International Journal of Advanced Smart Convergence Vol.13 No.3 287-299 (2024)
http://dx.doi.org/10.7236/IJASC.2024.13.3.287

IJASC 24-3-34

Investigating Continuous Usage Intention of Xiaohongshu Live Commerce for Health Functional Products: An Integration of ECM and TTF Theories

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Abstract

Xiaohongshu, a community-centric social media platform, has pioneered a unique e-commerce model known as 'buyer commerce,' leveraging user-generated content (UGC). Distinctively, Xiaohongshu Live Commerce focuses on fostering deep user relationships and providing superior product and information services, crucial for sustained consumer engagement. This study investigates consumer behavior in purchasing health functional foods via Xiaohongshu Live Commerce, aiming to understand the determinants of continuous usage intention. A novel theoretical framework was devised by integrating the Expectation Confirmation Model (ECM) and the Task-Technology Fit (TTF) model. The research model scrutinizes the impact of Xiaohongshu Live Commerce characteristics, such as perceived usefulness and perceived online intimacy, on task-technology fit. Additionally, it examines the moderating role of perceived risk specific to health functional foods and the influence of expectation confirmation on perceived usefulness, online intimacy, and task-technology fit, alongside their effects on satisfaction and continuous usage intention. The findings reveal that expectation confirmation positively influences perceived usefulness, online intimacy, and task-technology fit. Perceived usefulness significantly enhances task-technology fit, while perceived online intimacy and risk do not significantly affect task-technology fit. Moreover, perceived usefulness and intimacy positively impact consumer satisfaction and continuous usage intention, with task-technology fit playing a pivotal role. Perceived risk moderates the relationship between perceived usefulness and task-technology fit. These insights

Manuscript Received: August. 5. 2024 / Revised: August. 12. 2024 / Accepted: August. 17. 2024
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suggest that companies can augment consumer satisfaction and continuous usage intentions by enhancing the perceived usefulness of technology, effectively managing perceived risks, and continually improving user experience

Keywords *: Expectation Confirmation Model, Task-Technology Fit Model, Xiaohongshu, Live Commerce, Social Commerce*

1. INTRODUCTION

In the COVID-19 pandemic era, live commerce—combining real-time live streaming with e-commerce has significantly evolved, altering netizens' shopping habits. By 2024, as live commerce matures, its focus shifts from short-term consumer attraction through exaggerated promotions to enhancing continuous usage intentions [1]. This form of commerce holds substantial growth potential, with continuous usage intention being a key growth indicator. Xiaohongshu, a UGC-based social media platform, enables users to share experiences in beauty, skincare, fitness, food, travel, and more through short videos, photos, and texts, providing detailed product reviews [2]. It facilitates informed decision-making by offering comprehensive product information and insights into daily activities, making it a trusted source for Chinese consumers researching products or services before purchasing [2]. The platform's high content credibility and strong trust chains between bloggers and followers enhance its promotional capabilities, making advertising a core revenue source. However, many users gather information on Xiaohongshu but complete purchases on other platforms.

To address this, Xiaohongshu has experimented with live commerce since 2020, and by 2023, introduced the "buyer commerce" concept. This leverages extensive UGC and new user patterns, gaining significant attention [3]. The core value is building real usage scenarios through personal experiences, connecting users' needs with products. Unlike Douyin and Taobao, Xiaohongshu focuses on detailed usage experiences and emotional exchanges rather than exaggerated promotions. The platform aims to foster deep relationships between sellers and users, beyond passive consumer interactions.

This study examines the characteristics of Xiaohongshu live commerce, focusing on perceived usefulness and perceived online intimacy and their impact on continuous usage intentions. Given the potential of the Chinese health functional food market, users remain cautious due to a lack of understanding and health concerns. Thus, "perceived risk" is included in the research model to explore its moderating effect on continuous usage intentions for Xiaohongshu live commerce in the context of health functional foods.

