***
Service scenario			(0.000)
R2	0.126	0.680	0.726
Adjusting R2	0.105	0.645	0.706
F	4.37**	20.543***	25.553***

Note. Adapted from Amos Software. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

The results of hypothesis testing above indicate that the 11 hypotheses proposed in this study pass the empirical test. The test results are shown in Table 9. In order to understand the relationship between variables more clearly, the test results will be analyzed and discussed in detail in the next chapter.

Table 9 Results of Hypothesis Test

Hypotheses	Result
H1a: Interaction-oriented communication style has a significant impact on consumer purchase intention.	Support
H1b: Task-oriented communication style has a significant impact on consumer purchase intention.	Support
H1c: Self-oriented communication style has a significant impact on consumer purchase intention.	Support
H2a: Interaction-oriented communication styles have a significant impact on consumer perceived value.	Support
H2b: Task-oriented communication style has a significant impact on consumer perceived value.	Support
H2c: Self-oriented communication style has a significant impact on consumer perceived value.	Support
H3: Consumer perceived value has a significant impact on consumer purchase intention.	Support
H4a: Consumer perceived value mediates the relationship between interactive communication style and consumer purchase intention.	Support
H4b: Consumer perceived value mediates the relationship between task-oriented communication style and consumer purchase intention.	Support
H4c: Consumer perceived value mediates the relationship between self-oriented communication style and consumer purchase intention.	Support
H5: Service scenario plays a moderating role in the process of consumer perceived value affecting consumer purchase intention.	Support

Discussion

This study conducted exploratory research on consumer online behavioral intentions in the new environment of e-commerce live streaming using grounded theoretical research methods, constructed a theoretical model framework for the mechanism of live streamer's communication style on consumer online behavioral intentions, and proposed a hypothesis for the relationship between variables. Then, it was tested through large sample data analysis, and the main research conclusions obtained were summarized as follows.

1. Discussion of direct effects

Based on the research situation of e-commerce live broadcast, this paper defines the concept of live streamer communication style attribute and divides its dimensions. Previous scholars 'research results on influencing factors of consumers' willingness to participate in online sales activities mostly focus on three main factors: information quality, system quality and service quality (Bhattacharjee, 2001; Gong Xiaoxiao et al., 2020). Some scholars examine the factors influencing user purchase intention by adding user self-perceived value as a factor (Bhattacharjee, 2001), or study user behavior in information system use from the perspective of information acquisition and interaction. However, based on the social interaction nature of live marketing, this paper analyzes how the choice of live communication style affects users 'purchase intention from the perspective of social interaction. Enriched online sales related research areas and content. This study explores the mechanism of the effect of e-commerce live streamer's communication style on consumers' online behavioral intentions in the context of e-commerce live streaming through a grounded theoretical and qualitative approach. This study defines the live streamer's communication style in the context of e-commerce live streaming as a series of relatively stable and traceable communication style attributes and characteristics that e-commerce live streamers exhibit when introducing and recommending products to consumers through live streaming on e-commerce live streaming platforms. It includes three dimensions: task oriented, interactive oriented, and self-oriented. Task oriented refers to e-commerce live streamers who are purpose-oriented and highly purposeful in communication. Their most important concern is the completion of marketing tasks. Therefore, they will behave professionally and are familiar with their professional knowledge; Interactive orientation refers to e-commerce live streamers viewing consumers as living individuals rather than as a whole in the interactive communication process. This style of live streamers focuses more on long-term benefits than on this sale, so they are more inclined to establish personal relationships with customers in the live broadcast; Self orientation refers to employees with this style who only focus on themselves while ignoring customers in their interactions with

consumers. Employees with this style are self-centered and have difficulty thinking from the perspective of others. At the same time, after the analysis of the previous chapter, hypothesis 1 holds true, live streamer interactive communication style has a significant impact on consumer purchase intention; live streamer task-oriented communication style has a significant impact on consumer purchase intention; live streamer self-oriented communication style has a significant impact on consumer purchase intention. This is consistent with the research results of scholars Meng Lu (2020) and Liu Fengjun (2020). Compared with traditional online shopping, simple static graphic web pages can no longer meet the needs of consumers to obtain product information. E-commerce live streamer incarnates online shopping guide, intuitively and fully explains and displays product details and functional effects, greatly improving consumers' sensory experience; The real-time high-frequency and strong interactive diversified communication solves the problem of information asymmetry between each other, brings richer, direct and real-time shopping experience to consumers, makes the relationship between commodities, consumers and live streamers closer, and consumers' purchase intention is greatly enhanced in this process.

2. Comparison between quantitative and qualitative results

The results of qualitative and quantitative studies are completely consistent. Interactive communication style, task-oriented communication style and self-oriented communication style have direct and significant effects on consumers' purchase intention and perceived value. At the same time, through qualitative and quantitative research, we also find that service scenario plays a moderating role in the process of consumer perceived value affecting consumer purchase intention. In the research of Chen Xin et al. (2007), it is also pointed out that the live streamer can trigger positive emotions such as pleasure and enhance the perceived value of consumers through the cognition of their own appearance and figure. Scholars Liu Xiaoxin and Bi Aiping (2003) also showed that interpersonal communication between individuals is an interactive process at psychological and behavioral levels, and the effectiveness and immediacy of communication have positive effects on consumer trust and purchase intention. At the same time, consumer sentiment will be temporarily affected by the purchase location, terminal display and marketing personnel operating atmosphere, which in turn changes consumer perceived value. The background music and page design of the store will affect consumers' purchase intention, and the clothing and oral expression ability of the salesperson will also affect consumers' cognition and evaluation of the store. Although buying situations are cumulative events or states that are transient in nature, they can still have a significant impact on how and what consumers evaluate stimuli. Even when consumers are in the same situation, they will have different perceived value due to their own differences in

characteristics. Therefore, enterprises should combine consumers, products and situation factors when formulating marketing strategies. Scholar Chen Zaifu (2014) found that commodities, prices, atmosphere, services, promotions and other aspects have an impact on consumers' purchase intention through research on physical merchants. Consumers' purchasing decisions are not only influenced by salespeople's recommendations or presentations, but also by other consumers' opinions or suggestions.

