

## **An Analysis of Digital Technology Adoption and Its Impact on College Students' Purchase Intentions for Cultural and Creative Products in Guangxi, China**

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### **Abstract**

With the rapid development of mobile internet, e-commerce, and digital platforms, the digital economy has profoundly reshaped the cultural consumption landscape. Focusing on college students in Guangxi, China, this study empirically examines how digital technology adoption influences their purchase intention toward cultural and creative products (CCPs). Drawing on the Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT), and Cultural Identity Theory, a quantitative survey was conducted, yielding 389 valid responses. Data were analyzed using descriptive statistics and multiple regression analysis. The results indicate that perceived ease of use, facilitating conditions, hedonic motivation (from TAM/UTAUT2), perceived compatibility, observability (from IDT), and cultural knowledge (from Cultural Identity Theory) significantly and positively affect students' purchase intention. The model explains 21.5% of the variance in purchase intention. By integrating technological, innovative, and cultural-psychological factors into a unified framework, this study provides theoretical insights and practical implications for universities, cultural enterprises, and policymakers seeking to promote sustainable development of the cultural and creative industry in the digital economy era.

**Keywords:** Digital Technology Adoption; Cultural and Creative Products; Purchase Intention; College Students; Guangxi Province.

## Background and Statement of the problem

In the digital economy era, the rapid development of technologies such as mobile Internet and e-commerce has promoted the digital transformation of the cultural and creative industry. China's digital service trade share has grown significantly, and the government's series of digital economy policies have provided strong support for the integration of CCPs with digital technology. As a multi-ethnic autonomous region in southwest China, Guangxi has rich ethnic cultural resources, which lay a solid foundation for the development of CCPs (Yan, 2024). In recent years, local cultural and creative consumption has shown a trend of online development, with younger groups represented by college students becoming the core consumer force.

College students, as "digital natives," are familiar with online platforms and their consumption behavior is deeply influenced by digital technology, tending to pursue personalized and experiential cultural consumption (Suliman et al., 2025). However, existing studies on cultural and creative product consumption mostly focus on developed eastern regions or Han college students, with insufficient attention to ethnic minority areas like Guangxi. Meanwhile, although some studies mention the application of digital technology in CCPs, they fail to systematically clarify the mechanism of how digital technology affects college students' acquisition of product information, formation of purchase intention and subsequent purchase behavior.

Against this background, two core research questions are proposed: First, what are the perceived levels and relative importance of technology acceptance, perceived innovation characteristics, and cultural identity among Guangxi college students when purchasing CCPs? Second, how do technology acceptance, perceived innovation, and cultural identity affect college students' purchase intention of CCPs individually and jointly, and are there interaction effects among these factors? Answering these questions is crucial for promoting the sustainable development of the cultural and creative industry in ethnic minority areas under the digital economy.

## Objective

OJ1: To examine the level and importance of key factors, including technology acceptance cognition, perceived innovation characteristics, and cultural identity, in shaping purchase intentions for CCPs among college students in Guangxi.

OJ2: To investigate the causal impact and interplay of digital technology adoption factors (technology acceptance and innovation characteristics) and cultural identity on the purchase intention of college students.

## Expected benefits

### 1) Theoretical Benefits

This study enriches the theoretical system of digital cultural consumption by integrating the Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT), and Cultural Identity Theory into a unified empirical framework. It addresses the research gap of insufficient integration of individual-level technical acceptance, perceived innovation, and cultural identity in existing literature, especially in the context of ethnic minority areas, and expands the application scenarios of these theories in the field of CCPs. By reinterpreting core constructs like perceived usefulness and perceived compatibility in a cultural context, it reveals the particularity of digital technology's impact on cultural consumption behavior and provides empirical support for cultural identity as an independent determinant of purchase intention in digital environments.

