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Article

# The Role of Supply Chain and Digital Marketing in Brand Growth: Platform Effectiveness via Cross-Border Cultural Product Live Streaming

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**Abstract:** Amid booming global digital trade and the rapid rise of cross-border e-commerce live streaming, this study examines Chinese cultural and creative products as key carriers for cultural globalization and foreign trade growth. It addresses three core questions: the driving mechanism through which cultural exchange promotes commercial value conversion, the main barriers that hinder this process, and the corresponding industry-level management strategies that can enhance performance. Grounded in interdisciplinary theories from marketing, international business, and cultural studies, the research adopts an explanatory sequential mixed-methods design, combining semi-structured expert interviews with a large-sample survey of cross-border live streaming participants. The study analyzes how cultural and creative product supply chains, digital marketing practices, and platform effectiveness jointly influence commercial conversion and brand growth. Empirical results confirm significant positive effects of supply chain robustness, platform functional empowerment, and cultural marketing adaptability on conversion performance, cultural communication efficiency, and user participation. At the same time, cross-cultural cognitive barriers, supply chain response lags, and compliance risks emerge as three core constraints, with marked heterogeneity between Southeast Asian and European–American markets. Based on these findings, the paper proposes four-dimensional collaborative governance strategies involving platforms, enterprises, regulators, and service providers. The study offers theoretical enrichment for research on cross-border live streaming and practical guidance for cultural and creative enterprises seeking sustainable overseas expansion and standardized industry development.

**Keywords:** cross-border e-commerce; live streaming; cultural products; digital marketing; supply chain management; brand growth

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## 1. Introduction

### 1.1. Research Background

Amid the global expansion of digital e-commerce, cross-border e-commerce live streaming has transitioned from a simple marketing tool to a pivotal force reshaping international trade. This format has become a significant channel for Chinese brands to reach overseas markets and serves as a dual-output carrier of trade and culture. Recent data indicates that cross-border live streaming transactions have experienced substantial growth, with cultural and creative products, such as handicrafts and intellectual property derivatives, accounting for a notable portion of the total. These products, deeply rooted in cultural symbols, embody Chinese craftsmanship and aesthetics, making their dissemination an essential aspect of cross-cultural exchange. Examples such as the Palace Museum and Suzhou embroidery highlight the commercial potential of the "cultural

exchange -- cognitive deepening -- consumption decision" chain. However, the industry continues to grapple with critical challenges, including insufficient cross-cultural standards, a lack of systematic conversion strategies, fragmented collaboration mechanisms, cultural misinterpretations, unstable supply chains, and unprofessional streamers. These issues collectively contribute to persistently low commercial conversion efficiency. Consequently, this study focuses on the cross-cultural communication and commercial conversion of Chinese cultural and creative products within the context of cross-border live streaming. It aims to identify conversion pathways, analyze mechanisms for improving efficiency, and pinpoint key barriers along with their impacts. Furthermore, the research explores strategies involving multiple stakeholders at the industry level to overcome these barriers, addressing gaps in existing theoretical frameworks [1]. By examining the interaction between culture and commerce in digital trade, this study contributes new perspectives to the management of cultural trade, emphasizing the need for enhanced research on cultural trade patterns in the digital era.

### *1.2. Research Objectives and question*

#### *1.2.1. Research Objectives*

1. To explore the specific pathways through which cross-border live streaming facilitates the transformation of commercial value and the dissemination of Chinese cultural and creative products, while uncovering the underlying mechanisms that enhance the efficiency of commercial conversion processes.
2. To investigate the primary barriers hindering the commercial value transformation of cultural and creative products in cross-border live streaming, assess their tangible effects on the conversion process, and systematically examine the differences in these barriers across Southeast Asian and European-American markets through comparative analysis.
3. To develop a comprehensive, industry-level strategy system for collaborative management involving multiple stakeholders, aimed at addressing conversion challenges, and to provide practical implementation guidelines for entities operating within the industry.

#### *1.2.2. Research Questions*

Building upon the outlined objectives, this study seeks to address the following key questions:

1. How does cultural exchange specifically contribute to the enhancement of commercial value transformation for Chinese cultural and creative products in cross-border live streaming, and what mechanisms drive improvements in conversion efficiency?
2. What are the fundamental challenges, including cultural disparities and compliance-related risks, that impede the commercial value transformation of cultural and creative products during cross-border live streaming cultural exchanges?
3. What types of management strategies should be formulated at the industry level to effectively overcome conversion challenges, and how can entities such as live streaming platforms, enterprises, and industry associations collaboratively implement these strategies?

### *1.3. Research benefit*

#### *1.3.1. Practical Significance*

1. Offer strategic guidance tailored to cultural and creative enterprises, enabling them to effectively penetrate overseas markets and elevate the global competitiveness of their products. This involves identifying market opportunities, optimizing product positioning, and leveraging cultural uniqueness to appeal to diverse international audiences.
2. Develop a comprehensive reference framework aimed at promoting standardized management practices and ensuring the sustainable growth of the cross-border live

streaming industry. This includes addressing operational challenges, fostering innovation, and establishing benchmarks for industry-wide best practices.

