

Research on the Impact of Consumers' Purchasing Decision in E-commerce Live-streaming——Based on Cognitive and Perceptive Perspective

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ABSTRACT

In the live-streaming area, high-tech social media has transformed our interactions and social activities through a brand new marketing approach. The research identifies the underlying drivers of purchasing decision from cognitive and perceptive perspective, and confirms the decision-making mechanism from individual view. Our study is based on S-O-R Theory, Social Presence Theory and Technology Acceptance Model, and we add Perceived Trust. A scale of 24 items which reflecting 6 construct was set up. Then a pre-test was designed to test the validity of scale and a formal experience was conducted to 311 customers. Data are analyzed applying the structural equation modelling (SEM) technique with SPSS and Amos. The results indicate that cognition and perception both positively influence Perceived Ease of Use. But only cognition can significantly affect Perceived Use, necessitating expertise of anchors and dissemination of high quality content. Besides, the affecting path of PU, PEOU and PT was verified, providing guidance for platform designing, anchor training and product selecting.

1. Introduction

On the onslaught of global pandemic, live-streaming has boomed quickly. The scale of transactions per unit, the fast-racing penetration rate and the development of technology brought robust motivation. According to the 47th "Statistical Report on China's Internet Development Status", which is released by China Internet Network Information Center (CNNIC), by December 2020, online shopping users has reached 782 million, accounting for 79.1% of the total netizens. Live-streaming has shown a goof momentum of rapid development, shown from the statistics that 66.2% of e-commerce users with live watching experience have purchased products during the process.

However, problems (e.g: data fraud, poor quality of product, mixed anchors) spring up together. Only if relative institutions dig into the essence of psychological need and purchasing decision-making, can the new business model be explored and the next tuyen be discovered. The fantastic shopping course derives on social clues, such as experience sharing, reciprocal recommendation, community building and mutual identification. Therefore, from the individual perspective, it is necessary for institutions to deeply understand the affecting mechanism and then improve in platform, operation model, quality of product and ability of anchor, so that more fans can turn to potential customers.

Thus, the research questions for this study are:

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(1) How does the cognitive and perceptive awareness affect one's feeling of perceived usefulness(PU) and perceived ease of use(PEOU)?

(2) How the mutual trust established through virtual website?

(3) What factors have promoted the final purchasing decision?

Our research tends to explore the cognitive and perceptive mechanism of live-streaming, based on Theory of social Presence, Theory of consumer's behavior and Technology Acceptance Model. Then we shall explore the application based on the newest commercial activities.

2. Literature Review

2.1 SOR (Stimulus-Organism-Reflection) Theory

SOR theory, which represents "Stimulus -Organism-Reflection", is a general model used in human behavior. The theory points out that consumers' purchasing behavior is caused by a series of stimuli, which generate consumers' motivation, and then reflect in the purchasing behavior.

Applying SOR model is a continuous procedure. Mehrabian & Russell^[1] first proposed the SOR model in terms of psychology, with the relationship between environment and organisms be explored. The organism is cited to cause different responses due to the environment. Donovan & Rossiter^[2] first applied this theory to brick and mortar stores. Since then, researchers have found several aspects of factors that can arise consumers' consciousness. The factors are situation factors such as performance, product factors such as appearance, and subjective factors such as emotion. All of them can stimulate consumers and affect their behavior. Eroglu et al.^[3] used SOR model in online shopping for the first time. They believe that online environment will have an impact on consumers' attitude. Since then, people have researched that the quality of website and social factors stimulated customers, influencing their purchasing intention.

The original model is enriched and then simplified gradually. Yoon^[4] extracted existed research and optimized the model. In SOR model, we can induce website activism as an exogenous variable, and regard consumers' emotion as a mediating effect. Chen & Yao^[5] used the model to assess consumers' impulsive purchasing behavior by emphasizing the quality of the website. Liu et al.^[6] illustrated social presence as a stimulus to explore the effect on customers' behavior.