This study investigates consumer behavior on the social platform Xiaohongshu, focusing on health functional food purchases through live commerce. To understand the factors influencing continuous usage intentions, the study integrates the Task-Technology Fit (TTF) model, which highlights the alignment of system technical characteristics with tasks, and the Expectation-Confirmation Model (ECM), which examines users' attitudes toward continuous use of information systems. In particular, this study examines the perceived fit between tasks and technology (TTF) after users engage with Xiaohongshu live commerce. It integrates TTF with the Expectation-Confirmation Model (ECM), focusing on how the fit between live commerce and the task of purchasing health functional foods influences expectation confirmation, consumer satisfaction, and continuous usage intentions. Perceived usefulness and intimacy are set as technological characteristics within the ECM, assessing their impact on task-technology fit. Additionally, perceived risk in purchasing health functional foods is considered a task characteristic to examine its moderating effect on the relationship between technological characteristics and task-technology fit. The study aims to enhance theoretical understanding by combining ECM and TTF and to offer practical recommendations for the continuous use of Xiaohongshu live

commerce.

2. THEORY

2.1. Expectation confirmation model (ECM)

In current research, the Expectation Confirmation Model (ECM) is most frequently utilized to study users' continuous use. Bhattacherjee (2001) creatively introduced Oliver's (1980) Expectation Confirmation Theory (ECT) into the study of continuous use of information systems (IS), recognizing similarities between users' continued usage intentions in IS and repurchase intentions in consumer contexts[4,5,6]. Additionally, Bhattacherjee focused on continuous use intentions after initial adoption, combining the Technology Acceptance Model (TAM) with perceived usefulness added to the expectation confirmation theory, emphasizing perceived value after use. The components of Bhattacherjee's (2001) Expectation-Confirmation Model of Information System Continuance (ECM-ISC) include expectations, actual experience, confirmation, perceived usefulness, satisfaction, and continuance intention[7].

Bhattacherjee validated the ECM-ISC model by explaining not only the initial adoption of users but also how user expectations can change after initial adoption, and how these changes affect satisfaction and continuance intention. This study offers a significant theoretical foundation for understanding the successful continuous use of information systems, emphasizing that user satisfaction and perceived usefulness are key factors in forming continuance intention.

Thong (2006) extended the Expectation Confirmation Model (ECM) to include post-usage beliefs such as perceived usefulness, enjoyment, and ease of use to better understand IT continuance intention. The extended ECM demonstrated high explanatory power, emphasizing the significance of perceived ease of use and enjoyment in IT usage behavior [8]. Future research directions suggest ECM's broad application across various fields, including social networking services (SNS), finance, mobile shopping [9], mobile short clip apps [10], and online education platforms [11]. Subsequent studies have expanded ECM by incorporating new variables based on research subjects and products, such as perceived enjoyment, security, and emotional factors like familiarity and intimacy. ECM has also been combined with theories like the Technology Acceptance Model (TAM), Theory of Planned Behavior (TPB), Theory of Consumption Values (TCV), and Flow State, incorporating factors like attitude, subjective norm, perceived behavioral control, and emotional value to identify factors influencing continuance intention.

In summary, ECM has been widely applied and extended. The extensions can be categorized into three main areas: First, external variables are developed to explore their impact on expectation confirmation, such as service and system quality [12], consumption value [13], attitudes, subjective norms, perceived behavioral control [13], and effort and enjoyment expectancy [14]. These factors influence users' initial expectations (confirmation), satisfaction, and continuance intentions, with confirmation potentially acting as a mediator. Second, post-use expectancy consistency variables, such as perceived usefulness, are developed to explore their impact on satisfaction and continuance intentions. This includes variables like perceived enjoyment [15], perceived pleasure, ease of use [16], user interface, security [17], and affective factors like familiarity and intimacy [18], examining their direct and indirect effects on satisfaction and continuance intention.

2.2. Task-Technology Fit (TTF)

The Task-Technology Fit (TTF) concept, introduced by Jarvenpaa in 1989, emphasizes that information technology adoption is influenced by the fit between the technology system and task requirements [19].

Goodhue and Thompson (1995) further developed the TTF model, focusing on the alignment between the characteristics of information systems and the tasks they support [20]. The TTF model explains how information technology enhances individual performance, positing that users adopt technology when it meets their task requirements, highlighting the logical relationship between technology characteristics and task needs.