3. Facilitate the advancement of cultural export initiatives and foreign trade enhancement strategies, contributing to the dual objectives of promoting cultural globalization and strengthening the nation's position as a leading trading entity. This involves aligning cultural export efforts with broader economic development goals.

#### 1.3.2. Theoretical Significance

1. Advance cultural trade and international marketing theories by exploring the mechanisms through which cultural elements are transformed into commercial value within digital business contexts. This research supplements existing studies by examining the interconnected dynamics of cultural exchange, cross-border live streaming, and commercial value generation.
2. Enhance industry governance theory in the digital economy era by proposing an adaptive management strategy system that integrates cultural characteristics with live streaming scenarios. This approach addresses the complexities of managing cultural content within rapidly evolving digital platforms.
3. Introduce an interdisciplinary analytical paradigm that combines cultural communication studies, management principles, and digital economy research. This framework provides innovative methodologies for analyzing cultural dissemination and economic integration, paving the way for future academic exploration.

#### 1.4. Scope of research

This research focuses on the effectiveness of platforms and the conversion of brand value within the comprehensive cross-border live streaming of cultural products. It defines its scope through four key dimensions, ensuring a targeted and systematic exploration of the subject matter.

1. The cultural product and service supply chain dimension emphasizes products embedded with traditional cultural elements, addressing aspects such as product development, agile supply chain management, and cross-border logistics support. It excludes standardized commodities lacking cultural attributes, ensuring a focus on culturally significant offerings.
2. The digital marketing dimension centers on the dissemination of cultural elements and localized marketing strategies within cross-border live streaming contexts. It encompasses both static and dynamic representations of cultural elements and adapts marketing approaches to suit European-American and Southeast Asian markets, excluding domestic market-specific strategies and non-live streaming communication methods.
3. The platform effectiveness dimension examines the role of cross-border live streaming platforms in managing cultural content and empowering product development through data-driven insights. It excludes domestic content review standards and independent product development processes that lack platform involvement.
4. The live streaming platform function modules dimension explores features such as multilingual interfaces, augmented reality cultural scene presentations, and mechanisms for real-time cultural interaction. It also includes host capability support for cultural product live streaming, while excluding non-live streaming content carriers and general promotional interaction methods within domestic live streaming (As shown in Figure 1).

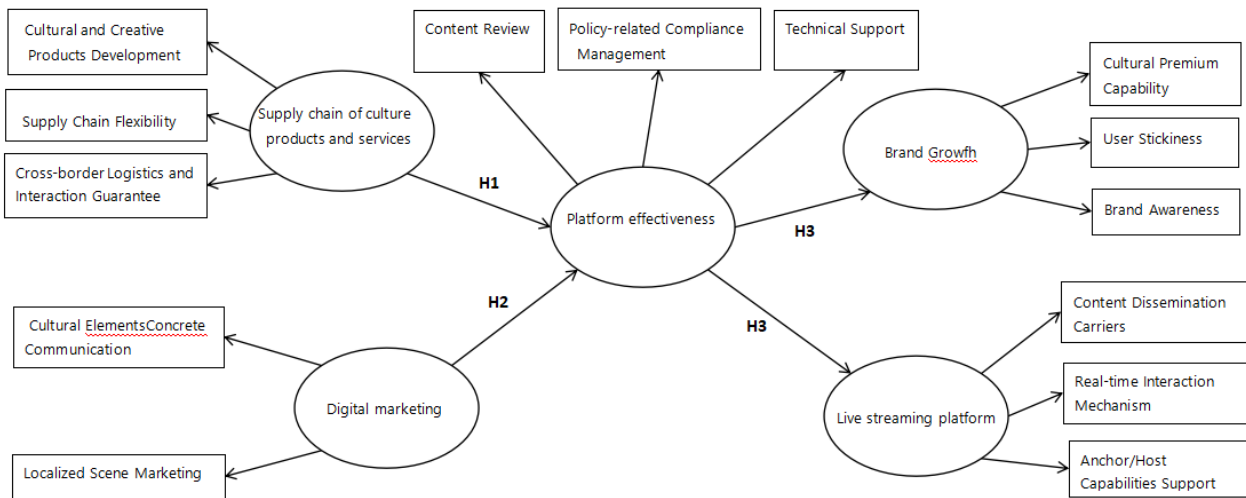


Figure 1. Framework diagram

## 2. Hypotheses

Incorporating the principles of Dynamic Symbolic Negotiation Theory, the Cultural Identity-Driven Behavioral Decision-Making Model, and practical industry insights, this study formulates three fundamental hypotheses, as illustrated in the accompanying figure [2].

H1: The supply chain of cultural products and services has a positive influence on the conversion effectiveness of cross-border live streaming [3].