3. Discussion on the mediator effect of customer perceive value

This study confirms the mediating role of consumer perceived value in the process of e-commerce live streamer communication style influencing consumer online behavior intention. After exploratory research, this study constructs a theoretical model including e-commerce live streamer interactive communication style, task-based communication style, self-oriented communication style, value recognition, online purchase intention and service context. Bootstrap method was used to test the hypothesis of the mediating effect of consumer value approval. The results showed that value approval mediates the process in which live streamer communication style affects consumers' online purchase behavior intention, and also mediates the process in which task-oriented, interaction-oriented and self-oriented communication styles affect consumers' online purchase behavior intention. Consumers' perceived value is influenced by product quality, brand and other factors in their shopping process, which leads to different types of emotions, such as happiness, satisfaction, anger or sadness. The resulting series of positive emotional reactions will eventually lead to consumption, otherwise it will cause consumers to abandon the purchase behavior.

4. Discussing the moderating effect of service scenario

It proves the moderating role of service scenario in the process of consumers' internal state influencing their online behavioral intentions. Previous research on sales scenarios has focused on the climate of offline retail stores (Baker, 1996; Bitner, 2000) or e-commerce sites (Catherine, 2007; Dailey, 2004; Davis, 2008). Baker (1986) argues that consumer perceptions of product quality are influenced by many factors in the retail environment, including ambient, design, and social factors. Under the background of live broadcast marketing, online broadcast room is the main interface of enterprise sales, but scholars have little research on environmental factors and have not systematically discussed them. The hypothesis of moderating effect of service scenario was tested by multi-level regression analysis. The hypothesis was supported by data. The results showed that: situation factors have significant moderating effects on consumers' value recognition, emotional identification and psychological identification affecting their online collection behavior intention, situation factors have significant moderating effects on consumers' value recognition, emotional identification and

psychological identification affecting their online sharing behavior intention, situation factors have significant moderating effects on consumers' value recognition, emotional identification and psychological identification affecting their online order behavior intention, That is, service scenario can enhance the positive relationship between consumers' internal state and their online behavior intentions.

Conclusion

The conclusion of this study is mainly aimed at the interaction path and mechanism between live streamer communication style and consumer perceived value and consumer purchase intention in live shopping. Through a series of literature research and grounded theory research, the correlation between research variables is also confirmed. This paper includes three specific studies: the classification of live streamer communication style, the influence of live streamer communication style on consumer purchase intention through consumer perceived value, and the moderating effect of service scenario on consumer purchase intention.

Based on the structural equation model analysis, the live streamer communication style has a significant positive impact on consumers' purchase intention in e-commerce live broadcasting. The communication style of live streamer is an important factor affecting consumers' impulse purchase. The live streamer's communication style brings users a better experience of browsing and introducing goods, thus affecting users' desire to buy. Based on the S-O-R model, this study analyzes the influence of live streamer's communication style on consumer's purchase desire. The results show that different types of live streamer communication style significantly affect consumers' perceived value and purchase intention. Good communication skills and rich professional knowledge can generate more purchase intentions for consumers.

The mediating role of consumer perceived value in the influence of e-commerce live streamer communication style on consumer purchase intention is obviously reflected in qualitative and quantitative research, which also matches the hypothesis of this paper. When consumers buy a product or service, the consumer's attitude, evaluation and other factors constitute the intrinsic perceived value to determine the consumer's willingness to buy at that time. Consumers watching e-commerce live broadcast will carefully consider and weigh the advantages and disadvantages based on their own cognitive situation before making decisions such as collection, sharing or placing an order to buy. In this process, we can obviously see the changes in consumers' sense of value, which will affect consumers' online behavior intentions.

Through the previous research, we found that consumers are watching the live broadcast, the environment or scene of the consumer's purchase intention also has a significant effect, which is consistent with the assumption of this article H5. E-commerce platform has now become the main shopping place, merchants are committed to through detailed introduction, attractive pictures and other ways to optimize the e-commerce platform of commodity information display. Background music, decoration style, display mode and the dress of the live streamer and other factors will have psychological implications or stimulation to the consumers in it. At the same time, when consumers watch the live broadcast, the order behavior of other consumers in the broadcast room and the urgent atmosphere generated by the live streamer's urging tone will also trigger consumers' willingness to buy.

Recommendations

For consumers, they can choose live shopping as one of their options for purchasing goods and services. For live streaming shopping platforms, the similarity in communication styles between live streamers and users should be utilized to improve users' willingness to purchase. For operators of e-commerce live streaming, attention should be paid to the promotion strategy of service scenario in e-commerce live streaming.

Although the research process is standardized and rigorous, there are still some shortcomings in this study because of the limited level of individual research and the limitation of some objective factors. In future research, we can continue to study the impact mechanism model of consumers' online purchase intention to online purchase behavior transformation. The study of consumer loyalty behavior is an extremely complex topic. How consumers ultimately convert into online purchasing behavior after generating online purchasing intentions, what factors are also affected, and how are the impact mechanisms? This is also a question worthy of further research in the future.

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