While the TTF model and the Technology Acceptance Model (TAM) both influence user behavior, they differ in focus. TAM emphasizes perceived usefulness and ease of use, while TTF assesses whether the tasks users need to complete are well supported by the system's technical characteristics, determining system adoption. The TTF model includes three key variables: technology characteristics, task characteristics, and task-technology fit. Technology characteristics refer to the functionalities provided by the information system, task characteristics involve the actions individuals perform using the system, and task-technology fit measures how well the system supports these tasks. Task and technology characteristics directly influence task-technology fit, which affects task performance. The TTF model has been validated to explain users' acceptance and use of information technology effectively. Integrations with other models, like Dishaw and Strong's (1998) combination of TTF with TAM, have enhanced its explanatory power, as shown in integrated models [21].

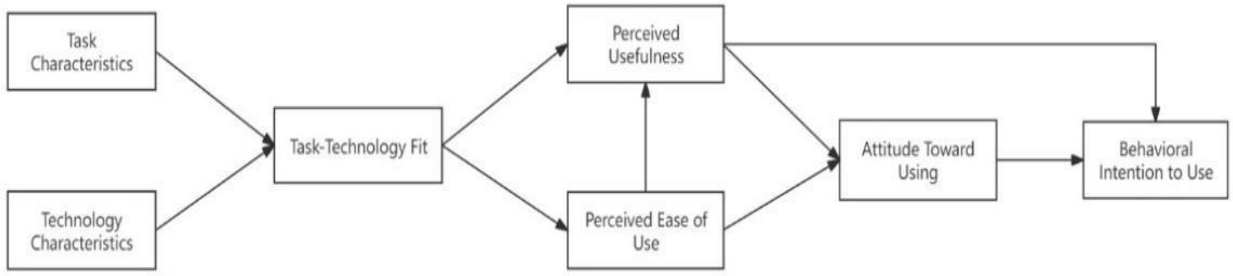

Figure 1. Integrated TAM and TTF Model

The Task-Technology Fit model (TTF) has achieved significant results in theoretical research and has been widely expanded and applied in various research fields. For instance, in the business and commercial research fields, Alqatan et al. (2019) studied the impact of mobile business use intention in small and medium-sized tourism enterprises, while Daradkeh et al. (2019) investigated the use behavior of corporate visualization analysis systems[22, 23] . The TTF model is also extensively used in e-commerce and mobile commerce fields, including research on e-government usage behavior[24, 25], mobile banking usage behavior [26, 27] , and mobile learning usage behavior [28, 29]. These diverse applications demonstrate the high explanatory power of the TTF model in explaining user behavior.

In summary, research on the Task-Technology Fit (TTF) model has demonstrated its stability across various subjects and fields. The TTF model explains the impact of the fit between information technology and user task requirements on actual use and performance. In this study, consumers use Xiaohongshu live commerce to purchase suitable health functional foods. Their continuous usage intention is influenced by task-technology fit. By incorporating perceived usefulness and online intimacy as technology characteristics, and perceived risk when purchasing health functional foods as task characteristics, the study supports the theoretical inclusion of TTF and related variables in understanding continuous usage intentions of Xiaohongshu live commerce.

3. Conceptual model and hypotheses

The Task-Technology Fit (TTF) model evaluates information systems based on the alignment between tasks and technology, offering a broad theoretical framework for user evaluation [30]. While the TTF model is broadly applicable across corporate internal information systems, the internet, e-commerce, and mobile business, it lacks detailed descriptions of task and technology characteristics, necessitating context-specific analyses.

The Expectation Confirmation Model (ECM) studies users' attitudes toward continuous use of information systems, focusing on consumer satisfaction and expectation confirmation. In ECM, perceived usefulness refers to the performance achieved through system use relative to user expectations. Although ECM emphasizes that expectation confirmation influences satisfaction, it does not detail how expectations are met, limiting practical insights for quality improvement. This paper examines consumer behavior in purchasing health functional foods via Xiaohongshu live commerce to understand continuous usage intentions. It integrates ECM's focus on continuous usage attitudes with TTF's emphasis on task-technology alignment. The research model combines TTF's focus on system technical characteristics and task fit with ECM's utility in studying user attitudes. In this study, TTF is defined as the perceived alignment between tasks and technology after adopting a new system, specifically integrating the task-technology fit of Xiaohongshu live commerce with the task of purchasing health functional foods into the ECM. This fit influences initial expectation confirmation, impacting consumer satisfaction and continuous usage intentions.