Under the SOR model, many scholars focus on the purchasing behavior. Yu & Xu^[7] regarded the immersive experience while sending barrages as a form of expression

of organism's reaction. Xu et al. (2017) ignited the customer outflow phenomenon in social networks through the theory. It is argued that two stimulating factors, which are e-commerce marketing strategies and consumers' social interaction, led to changes in the perceived value and hedonic value of consumers (Shan et al., 2019) Through this way, the factors will influence consumers on their goals and behavior. Li et al. (2021) combined SOR model with iceberg model. They defined the intermediary variable by SOR model, connecting exogenous stimulus with consumers' purchase intention.

2.2 TAM Model

TAM, first proposed by Davis (1986), has been a leading model in the field of technology acceptance. TAM is based on Self-efficacy theory. Theory of planned behavior and Theory of reform and adoption. etc. Davis summarized the previous studies and concluded that the affecting path was measured by two central factors: PU and PEOU. The perceived usefulness (PU) is marked as the magnitude a user believes that using a particular system will enhance how they do their job. Perceived ease of use (PEOU) measures the magnitude a potential user expects that the target system to reduce unproductive effort (Fred et al., 1989).

The model has gained numerous popularity, specifically because of the transferability to various contexts (Khan et al., 2021). The TAM2 model developed by Venkatesh (2008) explored the affecting factors of PU and TAM3 (Bala, 2008) enriched the content of PEOU. Live-streaming, as a new online marketing strategy with sense of interaction and immerse, has satisfied emotional demand of security, conformity and network. Extensive literature has shown that the influence of PU is greater than that of PEOU(Zhang, 2017), especially after sustained usage. Therefore, besides the technical aspect, interpersonal relationship embedded in the process should be emphasized, and thus Perceived trust is induced as specific exogenous latent variables.

2.3 Perceived Trust

In online circumstances, perceived trust indicates the feelings of security and confidence while using digital technology to contented one's intention. According to the signal theory, in the case of information asymmetry between contracting parties, the faction with relative less information would speculate the truth according to displayed signals (Brian L., 2011). Credit source and social cues from exogenous stimuli are among these profound factors. From a cognitive perspective, credit

source influences the awareness of the creditworthy and among which, professional degree is considered as the most important factor. Matthew (2001) indicated that the profession of anchor showed a positive relationship with the appraisal of brand extension. Besides, the professional degree of anchor also affects the cognition of customers (Kim & Ahn, 2007). From the perception aspect, social clues were listed as key factors in purchasing decision in the MAIN model (Han & Wu, 2017). Lu et al. (2016) exemplified clues (signals like the number of people interest, share, and final purchasing behavior) and indicated the corresponding feelings (Social Presence) positively affected the Perceived credibility.

2.4 Social Presence

Short et al. (1976) first proposed the definition of social presence. He defined the meaning as ‘the degree of significance of the others in the interflow and the consequent significance of the interpersonal relationships.’ The term was redefined as ‘the degree to which a person is perceived as a real one in intervened communication’ by Gunawardena (1997).

As the network created the third space and the meaning extended, social presence is considered as a substitution of the previous form of communication-- face-to-face. It is reinterpreted as the magnitude to which a person feels being connected to others in a virtual team via a mediating technology (Niki, 2003). The term is then introduced to the marketing field as a way to study the making purchasing judgment process Lee & Nass (2005) explored the contention and described it with co-presence and physical-input. Based on the research before, Liu et al. ^[6] specified the definition of social presence in the live-streaming area: ‘When enjoying the living of web influencers, customers can interact and communicate with anchors as if in the real context, therefore the decision and behavior will be influenced’.

E-commerce based on social network functions as networking, payment and shopping and involves a sense of Accompany and interactivity. The shopping experience derives from not only the availability of the platform, but also emotional factors based on the cognitive psychology and social cues such as knowing each other, making meaning, sharing stories, purchasing together. Earlier research has proven social presence is formed from both technical and interpersonal perspective. Russell Haines (2021) studied how user interface affect team loyalty, and proved that the collaboration technology activates the feelings of social presence and activity awareness. From the interpersonal perspective, social rituals are designed to attract attention and connection—customers are guided

to explore the interested topic, create the real conversation and share the common feelings (Li et al., 2019).

In analyzing the perception formation process of focus consumer in the sequential dimension, customers capture social cues by designing symbols (such as the interactive function of the platform). And the symbolic design of role identity enables customers to realize the presence of others, which generates a sense of situational social presence. Designs relative to the interactive ceremony, informational interaction and emotional resonance with anchors all produce a sense of communication social presence. Together with value transmission and trust establishment, we feel the sense of co-existence, and finally reaching a deeper level called emotional social presence.