The supply chain for cultural and creative products encompasses comprehensive processes, including product development, flexible production, cross-border logistics, and after-sales services [1]. Its adaptability plays a pivotal role in determining the efficiency with which cultural symbols are transformed into tangible products and how effectively cultural identity is converted into consumer purchasing behavior. A supply chain that aligns seamlessly with the dynamic order rhythms of cross-border live streaming can mitigate cross-cultural transaction risks, thereby significantly enhancing the efficiency of commercial conversions. This adaptability ensures that the supply chain not only supports operational fluidity but also fosters a robust connection between cultural representation and consumer engagement.

H2: Platform functional empowerment positively influences the efficiency of cultural communication [4].

As a foundational infrastructure for cultural communication, cross-border live streaming platforms rely on advanced technical functionalities, such as real-time multilingual translation and immersive AR/VR scenario presentations [5]. Additionally, mechanisms for content moderation and data-driven capabilities are critical in determining the efficiency of cross-cultural decoding of cultural symbols. A well-structured platform function system minimizes barriers to cross-cultural communication, broadens the scope and depth of cultural exchanges, and acts as a central mediating mechanism for transforming cultural exchange content into commercial value. By enhancing these functionalities, platforms can ensure a seamless and impactful cultural communication process.

H3: Cultural marketing adaptation positively influences user interaction participation [2].

Cultural marketing adaptation significantly enhances user interaction participation by tailoring marketing strategies to align with localized cultural contexts. This targeted approach reduces cognitive resistance among overseas consumers, fosters emotional resonance, and encourages active engagement during live streaming sessions. By addressing cultural nuances and preferences, such adaptations create a more inclusive

and relatable environment for users, thereby establishing a strong foundation for the conversion of interactive participation into tangible commercial value [4].

### **3. Research Design**

#### *3.1. Research design type*

This study employs an explanatory sequential mixed research design, executed in three distinct stages. The first stage involves exploratory qualitative research, which identifies the practical dimensions of key variables through semi-structured interviews, serving as a foundation for developing the questionnaire. The second stage consists of confirmatory quantitative research, where research hypotheses are rigorously tested using a structured questionnaire survey conducted with a large sample. Finally, the third stage integrates qualitative and quantitative data through the triangulation method, enabling the formation of comprehensive and systematic research conclusions that enhance the reliability and depth of the findings [1].

#### *3.2. Core Research Subjects and Sample Size*

The core research subjects encompass four distinct categories: professionals engaged in cross-border live streaming platforms, individuals working within cultural and creative enterprises, experts specializing in industry associations and policy research, and international consumers who have experience purchasing Chinese cultural and creative products through cross-border live streaming platforms. These categories were carefully selected to ensure a comprehensive understanding of the dynamics within this field, capturing insights from both industry insiders and end-users [6]. This diverse participant pool allows for a holistic exploration of the interplay between cultural products and global consumer behavior, particularly in the context of live streaming as a medium for cross-border commerce.

This study employed a rigorous methodological approach, achieving a 95% confidence level with a 5% margin of error. A total of 260 questionnaires were distributed, resulting in 240 valid responses, reflecting a high response rate of 92.31%. Among the respondents, 78 were domestic industry practitioners, while 162 were international consumers, including 82 from European and American markets and 80 from Southeast Asian markets. Additionally, 10 in-depth semi-structured interviews were conducted, each lasting between 30 to 50 minutes [2]. These interviews were meticulously transcribed verbatim to ensure the accuracy and reliability of qualitative data, providing valuable insights into the perspectives of diverse stakeholders.

#### *3.3. Data collection methods*

Primary data were gathered through semi-structured interviews, tailored with specific outlines for various categories of participants. These interviews were conducted both online and offline, ensuring comprehensive audio recordings and detailed text transcriptions, with prior consent obtained from all respondents. Additionally, a structured questionnaire utilizing a 5-point Likert scale was distributed via cross-border platform pop-ups, specialized survey tools, and international cultural associations to ensure diverse and representative participation.

Secondary data encompassed a wide range of resources, including operational reports from cultural and creative enterprises, industry analyses from cross-border e-commerce sectors, and platform-specific data related to cultural and creative categories. Furthermore, industry service guidelines were incorporated to validate the primary data and provide a broader contextual understanding of the macroeconomic and sectoral background [7].

### **4. Research Results**

#### *4.1. Descriptive Statistics of Respondents*

Among the 240 valid samples, respondents aged between 21 and 40 represented a significant majority, accounting for 89.58%. This demographic aligns closely with the

primary user base of cross-border live streaming platforms. Female participants constituted 55.83% of the sample, while over 70% of respondents possessed educational qualifications at the bachelor's degree level or higher. Additionally, overseas respondents made up 67.50% of the sample, encompassing key target regions such as Europe, America, and Southeast Asia. All participants reported prior engagement with Chinese cultural and creative products through cross-border live streaming, reinforcing the reliability and relevance of the collected survey data.