Firstly, in the ECM, perceived usefulness and intimacy toward Xiaohongshu live commerce are identified as technological characteristics, and their impact on task-technology fit is investigated. Additionally, perceived risk in purchasing health functional foods is considered a task characteristic to examine its moderating effect on the relationship between technological characteristics and task-technology fit. This study aims to explore new theoretical possibilities by combining ECM and TTF and to provide practical recommendations for the continuous use of Xiaohongshu live commerce.

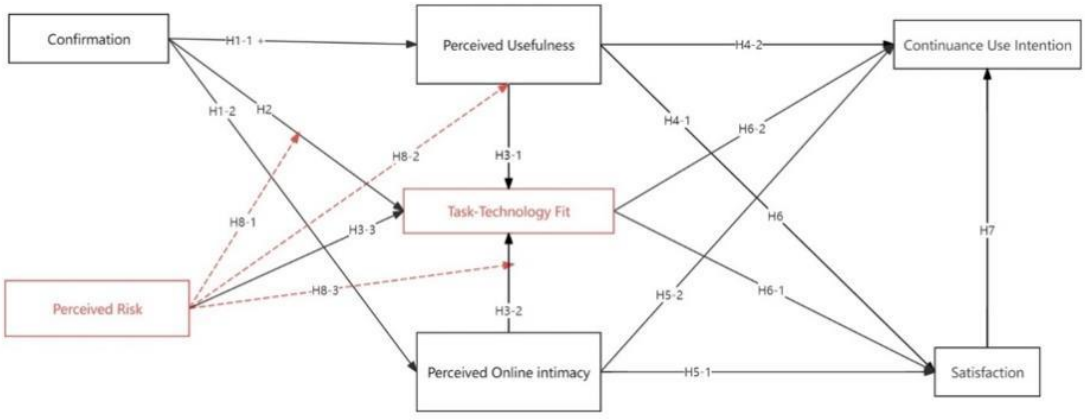

Figure 2. Research Model

Based on literature review, this research proposes the following research questions and hypotheses:

H1-1: Users' confirmation positively influences their perceived usefulness of Xiaohongshu live commerce.

H1-2: Users' confirmation positively influences their perceived online intimacy with Xiaohongshu live

commerce.

H2: Users' confirmation positively influences perceived task-technology fit.

H3-1: Perceived online intimacy positively influences perceived task-technology fit.

H3-2: Perceived usefulness positively influences perceived task-technology fit.

H3-3: Perceived risk negatively influences perceived task-technology fit.

H4-1: Users' perceived usefulness positively influences their satisfaction with Xiaohongshu live commerce.

H4-2: Users' perceived usefulness positively influences their continuous usage intention of Xiaohongshu live commerce.

H5-1: Users' perceived online intimacy positively influences their satisfaction with Xiaohongshu live commerce.

H5-2: Users' perceived online intimacy positively influences their continuous usage intention of Xiaohongshu live commerce.

H6-1: Perceived task-technology fit positively influences users' satisfaction with Xiaohongshu live commerce.

H6-2: Perceived task-technology fit positively influences users' continuous usage intention of Xiaohongshu live commerce.

H7: Users' satisfaction with Xiaohongshu live commerce positively influences their continuous usage intention.

H8-1: Perceived risk moderates the relationship between expectation confirmation and task-technology fit.

H8-2: Perceived risk moderates the relationship between perceived online intimacy and task-technology fit.

H8-3: Perceived risk moderates the relationship between perceived usefulness and task-technology fit.

4. Methodology

4.1. Sample

To achieve the study's objectives, a survey was conducted targeting users who have continuously used Xiaohongshu for over two years and have made purchases through Xiaohongshu live commerce in the past three months. The survey was distributed, and responses collected via the Chinese survey platform Wenjuanxing, using a convenience sampling method. To verify the research hypotheses, survey questions were adapted from similar studies and theoretical foundations, incorporating Xiaohongshu's characteristics. The questionnaire, designed as a self-report instrument, utilized a 5-point Likert scale, commonly employed in live commerce studies. Additionally, six demographic questions were included in the final questionnaire.