3. Research Model

SEM, as a method integrating the factor analysis, variance analysis, multiple regression, outperforms in the ability to deal with multiple variable when estimating the factor structure and factor relations. High tolerance for measurement error enable SEM to function well in domain of behavior and attitude.

Based on the SOR theory, this article starts with exogenous stimuli from the perspectives of perception and cognition. We select “content quality”, “satisfaction degree” and “anchor’s image and product consistency” as important factors in perception. And choose “situational presence”, “Communication Presence” and “Emotional Presence” as important factors from a cognitive perspective (S). The article follows the role of “perceived usefulness” and “perceived ease of use” in the TAM model, and introduces the “perceived trust” variable (O) to jointly affect the organism’s purchase intention (R) in e-commerce live-streaming. The article establishes a model to show influencing factors of consumer purchasing intention in e-commerce live-streaming, as is shown in Figure 1.

4. Relationships and Hypotheses

Unlike traditional shopping methods, online shoppers can only have a perceptive understanding of the product displayed through the screen, which makes the information sent by the anchor very important. Effective information transmission helps buyers receive and process information and generate curiosity on goods. This process enhances consumers to form cognition and increase purchasing willingness. As a result, anchors begin to take advantage of Internet to start live-streaming instead of simply sending images and text. At the same time, in order to increase the popularity and entertainment during live-streaming,

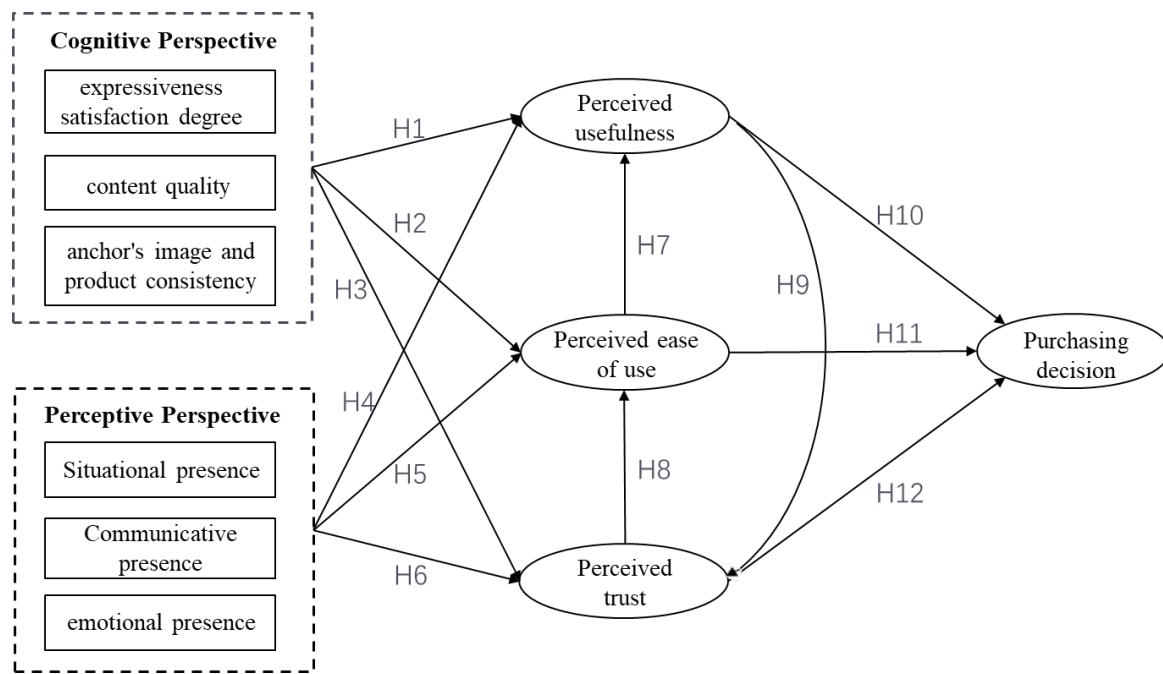


Figure 1. the Impact of Consumers' Purchasing Decision in E-commerce Live-streaming

anchors are good at exposing their personality, combining image and personal talent to match the sort of products. Finally, they become opinion leaders among consumers, guiding their purchasing behaviors. Now from the above, this article uses three factors to influence consumer's perception: content quality, expressiveness satisfaction degree, and anchor's image and product consistency.