#### 4.2. Reliability and Validity Test Results

This study distributed 260 questionnaires, retaining 240 valid samples after excluding invalid ones, achieving a valid recovery rate of 92.31%. The 240 samples were carefully categorized to align with the research population classification outlined earlier, divided into two primary groups: 78 domestic industry practitioners and 162 overseas consumers. The domestic group encompassed individuals from specified regions and occupational scopes, while the overseas group represented European, American, and Southeast Asian markets [5]. The sample size was intentionally expanded to enhance statistical reliability. All participants met strict eligibility criteria, including an age range concentrated between 21 and 40 years, a demographic composition of 55.83% female, and over 70% holding a bachelor's degree or higher. Additionally, all respondents possessed relevant experience in cross-border live streaming activities, either as viewers or purchasers, ensuring the robustness and validity of the collected data (As shown in Table 1).

**Table 1.** Basic Characterization of Respondents (n=240)

Basic characteristics		n	%
Gender	Men	106	44.17
	Women	134	55.83
Age	20 years and below	15	6.25
	21-25 years	52	21.67
	26-30years	78	32.50
	31-35years	56	23.33
	36-40years	29	12.08
	41 years and below	10	4.17
Educational background	High school and below	20	8.33
	Junior college	45	18.75
	Undergraduate course	118	49.17
Location	Postgraduate or above	57	23.75
	Within Chinese territory	78	32.50
	Europe and America	82	34.17
	Southeast Asia	80	33.33

Source: Derived from the questionnaire data collected in 2026.

##### 4.2.1. Results of validity and reliability testing

Reliability serves as a critical metric for assessing the internal consistency and dependability of scale data. This study utilized two key indicators, namely Cronbach's  $\alpha$  coefficient and Composite Reliability (CR), to evaluate reliability [8]. The criteria for these tests are defined as follows: when the Cronbach's  $\alpha$  coefficient for a latent variable exceeds 0.7 and the CR value surpasses 0.7, the scale demonstrates strong reliability. Furthermore, if the coefficient exceeds 0.8, the scale is considered to exhibit exceptional reliability. These benchmarks ensure that the measurement tools are robust and capable of producing consistent results across different applications. The findings of these reliability tests are summarized in Table 2.

**Table 2.** Reliability Test Results of the Scale

potential	Question count	Cronbach's $\alpha$	CR	Result
Supply chain of culture products and services	7	0.862	0.875	Fine
Digital marketing	7	0.847	0.859	Fine
Platform effectiveness	7	0.841	0.883	Fine
Brand growth	7	0.855	0.868	Fine
Live streaming platform efficiency of cultural communication	3	0.794	0.813	Fine
User interaction	3	0.786	0.805	Fine
Summary Table	34	0.924	0.931	Excellent

This study employed a comprehensive three-stage explanatory sequential mixed research design. The initial stage involved exploratory qualitative research, where core variable dimensions were identified through semi-structured interviews, providing foundational support for the subsequent questionnaire design [1, 9]. The second stage consisted of confirmatory quantitative research, which entailed the development of a structured questionnaire based on qualitative insights and the testing of hypotheses through a large-scale survey. Finally, the third stage integrated qualitative and quantitative data using triangulation methods to derive systematic conclusions. This approach effectively addresses the inherent limitations of relying solely on either qualitative or quantitative research methods. Moreover, it aligns with the analytical requirements of examining cultural cognitive dynamics and the multifaceted processes of commercial conversion within the context of cross-border live streaming. The detailed results of these analyses are presented in Tables 3 and 4.

**Table 3.** Discriminant Validity Test Results

potential	1	2	3	4	5	6
Supply chain of culture products and services	0.764					
Digital marketing	0.628	0.750				
Platform effectiveness	0.594	0.647	0.773			
Brand growth	0.685	0.652	0.613	0.759		
Live streaming platform efficiency of cultural communication	0.572	0.608	0.716	0.595	0.769	
User interaction	0.541	0.693	0.587	0.604	0.568	0.760

**Table 4.** Convergent Validity Test Results

potential	AVE	detection result
Supply chain of culture products and services	0.584	Fine
Digital marketing	0.562	Fine
Platform effectiveness	0.597	Fine
Brand growth	0.576	Fine

Live streaming platform efficiency of cultural communication	0.591	Fine
User interaction	0.583	Fine

4.3. Results of Correlation Analysis

This study utilized Pearson Correlation Analysis to examine the linear relationships among the core variables, providing an initial assessment of whether the proposed research hypotheses align with the observed data trends [10]. By analyzing these relationships, the study aimed to establish a foundational understanding of the directional validity of the hypotheses. The detailed outcomes of this analysis are presented in Table 5, offering insights into the strength and nature of these associations.