4.2. Measures

Before conducting the main survey, a pilot study was conducted with the same target population to test the reliability and validity of the measurement items. A total of 202 survey responses were received. The pilot study revealed that some respondents found the measurement items for the variable "perceived risk" difficult to understand. Based on this finding and previous research, the questionnaire was revised and refined to form

the final version, as shown in <Table 1>.

Table 1. Variable Measurement Items

Variable	Items
TTF	The features of Xiaohongshu live commerce are sufficient to provide the information needed to select health functional foods. The user interface of Xiaohongshu live commerce makes the process of searching for and purchasing health functional foods easy. Using Xiaohongshu live commerce allows for quicker decision-making when purchasing health functional foods. Xiaohongshu live commerce is effective in fulfilling the need to purchase health functional foods.
CON	Purchasing health functional foods through Xiaohongshu's live commerce service was as good as or better than expected. The experience of purchasing health functional foods through Xiaohongshu's live commerce service was as good as or better than expected. Overall, the results of purchasing health functional foods through Xiaohongshu's live commerce service mostly met or exceeded my expectations. The quality of Xiaohongshu's live commerce service was as good as or better than expected.
PU	The health functional food information provided by Xiaohongshu's live commerce is useful to me. Using Xiaohongshu's live commerce service, I can find health functional foods that are good for me and suit me. For purchasing health functional foods, Xiaohongshu's live commerce service has advantages over other live commerce platforms. Purchasing health functional foods using Xiaohongshu's live commerce service is beneficial to my daily life.
PR	I feel that there is a risk that the health functional foods purchased through Xiaohongshu live commerce may not suit my body and could be harmful. I am concerned that the health functional foods purchased through Xiaohongshu live commerce may not deliver the promised performance. I worry that the health functional foods purchased through Xiaohongshu live commerce may not meet my expectations.
PI	I felt that the live commerce host had a personal connection with me. Interactions with the host on Xiaohongshu live commerce felt very intimate. I felt understood when communicating with the show host through live commerce. Watching Xiaohongshu live commerce brings me great happiness.
SAT	I am satisfied when purchasing products through Xiaohongshu's live commerce service. I am satisfied that I can buy the health functional foods I need using Xiaohongshu's live commerce service. I think purchasing health functional foods through Xiaohongshu's live commerce service was a good decision. I find purchasing health functional foods through Xiaohongshu's live commerce service more satisfying than through other live commerce platforms.
CUI	I am likely to continue purchasing health functional foods through Xiaohongshu's live commerce. I intend to continue purchasing health functional foods through Xiaohongshu's live commerce. I plan to frequently buy health functional foods using Xiaohongshu's live commerce service. I will recommend purchasing health functional foods through Xiaohongshu's live commerce service to my friends. I will prioritize buying products through Xiaohongshu's live commerce service over other live commerce platforms. I will share the advantages of purchasing products through Xiaohongshu's live commerce service with people around me.

4.3. Demographic Characteristics

In this survey, we collected a total of 488 questionnaire responses. After excluding 90 respondents who had no experience purchasing health functional foods through Xiaohongshu live commerce and 6 respondents who provided insincere answers, 392 valid responses were used for the final data analysis.

5. RESULTS

5.1. Measurement Model Evaluation

In this study, Smart-PLS was used to verify the validity and reliability of variables through analyses of outer loading, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach's α.

The overall reliability analysis results are presented in <Table 2>. The minimum Cronbach's α

value for each latent variable was 0.839, indicating that the basic reliability of all components was secured. The minimum Composite Reliability (CR), derived from the outer loadings of the detailed measurement variables of the latent variables, was 0.899, which is higher than 0.7. The minimum value of Cronbach's α was also 0.831, with all values exceeding 0.7, confirming the reliability of all latent variables.