Studies have conducted that content quality, which is in the field of cognitive perspective, will positively influence PU and PEOU. Many indications of goods and the description of natural language can be effective in arousing consumers and forming PU (Yu, 2017). Information such as marketing data can be utilized by users to evaluate content sent by anchor, and high quality content leave a subjective impression on customer, and thus promoting the purchase intention (Moon & Kim, 2001). Content information source positively influences the value of perceived practical function, which includes the purchase price, cost of time, and hidden risks (Liu et al., 2020). Therefore, high quality content can improve the consumer's buying experience by reducing consumers' purchasing concerns.

As for expressiveness satisfaction degree, the degree which anchor precisely describes the product or service can be clearly demonstrated. While watching live-stream, consumers can predict the usefulness of the product with a direct response from the anchor (Zhou et al., 2021). Anchor can satisfy the needs of consumers through talents, speech, testing and other means. These methods will provide

customers with a satisfying experience (Liu & Shi, 2020).

Anchor's image and product consistency are also a main factor to influence both PE and PEOU. Anchor can attract consumers by their personalities, and recommends products according to their preferences, which arouses a sense of curiosity and creativity in consumers (Meng et al., 2020). Eleanor et al. (2007) put up that anchor is the thought leader during the live stream, and he can affect customers and influence their judgment on the convenience and satisfaction of product.

Based on the above, we raise the following hypotheses:

Hypothesis 1 (H1) Cognitive perspective positively influences Perceived usefulness.

Hypothesis 2 (H2) Cognitive perspective positively influences the Perceived Ease of use.

Hypothesis 3 (H3) Cognitive perspective positively influences the Perceived trust.

In our research, S-O-R is the starting point and stimuli are classified as cognitive and perceptive perspective. After studying the internal links to trust, cohesion, and the final performance, many literature implicitly assume a positive correlation between social presence and motivation. Therefore, we introduce the term to illustrate the perception (Russell Haines, 2021). The concept of place attachment was first proposed by Williams et al. (1992) and originally described as the connection between people and place through cognition, emotion, and experience. Therefore, we can hypothesis that social presence has a positive correlation with the perceived

value. The three dimensions of social presence in the background of virtual online organization (Web page, other people and communication) indicates the three level we study the term. In the technological level, the term is explored and tailored the three level specially for living: co-existence, communicative social presence, and tender social presence. According to the existed research. Lee & Nass (2005) illustrate social presence in 3 level, respectively situational, communicative, and emotional social presence.

Table 1. three dimension of social presence

Category	Definition	Source
Situational social presence	SSP demonstrates the alignment of perception and cognition that customers can realize the existence of others according to virtual surrounding.	Liu Zhilin, Zhang Zhong, Xiao Haijian.(2021)
Communicative social presence	CSP reflects the efficacy of information sharing and social networking,	
Emotional social presence	ESP illustrates the emotional bond between customers and other subjects and the ability to resonate.	Dong et al.(2018)

When consumers have a sense of the virtual community during live-streaming, they have a sense of belonging and make emotional connections to meet their own needs (shopping, social, entertainment and other aspects (Zhou & Chen, 2018). As for situational social presence, a positive correlation between the atmosphere during live steaming and consumer’s online shopping experience can be observed. The description of the situation can improve customer’s sense of experience, and thus develop perceived trust (Wang et al., 2021). Consumers would create a sense of situational presence through real live steaming scenes, and in this way they will have a higher degree of confidence (Zhou et al., 2021).

In terms of communicative social presence, Li & Ye (2020) put up that interaction positively affects perceived trust. A cozy relationship with the customer and responds to questions in a timely manner lay the foundation for close connection and mutual trust between anchors and customers. If the anchor continuously maintain active interact with consumers, he will create a sense of intimacy, which positively affects the perception of trust (Zhou et al., 2021).