### 2) Practical Benefits

The research findings offer actionable insights for cultural and creative enterprises, universities, and policymakers in Guangxi and similar regions. Cultural and creative enterprises can optimize digital platform usability, design products aligned with college students' aesthetic and lifestyle preferences, and strengthen cultural element display to enhance purchase intention. Universities can integrate local ethnic cultural content into teaching and campus activities to boost students' cultural identity and indirectly promote cultural consumption. Policymakers can leverage digital economy strategies to support cultural innovation, talent training, and the sustainable development of the regional cultural industry, while the research framework and conclusions can serve as a reference for cultural and creative industry development in other ethnic minority areas.

## Conceptual Framework

### 1. Conceptual Framework

This study proposes a concise conceptual framework to explore the impact of digital technology adoption on the purchase intention (PI) of cultural and creative products (CCPs) among Guangxi college students. The study hypothesizes that three core independent variables---Digital Technology Adoption (DTA), Perceived Innovative Characteristics (PIC), and Cultural Identity (CI)---have a direct positive impact on the dependent variable (PI).

#### Theory I: Technology Acceptance Model (TAM) and UTAUT2

TAM, proposed by Davis (1989), considers perceived usefulness and perceived ease of use as the core antecedents of technology adoption. The UTAUT2 model, after expansion, incorporates social influence, facilitating conditions, and hedonic motivation to adapt to different consumer behavior scenarios. Recent studies continue to validate and extend these frameworks in various digital consumption contexts, including e-commerce and social media platforms (Belmonte et al., 2024). Digital technology adoption is operationalized using the five dimensions of the Extended Technology Acceptance Model (TAM/UTAUT2): perceived usefulness (PU), perceived ease of use (PEOU), social impact (SI), facilitating conditions (FC), and hedonic motivation (HM). These dimensions constitute "digital technology adoption," exploring how the digital innovation attributes of cultural products (CCPs) enhance purchase intention.

#### Theory II: Diffusion of Innovation Theory (IDT)

Rogers (2003) emphasized five innovation attributes influencing the speed of adoption. Contemporary research has applied and refined these attributes in digital and cultural product contexts (Ngian et al., 2025). This study focuses on measuring three key dimensions of cultural products: perceived compatibility (PC), trialability (TRIAL), and observability (OBS). Recent empirical evidence confirms that compatibility and observability significantly influence user acceptance and intention to use innovative technologies (Jeong et al., 2024). These dimensions explore how the digital innovation attributes of cultural products (CCPs) enhance purchase intention.

Theory III: Cultural Identity Theory

Cultural identity refers to an individual's psychological sense of belonging to a particular cultural group, encompassing cognitive, affective, and behavioral dimensions. Recent research demonstrates that cultural identity plays a crucial mediating role in converting value perception into purchase intention for cultural products (Wang & Chung, 2025). Studies also show that cultural identity influences consumer attitudes and behavioral intentions in culturally themed consumption contexts. This study uses three dimensions---cultural knowledge (CK), category labeling (CL), and social connection (SC)--to explain the independent role of cultural factors in digital consumption.

Purchase Intention: This refers to students' purchase intentions of CCPs incorporating Guangxi ethnic cultural elements through digital platforms.

This framework clarifies how technological, innovative, and cultural psychological factors synergistically influence young consumers' purchasing decisions in the digital cultural consumption environment.