Table 5. Pearson Correlation Analysis Matrix of Core Variables

variable	mean value	Standard standard	1	2	3	4	5	6
Supply chain of culture products and services	3.428	0.876	1					
Digital marketing	3.285	0.913	0.594 *	1				
Platform effectiveness	3.517	0.842	0.628 *	0.647 *	1			
Brand growth	3.372	0.895	0.685 *	0.613 *	0.652 *	1		
Live streaming platform efficiency of cultural communication	3.306	0.924	0.572 *	0.716 *	0.608 *	0.595 *	1	
User interaction	3.459	0.868	0.541 *	0.587 *	0.693 *	0.604 *	0.568 *	1

Note: Statistical significance levels are indicated as follows: values marked with a single asterisk denote  $p < 0.05$ , double asterisks indicate  $p < 0.01$ , and triple asterisks represent  $p < 0.001$ .

4.4. Results of Regression Analysis and Hypothesis Testing

This study conducted principal effect tests on three core hypotheses through multiple linear regression analysis, with the following results: First, the positive driving effect of the supply chain of cultural products and services on cross-border live streaming conversion effectiveness was examined [11]. Using cross-border live streaming conversion effectiveness, specifically brand growth, as the dependent variable, gender, age, education level, and region were included as control variables, while the supply chain of cultural products and services was treated as the independent variable. A regression model was constructed to analyze these relationships, and the findings are summarized in the corresponding table (As shown in Table 6).

Table 6. Regression Test Results of H1

variable	Model 1		Model 2	
	regression coefficient $\beta$	t	regression coefficient $\beta$	t

controlled variable				
Gender	0.052	0.871	0.031	0.598
Year	0.084	1.206	0.047	0.825
education level	0.112*	2.013	0.068	1.496
region	0.096	1.532	0.054	1.057
independent variable				
Supply chain of culture			0.657*	14.283
model fitting index				
R <sup>2</sup>	0.032		0.472	
After adjustment R <sup>2</sup>	0.015		0.461	
F	1.927		41.852*	
VIFcrest value	1.126		1.158	

The second hypothesis focused on the positive effect of platform functional empowerment on the efficiency of cultural communication. In this analysis, the efficiency of cultural communication was designated as the dependent variable, while gender, age, education level, and region served as control variables. Platform functional empowerment was identified as the independent variable, and a regression model was developed to explore its impact. The results of this test are detailed in the associated table (As shown in Table 7).

**Table 7.** Regression Test Results of H2

variable	Model 2		Model 3	
	regression coefficient $\beta$	t	regression coefficient $\beta$	t
controlled variable				
Gender	0.041	0.635	0.025	0.476
Year	0.063	0.897	0.032	0.558
education level	0.095	1.698	0.051	1.107
region	0.078	1.234	0.036	0.695
independent variable				
Supply chain of culture			0.708*	15.964
model fitting index				
R <sup>2</sup>	0.024		0.513	
After adjustment R <sup>2</sup>	0.007		0.502	
F	1.436		49.273*	
VIFcrest value	1.126		1.142	

The third hypothesis investigated the positive effect of cultural marketing adaptation on user interaction participation. For this test, user interaction participation was selected as the dependent variable, with gender, age, education level, and region included as control variables [5]. Cultural marketing adaptation, representing a key aspect of the digital marketing dimension, was used as the independent variable. A regression model was constructed to assess these dynamics, and the outcomes are presented in the relevant table (As shown in Table 8).

**Table 8.** Regression Test Results of H3

variable	Model 4		Model 5	
	regression coefficient	t	regression coefficient	t
	$\beta$		$\beta$	
controlled variable				
Gender	0.037	0.572	0.018	0.346
Year	0.058	0.826	0.029	0.507
education level	0.089	1.592	0.043	0.932
region	0.065	1.027	0.027	0.521
independent variable				
Supply chain of culture			0.682*	14.971
model fitting index				
R <sup>2</sup>	0.019		0.481	
After adjustment R <sup>2</sup>	0.002		0.470	
F	1.135		43.106*	
VIFcrest value	1.126		1.137	

#### 4.5. Heterogeneity Analysis

To further investigate the variations in the impact of core variables across distinct regional markets, this study utilized the respondents' region as the basis for grouping. A heterogeneity analysis was conducted through grouped regression, aligning with the cross-market comparison framework outlined in earlier chapters. The sample population was divided into two primary groups: the Europe and America group, representing domestic industry practitioners as defined in the research design, and the Southeast Asian market group, which constitutes one of the key overseas target markets identified within the study's scope. This approach enabled a more nuanced understanding of regional differences in market dynamics and variable influence.

The Southeast Asian market group, comprising a sample size of 80 participants, was analyzed as a critical segment within the broader research framework. This group was contrasted with the Europe and America group to identify potential disparities in the effects of the core variables. The findings from this comparative analysis are summarized in Table 9, providing insights into the distinct characteristics and behaviors of these regional markets. Such an examination is essential for tailoring strategies that align with the unique demands and conditions of each market.