Emotional social presence also matters. In Li & Ye ‘s (2020) research, accuracy positively affects perceived trust. Once the anchor matches the needs of the customer

and describes products comprehensively after trying by himself, customers drive a sense of trust. During the live-steaming, consumers will have a good sense of emotion value through self-service and high-quality information, and satisfy their emotional needs (Zhou et al, 2021).

Based on the above, we raise the following hypotheses:

Hypothesis 4 (H4) Perceptive Perspective positively influences Perceived Usefulness.

Hypothesis 5 (H5) Perceptive Perspective positively influences Perceived ease of use.

Hypothesis 6 (H6) Perceptive Perspective positively influences Perceived trust.

Purchasing intention means the probability of buying a product or service ^[31]. Consumer perceptions on the usefulness of information and the convenience of e-commerce platforms have a positive impact on purchasing intention (Diao, 2010).

In TAM model, Perceived Usefulness is one main factor to affect purchasing decision. The using effect of product shown by the anchor has a significant impact on the purchase intention (Wang et al., 2021). Only after consumers have a subjective impression of the product, can they match the product with their own needs, and ultimately affect the purchasing decision. Perceived Ease of Usefulness is another factor. Wang et al. (2021) proposed that purchasing convenience and after-sales service on e-commerce platform will affect consumers’ willingness to buy. The convenience of purchasing products or services significantly affects consumers’ shopping experience. At the same time, if consumers find the product is easy to use during the live-steaming, they are more inclined to buy products (Zhang, 2020).

Consumers’ perceived usefulness of products or services can create a sense of trust, and thus help them to make judgments and choices (Zhou et al., 2021). The effect of perceived trust plays a crucial role in purchasing purpose can be shown by the study of Corbitt & Thanasankit (2003). Li & Ye ‘s (2020) research further proved it. Customers’ trust in the anchor increased step by step. Once customers remain attached to the anchor, they will make decisions according to the guideline (Dennis et al., 2019).

Based on the above, we raise the following hypotheses:

Hypothesis 7 (H7) Perceived ease of use positively influences perceived usefulness.

Hypothesis 8 (H8) Perceived trust positively influences perceived ease of use.

Hypothesis 9 (H9) Perceived usefulness positively influences perceived trust.

Hypothesis 10 (H10) Perceived usefulness positively influences final purchasing decision.

Hypothesis 11 (H11) Perceived ease of use positively influences final purchasing decision.

Hypothesis 12 (H12) Perceived trust positively influences final purchasing decision.

5. Empirical Analysis

5.1 Overall Statement

The question items are established according to existed scale and then modified in our pre-test. A pre-test was designed to test the validity of scale and a formal experience was conducted to 311 customers (effective rate is 95.4%). In our formal test, data for this study are drawn from questionnaires, and analyzed using SPSS version 20. Then Structural Equation model (SEM) in AMOS version was used to determine the relationship between the variables under the questionnaires. Several profile inquires of the respondents are provided before the statistical analysis of the influential path.

5.2 Data Collection Procedure

A formal and methodical statistical technique is induced in quantitative research. Based on the prior studies, we established questions framework with each latent variables at least 3 observable index describing. Every question is scored from 1 (strongly disagree) to 5 (strongly agree)

Measurement instrument

We summarized and completed 16 factors to form the questionnaire, referring from several existing mature scales in e-commerce field. As shown in Table 2.

Publicly available online survey is the main source of our research. Opposite questions were designed to test the authenticity of the reply. The survey questionnaire forms were distributed to diversified groups so that inherent bias could be better eliminated. After validating the questionnaire, we host personal interview to acquire more insight into the topic.