Table 2. Analysis of Reliability Test Results

Constructs	Items	outer loading	S.D.	Cronbach's Alpha	CR	rho_a	AVE
CON	CON1	0.872	4.000	0.885	0.921	0.885	0.743
	CON2	0.851	4.000				
	CON3	0.861	4.000				
	CON4	0.864	4.000				
CUI	CUI1	0.900	4.000	0.939	0.953	0.939	0.803
	CUI2	0.907	4.000				
	CUI3	0.888	4.000				
	CUI4	0.901	4.000				
	CUI5	0.886	4.000				
PI	PI1	0.895	4.000	0.872	0.921	0.872	0.796
	PI2	0.880	4.000				
	PI3	0.901	4.000				
PR	PR1	0.933	2.000	0.932	0.956	0.932	0.880
	PR2	0.941	2.000				
	PR3	0.939	3.000				
PU	PU1	0.865	4.000	0.839	0.903	0.840	0.756
	PU2	0.878	4.000				
	PU3	0.865	4.000				
SAT	SAT1	0.877	4.000	0.839	0.899	0.831	0.747
	SAT2	0.863	4.000				
	SAT3	0.853	4.000				
TTF	TTF1	0.850	4.000	0.881	0.918	0.882	0.737
	TTF2	0.868	4.000				
	TTF3	0.868	4.000				
	TTF4	0.847	4.000				

The cross-loading analysis results for the seven variables used in the research model were conducted. As indicated, the cross-loadings for each variable measurement item were above 0.6. The Average Variance Extracted (AVE) values, as presented in <Table 2>, were all above 0.5, thus confirming convergent validity. The analysis results for discriminant validity based on Fornell and Larcker's (1981) criteria are presented in <Table 3>. The values on the diagonal represent the square root of the AVE values. The minimum square root value of the AVE was 0.858, and the maximum correlation coefficient was 0.582. This indicates that each variable measures different concepts, confirming that there are no issues with discriminant validity.

Table 3. Fornell-Larcker Criterion Discriminant Validity Analysis Results

	CON	CUI	PI	PR	PU	SAT	TTF
CON	0.862						
CUI	0.526	0.896					
PI	0.572	0.490	0.892				
PR	-0.479	-0.376	-0.659	0.938			
PU	0.536	0.545	0.554	-0.462	0.870		
SAT	0.492	0.533	0.445	-0.320	0.470	0.864	

TTF	0.582	0.523	0.473	-0.403	0.478	0.430	0.858

The bold values on the diagonal represent the square root of the AVE for each variable.

Through the verification of reliability and validity, it was confirmed that the study data meet the basic conditions for conducting structural equation modeling analysis, allowing the research hypotheses to be tested. This study primarily used the partial least squares (PLS) regression method in the Smart PLS 4.0 statistical analysis software to estimate the path coefficients of the conceptual model and test the model hypotheses. The significance of the path coefficients was verified using bootstrapping. The validation model constructed with Smart PLS 4.0 statistical analysis software in this study is shown in [Figure 3].