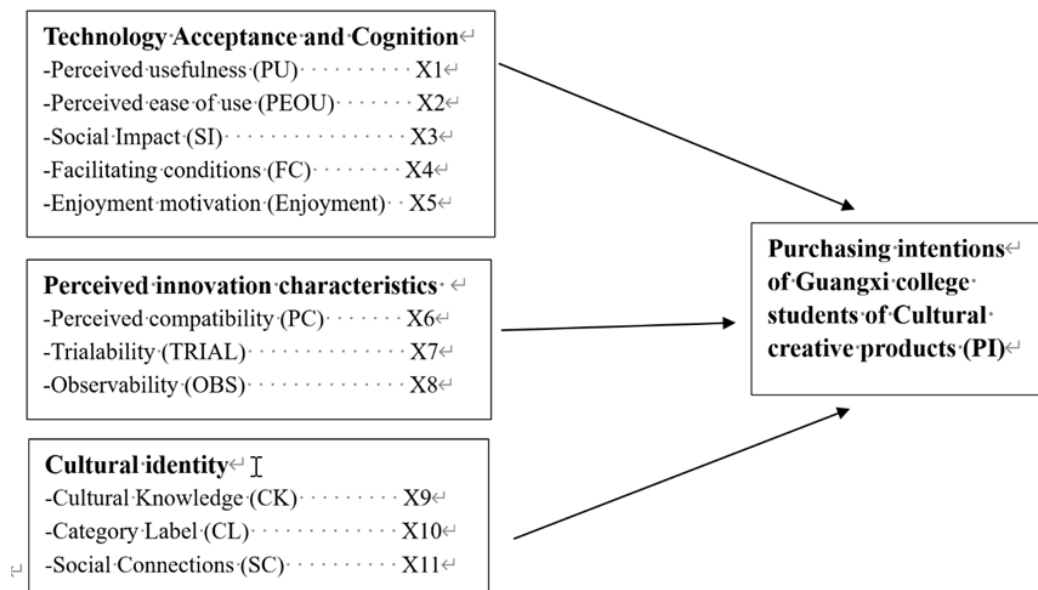


Figure 1: Conceptual Framework

Solid line: Direct positive effect

Research Methodology

This study adopted a quantitative cross-sectional design to explore the impact of digital technology adoption on Guangxi college students' purchase intention CCPs. Using

stratified random sampling, 400 questionnaires were distributed among undergraduates from 5 representative universities in Guangxi, yielding 389 valid responses. The structured questionnaire measured four core constructs (digital technology adoption, perceived innovation characteristics, cultural identity, purchase intention) with established scales (Cronbach’s  $\alpha > 0.7$  for all dimensions). Data was analyzed via SPSS 27.0, including descriptive statistics, reliability/validity tests, Pearson correlation analysis, multicollinearity checks, and multiple linear regression to test hypotheses, ensuring rigorous statistical validity.

### Research Results

Empirical results reveal that Guangxi college students’ purchase intention for CCPs is at a moderate level regarding digital technology acceptance and adoption, perceived innovation characteristics, and cultural identity.

Table 1: Descriptive statistics on variables

Variables	$\bar{x}$	SD	Rating
<b>Digital Technology Acceptance and Adoption</b>			
Perceived usefulness	2.981	1.113	Neutral
Perceived ease of use	2.914	1.121	Neutral
Social impact	2.882	1.102	Neutral
Facilitating conditions	2.901	1.144	Neutral
Enjoyment motivation	2.912	1.103	Neutral
Total	2.919	0.786	Neutral
<b>Perceived innovation characteristics</b>			
Perceived Compatibility	2.908	1.175	Neutral
Trialability	2.949	1.167	Neutral
Observability	2.907	1.186	Neutral
Total	2.920	0.861	Neutral
<b>Cultural identity</b>			
Cultural Knowledge	2.899	1.152	Neutral
Category Label	2.943	1.114	Neutral
Social Connections	2.917	1.162	Neutral
Total	2.919	0.840	Neutral
<b>Purchase Intention</b>			
Purchase Intention	2.856	1.161	Neutral
Total	2.856	1.161	Neutral

Table 2: Summary of Research Results

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R square</b>	<b>Std. Error of the estimate</b>
1	0.470	0.221	0.215	1.029

Table 3: ANOVA result of the research

<b>Model</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig</b>
1Regression	115.604	3	38.535	36.422	.000
Residual	407.334	385	1.058		
Total	522.938	388			

The research model demonstrates relatively acceptable predictive accuracy. Analysis of variance (ANOVA) yields a p-value of 0.000 ( $p < 0.05$ ) at the 0.05 significance level, indicating that the included independent variables are appropriate for explaining and predicting the purchase intention of the target group.