Table 2. Scale design of questionnaire

dimension	factor		question	source
Cognitive Perspective	expressiveness satisfaction degree	CP1	Anchor can show the details of the product and the function according to the willingness of customers.	Zhou et al. (2020) Shekhar M. & Sharon B (1990)
		CP2	Anchor can provide personalized advice when hosting a live-streaming marketing.	
	content quality	CP3	Anchor boost rich experience in the product he/she promote.	
		CP4	Anchor share living experience and provide practical information while chatting.	
	anchor's image and product consistency	CP5	The image of online anchor is consistent with the product he/she sell.	
		CP6	The field of expertise of the anchor is consistent with the domain of the product.	
Perceptive Perspective	Situational presence	PP1	I can feel the connection with others while watching the live broadcast.	Gunawardena C.N. & Little F.J.(1997)
		PP2	I can feel as if many viewers are around me.	
	Communicative presence	PP3	The anchor responds positively to the questions and topics that viewers pose.	
		PP4	I can feel as if the interaction with the anchor is authentic and genuine.	
	emotional presence	PP5	I can feel the passion from the online interaction.	
		PP6	I feel the anchor understand my demand.	
Perceived usefulness	Functional value	PU1	The product I bought can satisfy my expected demand.	Chen et al.(2020)
	Emotional value	PU2	The live-streaming bring me a sense of pleasure.	
	Social value	PU3	Buying the product that anchor recommended can bring me a sense of social identification.	

dimension	factor		question	source
Perceived ease of use	Purchasing convenience	PEOU1	The product recommended by the anchor is convenient to buy.	Wang et al.(2021)
	Using convenience	PEOU2	The product recommended by the anchor is easy to use.	
	Experience satisfaction	PEOU3	I am quite satisfied with the product recommended by the anchor.	
Perceived trust	Trust of anchor	PT1	I believe in the professional competence of anchor in choosing and recommending.	Zhou et al. (2021) Liu & Shi (2020)
	Trust of product	PT2	I believe some false information is contained in the recommendation.	
	Trust of product	PT3	I believe anchor has the first-hand experience and share the authentic feeling.	
Purchasing decision	Consumers' attitude	PD1	Watching the online-streaming helps me to do the final purchasing decision.	Chen et al. (2020) Parasuraman et al.(1996)
		PD2	The recommendation of the anchor can inspire my purchasing desire.	
		PD3	I shall give priority to the product recommended by the anchor when I indeed require.	

5.3 Measurement Model

Exploratory Factor Analysis

We first conducted a Pre-test to check and optimize our questionnaires. Without presupposing our position, we test the loading factors for each construct. Accordingly, some indicators were excluded based on the result of PCF to achieve a better fit to the data. And we finally selected 24 items to illustrate 6 construct. After the modification of our question items, we selected construct with eigenvalue higher than 1. Six constructs emerged in the scree test. The total variance interpretation is demonstrated in the table, with the cumulative variance contribution at 76.248%.

The PCF result of the optimized scale is illustrated as follows: The items with relatively higher loading factors are in the same dimension, proving the construct validity of our scale. To clearly indicate the important items, we only demonstrate the items with higher value.

5.4 Confirmatory Factor Test

In the first stage of our formal experience, we analyzed the quality of the measurement model. A test to the relationship between the constructs and their indicators was conducted. As reliability level of the variables, the Cronbach's (alpha) is listed in the Table 3, representing the uni-dimensionality of constructs, with each value greater than the baseline criterion (0.8), showing that the scale is in great reliability level.

Table 3. Cronbach's (alpha) of index

Variables	Items	Cronbach's (alpha)
Cognitive Perspective	6	0.895
Perceived Perspective	6	0.908
Perceived Usefulness	3	0.918
Perceived Ease of use	3	0.874
Perceived Trust	3	0.895
Purchasing Decision	3	0.902
Overall	24	0.955

Analysis of validity, which aims to test the compatibility of our research objective and data results, is normally conducted through Bartlett and KMO test. Scholars argue that model will be effective only if $KMO > 0.5$, P of Bartlett < 0.05 . Our test result shows value of KMO is 0.933, proving the validity of our research. The Bartlett test also justify the validity of Principal component analysis.

Therefore, all constructs are retained for confirmatory analysis and all results indicate the instrument's convergent validity. CFA of the initial 24 items measurement model revealed the following indices: $CMIN=588.571$, $CMIN/df=2.462$, $RMSEA=0.069$, $NFI=0.901$, $NNFI=0.929$, $PGFI=0.684$, and $CAIC(999.644)$ is below independence model (2021.938) and

Saturated model (6084.857). The refinement of indicators and optimization of model have been conducted in pre-test and the indices are acceptable.

5.5 Structural Model

The structural equation modelling is a technique that embodies the observed data through some structural parameters characterized by a theoretical framework. The path coefficient between latent variance demonstrates the difference brought by the fluctuation of a factor. The coefficient of each path is showed in Figure 2, with specific coefficient listed in Table 4.