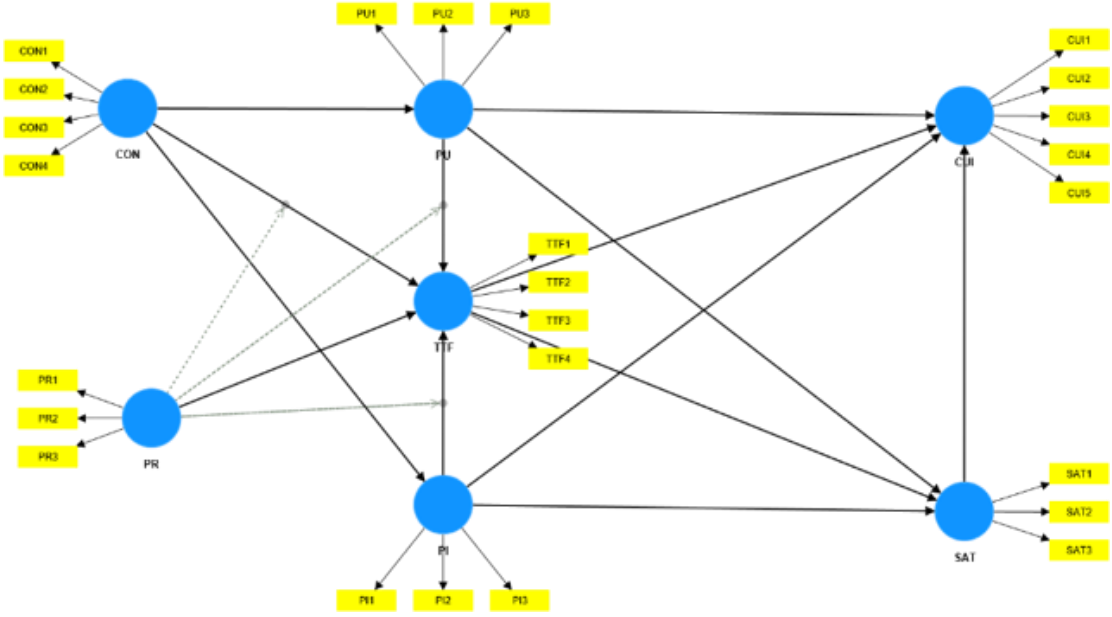

Figure 3. Validation Model Constructed with SmartPLS 4.0

All measurement factors were positive, with R^2 values of 0.456 for Continuance Usage Intention (CUI), 0.302 for Satisfaction (SAT), 0.408 for Task-Technology Fit (TTF), 0.287 for Perceived Usefulness (PU), and 0.327 for Perceived Online Intimacy (PI). Overall, the explanatory power of the model is at a moderate level. Additionally, the GoF value analyzed in this study is 0.527, indicating a high level of model fit.

5.2. Structural model assessment

Based on the ECM model, Confirmation (CON) has significant positive effects on Perceived Usefulness (PU) (β = -0.536, p = 0.000) and Perceived Online Intimacy (PI) (β = 0.572, p = 0.000). Both hypotheses H1-1 and H1-2 are supported. Furthermore, within the ECM model, Confirmation significantly affects Task-Technology Fit (TTF) with a path coefficient of 0.379 and a t-value of 7.436, significant at the 99% level, thereby supporting H2.

When analyzing the TTF model, specifically the impact of PU, PI, and Perceived Risk (PR) on TTF in the context of consumers purchasing health functional foods through Xiao Hong Shu live commerce, it was found that Perceived Usefulness (PU) significantly influences Task-Technology Fit (TTF) ($\beta = 0.196$, t-value = 3.715, $p < 0.01$), supporting H3-2. Conversely, Perceived Online Intimacy (PI) did not significantly influence TTF ($\beta = 0.098$, t-value = 1.579, $p = 0.114$), leading to the rejection of H3-1. Additionally, Perceived Risk (PR) showed no significant impact on TTF ($\beta = -0.002$, t-value = 0.038, $p = 0.970$), resulting in the rejection of H3-3.

Further analysis revealed that Perceived Usefulness (PU) significantly impacts Satisfaction (SAT) ($\beta = 0.257$, t-value = 4.528, $p < 0.01$) and Continuous Usage Intention (CUI) ($\beta = 0.237$, t-value = 4.431, $p < 0.01$), supporting both H4-1 and H4-2. Perceived Online Intimacy (PI) was found to significantly influence Satisfaction (SAT) ($\beta = 0.203$, t-value = 3.540, $p < 0.01$), supporting H5-1, and Continuous Usage Intention (CUI) ($\beta = 0.130$, t-value = 2.449, $p < 0.05$), supporting H5-2.

Moreover, Perceived Task-Technology Fit (TTF) significantly impacts both Satisfaction (SAT) ($\beta = 0.211$, t-value = 3.911, $p < 0.01$) and Continuous Usage Intention (CUI) ($\beta = 0.235$, t-value = 4.813, $p < 0.01$), supporting H6-1 and H6-2. F Satisfaction (SAT) was found to positively influence Continuous Usage Intention (CUI) ($\beta = 0.262$, t-value = 5.396, $p < 0.01$), thus supporting H7.

Table 4 Results of Causal Relationships in the Structural Model

Hypothesis		path coefficient	t-value	p-value	Result
H1-1	**CON→PI**	0.572	15.288	0 ***	Supported
H1-2	**CON→PU**	0.536	14.506	0 ***	Supported
H2	**CON→TTF**	0.379	7.436	0 ***	Supported
H3-1	**PI→TTF**	0.098	1.579	0.114 -	*Rejected*
H3-2	**PU→TTF**	0.196	3.715	0 ***	Supported
H3-3	**PR→TTF**	-0.002	0.038	0.970	*Rejected*
H4-1	**PU→SAT**	0.257	4.528	0 ***	Supported
H4-2	**PU→CUI**	0.237	4.431	0 ***	Supported
H5-1	**PI→SAT**	0.203	3.540	0 ***	Supported
H5-2	**PI→CUI**	0.130	2.449	0.014*	Supported
H6-1	**TTF→SAT**	0.211	3.911	0 ***	Supported
H6-2	**TTF→CUI**	0.235	4.813	0 ***	Supported
H7	**SAT→CUI**	0.262	5.396	0 ***	Supported