**Table 9.** Grouped Regression Results of Different Regional Markets

dependent variable	independent variable	Europe and America group		Southeast Asia group	
		$\beta$	t	$\beta$	t
cross-border live streaming conversion effectiveness	supply chain of cultural products and services	0.523*	7.316	0.647*	9.285
efficiency of cultural Communication	platform functional empowerment	0.589*	8.542	0.712*	10.638

user interaction	cultural marketing	0.567*	7.893	0.764*	11.427
participation	adaptation				

#### 4.6. Qualitative Results of Semi-structured Interviews

This study adhered to a rigorous explanatory sequential mixed research design to conduct semi-structured interviews. As the exploratory phase of the mixed research, this process aimed to achieve three primary objectives. First, it sought to derive practical dimensions of the core variables by analyzing first-hand interview data, thereby refining and enhancing the measurement items for the subsequent questionnaire. This ensured that the questionnaire design remained closely aligned with the operational realities of the cross-border live streaming industry. Second, the study aimed to identify key challenges and barriers affecting the commercial conversion of cross-border live streaming of cultural and creative products through qualitative analysis, while also validating the practical relevance of the pre-established research hypotheses. Third, it aimed to establish triangulation with the quantitative findings from the subsequent questionnaire survey, thereby reinforcing the authenticity and reliability of the conclusions derived from the questionnaire data. This comprehensive approach effectively addressed the three central research questions outlined in the study.

##### 4.6.1. Interview Implementation and Confidentiality Management of Interviewee Information

In accordance with the established interview protocol, this study successfully conducted 10 comprehensive semi-structured interviews involving three primary participant groups: cross-border live streaming platform practitioners, cultural and creative industry experts, and overseas consumers with relevant purchasing experience. These interviews were carried out using a combination of domestic offline and overseas online platforms, such as widely accessible video conferencing tools, with each session lasting between 30 to 50 minutes. Prior to participation, informed consent was obtained from all respondents. The interviews were meticulously recorded and transcribed, resulting in a dataset comprising 85,000 Chinese words for qualitative analysis. The research adhered strictly to ethical standards, ensuring complete confidentiality. Participant identities were anonymized through systematic coding, original data was securely encrypted for exclusive access by the research team, and any sensitive information was carefully desensitized to safeguard the rights and privacy of all respondents.

##### 4.6.2. Core Findings of Qualitative Analysis

Through an in-depth qualitative analysis utilizing three-level coding, this study has identified four pivotal findings that address the core research questions and hypotheses. These findings are grounded in the direct, practical insights provided by interview participants. This approach not only establishes a robust empirical basis for the subsequent design of questionnaires and quantitative analysis but also ensures that the qualitative insights can be effectively cross-validated with the results derived from the follow-up quantitative investigations. By integrating these perspectives, the study achieves a comprehensive understanding of the research subject, enhancing the reliability and applicability of its conclusions.

The specific manifestations of cultural exchange exhibit varying degrees of effectiveness in terms of their commercial conversion potential. These differentiated impacts highlight the nuanced relationship between cultural exchange practices and their ability to generate tangible economic outcomes [12]. This observation underscores the importance of tailoring cultural exchange initiatives to align with specific commercial objectives, thereby optimizing their effectiveness in diverse contexts (As shown in Table 10).

**Table 10.** Concrete Forms of Cultural Exchange Have Differentiated Commercial Conversion Effects.

Issue	Data from Interviews	Research Value and Hypothesis Correlation
The concrete presentation forms of cultural exchange exert a significant differentiated impact on the commercial conversion effect of cross-border live streaming, and serve as the core prerequisite for driving the conversion of commercial value.	<p>1. On-site dynamic demonstration of intangible cultural heritage (ICH) craftsmanship most intuitively lowers overseas consumers' cognitive threshold. It is significantly positively correlated with live streaming room real-time interaction rate and order inquiry volume, and can lift real-time bullet comments and product click-through rate by 2–3 times.</p> <p>2. Localized interpretation of cultural stories delivers a more prominent effect on lifting average order value and repurchase rate. For instance, the "Palace Museum Cat" IP, integrated with the universal "companionship" theme, drove over 30% average order value growth in European and American markets and a 25% 3-month repurchase rate increase for related products.</p> <p>3. Overseas consumers generally believe that the interpretation of the cultural connotation behind the products is the core factor that distinguishes Chinese cultural and creative products from ordinary standardized commodities and ultimately affects their purchase decisions.</p>	<p>This finding directly provides practical verification for the rationality of Research Hypothesis H1, offers a practical basis for the item design of the "cultural product supply chain" and "digital marketing" dimensions in the questionnaire, and confirms the core mediating logic of "cultural exchange – deepening of cultural cognition – behavioral conversion" in this study.</p>

The functional capabilities of platforms serve as the central mechanism for enhancing the efficiency of cultural communication and facilitating commercial conversion. By leveraging platform functionalities, stakeholders can streamline processes, improve engagement, and achieve more effective dissemination of cultural content [13]. This highlights the critical role of technological and operational empowerment in bridging cultural and commercial objectives, ensuring that communication efforts translate into measurable economic benefits (As shown in Table 11).