Table 4: Results of Research Hypothesis Testing

<b>Hypothesis</b>	<b>Accept</b>	<b>Reject</b>
H1a: Perceived usefulness is positive associated with Guangxi college students' purchase intention of cultural and creative products.		✓
H1b: Perceived ease of use exerts a positive effect on Guangxi college students' purchase intention of cultural and creative products.	✓	
H1c: Social impact has a positive influence on Guangxi college students' purchase intention of cultural and creative products.		✓
H1d: Facilitating conditions are positive related to Guangxi college students' purchase intention of cultural and creative products.	✓	
H1e: Enjoyment motivation is a positive determinant of Guangxi college students' purchase intention of cultural and creative products.	✓	
H2a: Perceived compatibility positive affects Guangxi college students' purchase intention of cultural and creative products.	✓	
H2b: Trialability is positive associated with Guangxi college students' purchase intention of cultural and creative products.		✓
H2c: Observability has a significant positive impact on Guangxi college students' purchase intention of cultural and creative products.	✓	

Hypothesis	Accept	Reject
H3a: Cultural knowledge positive influences Guangxi college students' purchase intention of cultural and creative products.	✓	
H3b: Category label exerts a positive effect on Guangxi college students' purchase intention of cultural and creative products.		✓
H3c: Social connection is positive related to Guangxi college students' purchase intention of cultural and creative products.		✓

With digital technology acceptance and adoption (TAC), perceived innovation characteristics (PIC), and cultural identity (CI) as independent variables, and purchase intention (PI) as the dependent variable, the model is validated, with the regression equation being

$$PI = 0.369 + 0.416(TAC) + 0.274(PIC) + 0.161(CI) + \epsilon.$$

### Summary of the Study

This study investigates the impact of digital technology adoption on Guangxi college students' purchase intention toward CCPs. Using a quantitative approach with 389 valid questionnaires, the research integrates the Technology Acceptance Model (TAM), Innovation Diffusion Theory (IDT), and Cultural Identity Theory to examine how technological, innovative, and cultural factors jointly shape consumer behavior. The findings reveal that perceived ease of use, facilitating conditions, hedonic motivation, perceived compatibility, observability, and cultural knowledge are significant positive predictors of purchase intention, collectively explaining 21.5% of its variance. These results highlight the complementary roles of digital empowerment and cultural meaning in driving young consumers' engagement with CCPs. The study offers both theoretical contributions—by extending established adoption theories into the cultural product context—and practical implications for designing digital platforms, enhancing cultural education, and formulating policies to foster the sustainable growth of the cultural and creative industry in ethnic minority regions like Guangxi.

## Discussions

This study's detailed findings reveal that digital cultural consumption is not driven by a single mechanism but by the interaction between technological efficiency, experiential value, and cultural meaning. The following discussion expands on these mechanisms, integrating empirical evidence with existing theoretical perspectives.

Within the technology acceptance dimension, perceived ease of use significantly influences purchase intention, indicating that user-friendly interfaces reduce cognitive effort and allow students to focus more on cultural content rather than system operation (Intra et al., 2024). This finding aligns with the broader technology acceptance literature, which consistently identifies ease of use as a critical enabler of initial adoption and sustained engagement (Davis, 1989). For digital-native college students, intuitive platform design lowers the cognitive cost of navigation, enabling them to allocate more attention to the cultural narratives embedded in the products. Facilitating conditions also positively shape purchase intention, providing institutional assurance for digital cultural consumption (Strzelecki, 2024). In the Guangxi context, where digital infrastructure varies across urban and rural areas, reliable platforms, stable internet connectivity, and accessible customer support serve as essential prerequisites that reduce transaction anxiety and build trust among student consumers. Enjoyment motivation reflects the extent to which digital platforms provide engaging cultural experiences, thereby stimulating students' interest and purchase intentions (Zhao et al., 2024). This finding supports the view that cultural consumption in digital environments is not purely utilitarian; rather, the experiential and hedonic dimensions—such as interactive features, immersive content, and aesthetic design—play a decisive role in converting passive browsing into active purchase behavior.