*p<0.05; **p<0.01; ***p<0.001

5.3. Verification of regulatory effects

To verify the moderation effect using Smart-PLS, path analysis of the interaction model (predictor and outcome variables) was conducted, testing path coefficients and the R^2 value. Statistical significance was tested with 5,000 resampling bootstraps, evaluating the R^2 value of endogenous variables, and assessing t-values for significance at the 95% and 99% levels.

The results for Hypothesis 8, examining the moderating effect of perceived risk (PR) on the relationships between confirmation, perceived usefulness (PU), perceived online intimacy, and task-technology fit (TTF), are detailed in Table 5 The moderating effect of PR on the relationship between PU and TTF (Hypothesis 8-3) was supported, with a path coefficient of -0.112, a t-value of 2.337, and a p-value of 0.019, significant at the 95% level. This confirms that PR negatively moderates the PU-TTF relationship. The simple slope analysis graph shows that low PR enhances the influence of PU on TTF, while high PR reduces it.

However, the moderating effect of PR on the relationship between confirmation and TTF (Hypothesis 8-1) was not supported, with a path coefficient of 0.095, a t-value of 1.625, and a p-value of 0.104. Similarly, the moderating effect of PR on the relationship between perceived intimacy and TTF (Hypothesis 8-2) was not supported, with a path coefficient of 0.073, a t-value of 1.520, and a p-value of 0.129.

Table 5 Results of the Moderating Effect of 'Perceived Risk'

Hypothesis		covariate	path coefficient	t-value	p-value	PR R^2	No PR R^2	Result
H8-1	CON→TTF	PR	0.073	1.520	0.129-	0.408	0.389	*Rejected*
H8-2	PI→TTF		0.095	1.625	0.104-			*Rejected*
H8-3	PU→TTF		-0.112	2.337	0.019*			Supported

*p<0.05; **p<0.01; ***p<0.001

6. CONCLUSION AND DISCUSSION

The test results of Hypotheses 1 and 2 reveal that consumers' confirmation of Xiaohongshu live commerce significantly impacts perceived usefulness, intimacy, and task-technology fit. From the ECM model perspective, confirmation positively influences perceived usefulness and online intimacy. Additionally, high confirmation enhances task-technology fit, reflecting the technology's suitability for specific tasks, thereby boosting user satisfaction and continuous usage intention.

Hypothesis 3, rooted in the TTF model, posits that perceived usefulness positively affects task-technology fit, which was supported. However, perceived online intimacy and perceived risk did not significantly impact task-technology fit. This indicates that the effectiveness of technology in supporting tasks outweighs the influence of intimacy, while perceived risk relates more to product characteristics than technology suitability.

The results of Hypotheses 4-6 demonstrate that perceived online intimacy, usefulness, and task-technology fit significantly enhance consumer satisfaction and continuous usage intention. Despite perceived online intimacy not affecting task-technology fit, it boosts satisfaction and continuous use when an emotional bond is formed. Hypothesis 7 confirms that a good task-technology fit increases satisfaction and continuous usage, as the technology meets user expectations. Hypothesis 8 tested the moderating effect of perceived risk, revealing it moderates the relationship between perceived usefulness and task-technology fit but not between perceived online intimacy or confirmation and task-technology fit. High perceived usefulness combined with high perceived risk makes consumers view the technology as less suitable, despite its usefulness. Confirmation, being a cognitive process, is less influenced by perceived risk.

This study examines consumer behavior in purchasing health functional foods via Xiaohongshu live commerce, proposing a new theoretical model integrating the TTF and ECM models. It extends empirical research by focusing on continuous usage intention for a specific task. By analyzing perceived online intimacy and usefulness as technical characteristics, it assesses their effects on confirmation and task-technology fit. The study finds that emotional and cognitive factors operate independently and provides insights into how task characteristics influence user evaluations and behaviors. This comprehensive framework enhances understanding of user attitudes and behaviors in the context of live commerce.

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