Modification Indices reflect the potential effect of path modification. The value of our model range from 4.64 to 9.111, smaller than 20, confirming the validity of our model.

6. Analysis and Results

Hypothesis Testing

The model fit was checked for all dependent and independent constructs contained in the theoretical framework. Most hypothesized association are supported. This research confirms that the both Cognitive and tive

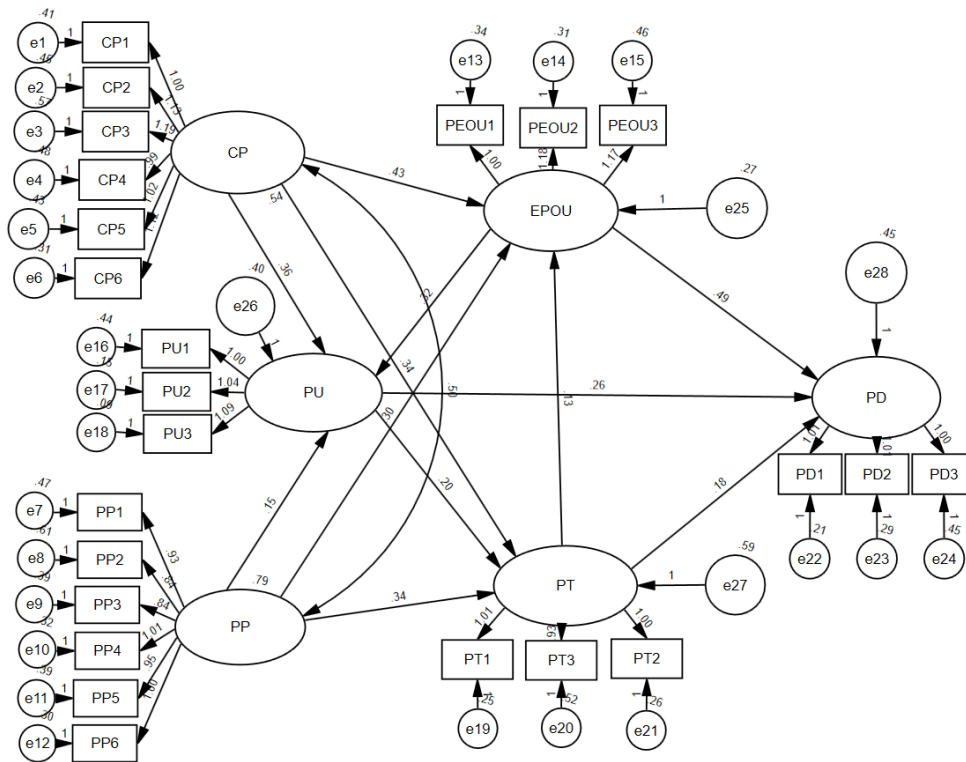


Figure 2. results of SEM

Table 4. Estimate of the structural model

Path		Estimate	S.E.	C.R.	P	Path		Estimate	S.E.	C.R.	P
PEOU	<--- CP	.427	.095	4.492	***	PD	<--- EPOU	.486	.089	5.431	***
PEOU	<--- PP	.302	.077	3.911	***	PD	<--- PT	.181	.062	2.950	.003
PT	<--- CP	.335	.131	2.567	.010	PD	<--- PU	.262	.074	3.542	***
PT	<--- PP	.341	.102	3.338	***	PT	<--- PU	.199	.083	2.405	.016
PU	<--- PP	.149	.086	1.727	.084	PEOU	<--- PT	.127	.052	2.445	.014
PU	<--- CP	.361	.110	3.284	.001	PU	<--- EPOU	.318	.091	3.490	***

perspective have significant influence on perceived ease of use ($p < 0.001$). Our finding is consistent with previous studies. Therefore, if the customers recognize the dissemination of high quality content, the convince in information collecting may ease their obstacles in accepting new live-streaming platform. And from the perception perspective, the immersive sense and peer connection bring the procedure more pleasure, making it more simple to use.