Regarding perceived innovation characteristics, perceived compatibility emerges as a strong predictor, as CCPs that match students' preferences and cultural orientations are more readily accepted (Abubakari et al., 2024). This suggests that the alignment between product design and consumers' existing value systems is particularly salient in culturally infused consumption contexts. For Guangxi students, cultural and creative products that authentically integrate local ethnic elements—such as Zhuang brocade patterns or bronze drum motifs—while resonating with contemporary aesthetics, are more likely to be perceived as personally relevant and therefore desirable. Observability

also positively impacts intention, as products that can be displayed or shared on digital platforms are more attractive to students (Karmaker, 2025). This finding underscores the socially expressive function of cultural consumption: when products are designed to be visually distinctive and shareable, they serve as a form of social currency, enabling students to communicate their cultural identity and taste to peer networks on platforms such as Xiaohongshu or WeChat Moments. However, trialability does not have a significant effect, suggesting that digital previews may not be critical for this product category (Theocharis et al., 2025). One plausible explanation is that cultural and creative products are often low-involvement, emotionally driven purchases where perceived purchase risk is relatively low. Consequently, the availability of trial features—such as “try now, pay later”—may not meaningfully alter purchase decisions compared to higher-involvement categories like electronics or durable goods.

Within cultural identity, cultural knowledge enhances students’ appreciation of cultural meanings, increasing emotional resonance and purchase intention. This finding is consistent with prior research demonstrating that consumers with deeper cultural understanding exhibit stronger emotional attachment and willingness to support culturally meaningful products (Zong et al., 2023). When students possess knowledge about the historical background or craftsmanship behind a product, they are more likely to perceive it as authentic and valuable, thereby strengthening their intention to purchase. Category labels help students quickly identify cultural attributes and product value, facilitating purchase intention. However, the limited strength of this relationship suggests that while labeling serves as an informational cue, it may be less influential than deeper cultural knowledge or experiential engagement. Social connections reflect the importance of community interaction and emotional bonding in digital cultural consumption, thereby strengthening purchase intention (Hyun et al., 2022). This finding aligns with the view that cultural consumption often functions as a socially embedded practice, where purchasing behavior is reinforced by a sense of belonging to a community of like-minded peers.

By integrating technology adoption theory, innovation diffusion theory, and cultural identity perspectives into a unified empirical framework, this study extends existing research and provides empirical evidence from the context of college students in Guangxi, China. The findings illustrate that digital cultural consumption is not governed

by a single mechanism but emerges from the interplay between technological usability, experiential enjoyment, innovation attributes, and culturally grounded motivation. Overall, the results highlight the importance of combining digital empowerment with cultural value integration to promote sustainable development of the cultural and creative industry in the digital economy.

## Recommendations

### 1) For Cultural and Creative Enterprises

First, optimize platform usability by streamlining payment processes and ensuring mobile compatibility, as perceived ease of use and facilitating conditions significantly influence purchase intention. Provide clear customer support channels to address potential usage barriers.

Second, integrate interactive features such as AR/VR product previews and 3D displays to enhance hedonic motivation, while designing products with "social sharing" in mind to amplify observability through user-generated content on platforms like “Xiaohongshu” and “Douyin”.

Third, authentically incorporate ethnic elements (e.g., Zhuang brocade patterns) with modern aesthetics to strengthen perceived compatibility, ensuring products resonate with young consumers' lifestyles and cultural values.

### 2) For Universities and Educational Institutions

Integrate local ethnic culture into curricula through elective courses and cultural festivals to enhance students' cultural knowledge, a significant predictor of purchase intention. Establish campus-based digital platforms where students can share cultural experiences and product recommendations to strengthen social connections related to cultural consumption.

Ensure reliable digital infrastructure on campus, including high-speed Wi-Fi and device access, to support students' seamless engagement with digital cultural platforms, addressing the facilitating conditions factor.

### 3) For Policymakers and Government Agencies

Invest in digital infrastructure development in ethnic minority regions like Guangxi and provide tax incentives for enterprises developing innovative digital tools

(e.g., AR/VR cultural experiences). Launch "culture + digital" initiatives—such as virtual cultural exhibitions and government-supported e-commerce campaigns—to promote Guangxi's ethnic heritage while engaging youth, addressing both cultural identity and technological accessibility.

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