**Table 11.** Platform Functional Empowerment is the Core Carrier for Improving the Efficiency of Cultural Communication and Commercial Conversion.

Issue	Data from Interviews	Research Value and Hypothesis Correlation
Platform functional empowerment	1. The platform's technical functions can effectively reduce the difficulty of cross-cultural decoding, and the real-time	This finding strongly supports the core logic of

has a significant positive effect on the efficiency of cultural communication, and serves as the core mediating chain for the conversion of cultural exchange content into commercial value.	<p>multilingual subtitle function alone can solve 60% of language communication barriers.</p> <p>2.The platform's data empowerment is the core basis for enterprises to adjust their cultural presentation strategies in live streaming.</p> <p>3. Current platform empowerment has obvious shortcomings: the existing content moderation mechanism lacks specialized standards for cultural and creative products and sufficient accuracy in cross-cultural taboo risk early warning for cultural symbols, which weakens cultural communication effects and may trigger cultural misunderstanding risks.</p>	<p>Research Hypothesis H2, directly corresponds to the measurement items of the "platform effectiveness" dimension in the questionnaire, and the relevant conclusions can form triangulation with the quantitative data of the follow-up questionnaire.</p>
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The challenges of cross-cultural cognition, supply chain management, and regulatory compliance represent the three primary barriers to achieving successful commercial value conversion. These obstacles necessitate a strategic approach to address cultural misunderstandings, optimize logistical frameworks, and ensure adherence to regulatory standards. Overcoming these barriers is essential for fostering seamless integration between cultural initiatives and their commercial applications, thereby unlocking their full potential (As shown in Table 12).

**Table 12.** Cross-Cultural Cognition, Supply Chain and Compliance Are the Three Core Barriers to Commercial Value Conversion.

Issue	Data from Interviews	Research Value and Hypothesis Correlation
Cross-cultural cognition issues and symbol misinterpretation, supply chain response lag, as well as compliance risks and insufficient professionalism of live streamers, are the three core	<p>1.Cross-cultural cognitive barriers are the most prevalent antecedent barriers. For instance, the bat pattern, a symbol of blessing in Chinese culture, has sparked aversion among European and American consumers. Meanwhile, oversimplified or overcomplicated interpretation of traditional cultural symbols causes loss of cultural connotation, shrinks product premium space, and ultimately weakens consumers' purchase intention.</p> <p>2.Supply chain response lag is the key barrier to commercial value realization. The "small-batch, customized" cultural and creative products require higher supply chain flexibility. Long cross-border logistics cycles, difficult product customs clearance, and inadequate overseas</p>	<p>This finding systematically sorts out the types, occurrence scenarios and influence mechanisms of conversion barriers, provides a first-hand practical basis for the item design of the "conversion barriers"</p>

barriers hindering the conversion of cultural exchange into commercial value.	warehouse layout directly cause order loss, while damaging brand image and consumer trust in Chinese cultural products. 3.Other core barriers include: live streamers' inadequate cross-cultural competence and cultural knowledge, lack of industry-wide unified cultural element presentation standards, cross-market compliance risks of cultural and creative products, and disconnection between platform moderation rules and cultural content communication needs.	module in the questionnaire, and the relevant content can form triangulation with the quantitative data of consumers' perception of barriers in the follow-up.
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There is a pressing need to establish a collaborative mechanism involving platforms, enterprises, and associations to enhance industry management [14, 15]. This multi-stakeholder approach aims to foster synergy among key participants, ensuring that their collective efforts address industry challenges effectively. By promoting cooperation and shared responsibility, this mechanism can drive sustainable development and innovation within the industry, ultimately benefiting all stakeholders involved (As shown in Table 13).

**Table 13.** Urgent Need to Establish a "Platform-Enterprise-Association" Multi-Stakeholder Collaborative Mechanism for Industry Management.

Issue	Data from Interviews	Research Value and Hypothesis Correlation
The current industry management of cross-border live streaming of cultural and creative products is facing the problem of disconnection among the strategies of multiple stakeholders, and there is an urgent need to establish a multi-stakeholder collaborative management mechanism featuring "platforms regulate content,	1. Enterprise side: Industry associations are expected to lead the formulation of unified industry standards for cultural element presentation and live streamer qualification certification, provide compliance training and resource integration support for small and medium-sized cultural and creative enterprises, and lower cross-cultural operation trial-and-error costs. 2. Platform side: Establish linkage with enterprises and industry associations to optimize cross-cultural content review system, avoid conflicts between strict compliance review and vivid cultural communication, and jointly reduce cultural misunderstanding and compliance violation risks.	It provides first-hand practical basis for the formulation of industry management strategies, echoes the measurement items related to multi-stakeholder collaboration in the questionnaire, and fills the weak links in existing research on the multi-stakeholder collaborative mechanism for the industry management of

enterprises strengthen operations, and associations build the ecosystem".	3. Include cultural and creative products' cross-border live streaming in cultural export support policies; simplify customs clearance, strengthen cross-border IP protection; support interdisciplinary talent training for cultural trade and cross-border live streaming.	cross-border live streaming. management of cross-border live streaming.
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## 5. Conclusion