Both cognition ($p = 0.01$) and perception ($p < 0.001$) have a positive relationship with perceived trust. When shopping online, a full cognition of the product is the basis for making a purchase decision. The anchor delivers social clues (external image, language, expression, etc.) to help consumers draw an overall impression, generating perceived trust. The effect of perceived perspective on perceived trust is basically in persistent to previous studies. Communicating and purchasing in live-streaming, consumers arise place attachment by the atmosphere created by the anchor, and gain a sense of social identity. After satisfying both material and psychological requirements, trust generates generally.

As for the Perceived usefulness, Cognition is proved to be an essential factor ($p = 0.001$). By the contrast, Perception is not significantly relevant to PU ($p = 0.084$). This result confirms with our life-experience, the expertise and skills of the anchors and the usefulness of the information are crucial to how customers evaluate the live-streaming. The perception only plays auxiliary role and cannot affect the rational thinking of customers. When passion fades and spending backs to rational, simply creating community atmosphere is no longer attractive to our customers.

Perceived ease of use ($p < 0.001$), perceived usefulness ($p < 0.001$) and perceived trust ($p = 0.003$) are all significant to affect purchasing decision. Product and trust are two main aspects that affect purchasing behavior. When the practicality and convenience of the product are displayed, consumers' emotional resonance will be stimulated, affecting consumers make decisions. The simplification of shopping on e-commerce platforms further facilitate this process. Confidence in the author is an important criterion for customers to judge whether to purchase. On the basis of a certain purchase intention, perceived trust intensify the effect of decision-making.

Extensive literature has shown that the influence of PU is greater than that of PEOU, especially with the periods of the sustained usage. However, in our research, the loading factors of each path is different from the common results. Three factors (the entry point of perception and cognition, the introduction of perceived trust, the

uniqueness of live-streaming) may explain the result. First, the research is conducted to evaluate how both perception and cognition affecting the live-streaming and shopping experience. Perceived Trust, as a factor reflecting emotional attachment, may explain affecting mechanism and lessen the direct effect of PU. PEOU includes not only the convenience of the product, but also the expedience of the purchasing process. This process will improve the sense of trust and increase the impact of PEOU. What's more, unlike many other technology, Live-streaming emphasis the emotional connection and the convenience instead of simply the functionality and informational benefit. Therefore, the uniqueness of live-streaming may evoke the difference.

Perceived usefulness affects perceived trust ($p = 0.016$), and the results are consistent with Zhou et al. (2021). If the message of product usefulness increases, consumers tend to believe the anchor, so PU positively influence PT. Perceived trust is of significance to perceived ease of use ($p = 0.014$). Consumers tend to follow the anchor he trusts and purchase goods, because the anchor implies less risk of transaction. Less risk is potential to enhance the convenience of purchase and the ease of use on products. The impact of perceived ease of use on perceived usefulness ($p < 0.001$) conforms to the TAM model. As the purchase process on e-commerce platform is simple, it will transmit useful information signal--consumers are expected to use the product easily, and thereby enhancing the perceived usefulness.

7. Conclusions and Suggestions

Three main concepts matter in the purchasing process: individual, product and scene. E-commerce live-streaming, as a connection of these concepts, reframes the industry. In this research, we find that social clues delivered by the anchor (related to "individual"), and consumers' place attachment (in relation to "scene"), both have a significant impact on purchasing decision. Therefore, this article puts up the following recommendations:

First, from the "individual" perspective, we should improve the effectiveness of conveying social cues. Moving from actively selecting products to passively following the instructions of opinion leader, consumers lose their initiative in the live-streaming. Gradually a sense of dependency on the anchor is cultivated. According to the above, anchors deliver dynamic social cues (expressions, eye-contacts, postures, et al.), establishing the cognitive identity with customers. Through appropriate public persona settings, and suitable products choosing, anchors transmit static social clues (appearance, clothing, et al.), increasing the effect and

maintaining long-term vitality of live-streaming.

Second, from the “scene” perspective, the consumer’s purchasing place attachment should be designed to enhance. The emergence of live-streaming has satisfied the communicating and sharing desire of consumers. Anchors resonate with consumers emotionally through emotional mobilization and signal response. Consumers tend to develop a sense of dependence on live-streaming when they feel a sense of social presence, and thereby promoting their purchasing willingness. Real-time video, emerged as a new form of social media, creates a special environment with interactions including the numeral of likes and gifts, the number of real-time audience and the duration of the live.

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