Focusing on the cross-border live streaming scenario of Chinese cultural and creative products, this study systematically examines the mechanisms through which core variables influence commercial conversion and brand growth. By employing a mixed research design, the findings underscore the intricate interplay between cultural dissemination, commercial strategies, and technological adaptation. The analysis highlights how live streaming serves as a dynamic medium for bridging cultural gaps while simultaneously driving economic outcomes. This research provides a comprehensive framework for understanding the multifaceted dynamics of cross-border cultural trade, emphasizing the importance of strategic alignment between cultural expression and market demands.

### 5.1. Core Research Conclusions

Cultural exchange facilitated by cross-border live streaming has proven to be a powerful driver of both commercial value conversion and the dissemination of Chinese cultural and creative products. The study identifies three pivotal factors—cultural product supply chain optimization, platform functional empowerment, and cultural marketing adaptation—as critical contributors to enhancing conversion effectiveness, communication efficiency, and user engagement. These findings reveal the transformative potential of integrating cultural narratives with technological innovation, offering valuable insights into how businesses can leverage these elements to achieve sustainable growth in global markets.

Cross-cultural cognitive barriers, supply chain response delays, and compliance risks emerge as the primary obstacles to effective commercial value conversion. These challenges exhibit significant regional variations, underscoring the need for tailored strategies to address market-specific sensitivities. For instance, cultural symbol misinterpretation poses a greater challenge in certain regions, while logistical efficiency and product differentiation are prioritized in others. Addressing these barriers requires a nuanced understanding of regional preferences and proactive measures to mitigate risks, ensuring smoother integration of cultural products into diverse international markets.

Three core barriers—cross-cultural cognitive challenges, supply chain inefficiencies, and compliance risks—significantly hinder commercial value conversion, with notable regional differences. Markets in Southeast Asia demonstrate heightened sensitivity to cultural misinterpretations, whereas European and American markets prioritize logistical reliability and product uniqueness. These findings highlight the necessity of developing region-specific strategies to overcome these obstacles, enabling businesses to better align their offerings with the expectations and preferences of diverse consumer bases. Such tailored approaches are essential for fostering deeper cultural connections and achieving sustained commercial success.

Multi-stakeholder collaborative governance plays a crucial role in reducing barriers and enhancing conversion efficiency. Establishing a comprehensive collaborative management system that integrates platforms, enterprises, industry associations, and regulatory authorities is identified as the cornerstone for achieving high-quality development in the cross-border live streaming industry. This approach fosters synergy

among stakeholders, enabling the creation of robust frameworks for compliance, innovation, and cultural exchange. By prioritizing collaboration, the industry can address systemic challenges more effectively and unlock new opportunities for growth and cultural integration.

### 5.2. Practical and Policy Recommendations

For cultural and creative enterprises, the study recommends the establishment of a three-tier cultural expression system encompassing visual concretization, craftsmanship demonstration, and narrative localization. Additionally, businesses should focus on building flexible supply chains and optimizing overseas warehouse layouts to enhance operational efficiency. Systematic cross-cultural communication training for live streamers is also emphasized as a critical strategy for improving engagement and fostering deeper connections with international audiences. These measures collectively aim to empower enterprises to navigate the complexities of global markets while preserving the authenticity of cultural narratives.

For live streaming platforms, the study advocates the development of AI-powered cross-cultural moderation systems and risk early warning mechanisms to address potential challenges related to cultural symbols. Strengthening multilingual services, incorporating AR-based craftsmanship demonstrations, and introducing specialized functionalities are identified as key strategies for enhancing user experience and operational effectiveness. Furthermore, launching support programs tailored to small and medium-sized cultural and creative enterprises is recommended to foster inclusivity and innovation within the industry, ensuring that diverse stakeholders can thrive in the competitive global landscape.

For industry associations, the formulation of unified standards for cultural content presentation and live streamer qualifications is proposed as a critical step toward ensuring consistency and quality across the sector. Building a one-stop service platform that encompasses compliance training, resource matching, and cross-border dispute mediation is also recommended to streamline operations and support stakeholders. These initiatives aim to create a more structured and supportive ecosystem for cultural and creative enterprises, enabling them to navigate the complexities of international trade with greater confidence and efficiency.

For government authorities, the study highlights the importance of integrating cross-border live streaming of cultural and creative products into broader cultural export support policies. Simplifying customs clearance procedures and strengthening intellectual property protections are identified as essential measures for facilitating smoother international trade. Additionally, supporting the development of interdisciplinary talent in cultural trade and live streaming is emphasized as a long-term strategy for fostering innovation and ensuring the sustainable growth of the industry. These policy recommendations aim to create an enabling environment that promotes cultural exchange and economic development on a global scale.

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