

## Research Article

# Research on How External Environment Influences Digitalization of Cultural Enterprises

Hao Ji <sup>1</sup>, Yu Pang,<sup>2</sup> Lingling Suo,<sup>1</sup> and Tongtong Wang <sup>1</sup>

<sup>1</sup>Business College, Beijing Union University, Beijing, China

<sup>2</sup>Management College, Beijing Union University, Beijing, China

Correspondence should be addressed to Hao Ji; hao.ji@buu.edu.cn

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Digitalization is critical to the growth of cultural industry today. However, existing research has not explained the mechanism by which the external environment affects the digitalization of cultural enterprises. Based on structural equation modeling, we tested the model empirically using data from 295 cultural enterprises in Beijing. The results show that two external environmental variables, the market pressure and the government's supportive policies, have a positive impact on the adoption of digitalization in cultural enterprises through technical and organizational factors. The research conclusion explains how the external environment influences digitalization in cultural enterprises. Technological factors of digitalization capability and digitalization compatibility and organizational factors of perceived benefits play a mediating role between the external environment and the digitalization of cultural enterprises. Based on these conclusions, we finally put forward a series of countermeasures to enhance the digitalization of cultural enterprises.

## 1. Introduction

With the development of the digital economy, a new generation of digital technologies represented by big data, artificial intelligence, Internet of things, cloud computing, blockchain, etc., has radiated to many industries in the cultural industry, expanding the boundaries of the cultural industry and extending the cultural industry chain. New products and new formats of the digital cultural industry emerge in an endless stream. Taking China as an example, according to the data from the National Bureau of Statistics of China, among the cultural and related industries above designated size, the 16 industry sub-categories with obvious characteristics of the new digital culture format have achieved an operating income of 3,962.3 billion yuan in 2021, which was an increase of 18.9% over the previous year, also an average increase of 20.5% for the two years.

In recent years, scholars have conducted various research projects on the motivations of enterprise digitalization, but the research objects are mostly concentrated in

manufacturing, construction, and large- and medium-sized enterprises. Since these companies usually have more social and technological resources, they have more advantages in the face of digital transformation. However, existing studies have neglected the digital motivation of traditional cultural industries. The cultural industry is an important pillar industry of the national economy. Under the influence of COVID-19 and fierce external competition, the survival crisis and the development challenges they face are more prominent. It is urgent to survive and develop through digital construction. Therefore, it is necessary to explore the factors influencing the adoption of digital technology in cultural enterprises in the background of digital transformation.

Secondly, a number of studies have discussed the factors that influence the adoption of digital technologies by companies based on technology adoption theory. However, most of the above studies focus on technology and enterprise level, ignoring the role of the external environment. In view of this, this paper will construct and test how external environmental factors affect the adoption of digital technology by cultural enterprises empirically based on the TOE framework.

This paper hopes to provide both theoretical and practical contributions. Theoretically, it provides arguments for how external environmental factors affect the adoption of digital technology and complements and improves existing research. In practice, by explaining the influencing factors and influence paths of enterprises in the cultural industry adopting digital technology, it provides a reference for the ways in which enterprises in the cultural industry adopt digital technology. It also enlightens the macro-support policies for the digital transformation of the cultural industry.

## 2. Theoretical Basis and Model Hypothesis

*2.1. Theoretical Background and Hypothesis.* Technology adoption theory has always been the focus of scholars at home and abroad, mainly used to explain or predict the influencing factors of individuals or organizations adopting new information technologies. The technology acceptance model (TAM), first proposed by Davis [1], uses rational behavior theory to explore the factors that affect individuals' acceptance of information systems. The TAM model proposes that the easiness and usability of perception determine attitudes and behavioral intentions to accept information technology together.

The unified theory of acceptance and use of technology (UTAUT) proposed by Venkatesh et al. [2] explains the organization's acceptance of new technology at the enterprise level. Venkatesh et al. [2] believed that expected performance, expected workload, social influence, promotion conditions, hedonic motivation, price value, and habits all affect the organization's behavioral intentions, and its behavioral intentions will further affect user behavior. This theory was subsequently extended to research on consumer acceptance and use of the mobile Internet.

Based on the TAM and UTAUT models, Tornatzky and Fleischer [3] proposed a technology-organization-environment theoretical model (TOE) by introducing macro-dimensional variables. The TOE model explores and explains the reasons why enterprises adopt new technologies by considering the factors of technology, enterprise, and external environment at the same time. Among them, technical factors are related to the internal and external technologies and alternative potential technologies of enterprises; enterprise factors refer to the characteristics of enterprises, such as the size and resources of enterprises; external environmental factors include market factors, competitors, and regulatory environment. In the background of digital transformation, the external environment can make cultural enterprises fully aware that digital technology can affect the competitiveness of cultural enterprises, which in turn affects the strategic decision of cultural enterprises whether to adopt digital technology.

The TOE framework includes three levels—technology, organization, and environment—and is highly systematic. At the same time, for the adoption of different technologies, the TOE model allows the specific components of the technical dimension, the organizational dimension, and the environmental dimension to be different, so the final

decisive factors are different according to the actual situation. The TOE model examines the advantages within the organization, outside the organization and technology, and has good operability and clear structure. Therefore, the model has been widely supported and applied in the research of enterprise technology adoption.

Based on the TOE theory and referring to the research of Lv et al. [4], this paper will analyze the impact of the external environment on the adoption of digital technology by cultural enterprises.

*2.2. Adoption of Digital Technology in the Cultural Industry.* In view of the important role of digital technology in enterprise development, many scholars have studied the direct factors of enterprise digital technology adoption from the perspective of technology and enterprises. A review of the existing literature shows that most of the research focuses on manufacturing, construction, and small- and medium-sized enterprises. Few research studies focus on the factors of digital technology adoption in the cultural industry. And most research studies only verify the direct impact of technology and business factors on the adoption of digital technology, ignoring the impact of external environments such as government policies and competitive pressures. Therefore, the paper will introduce external environmental factors on the basis of existing research and construct a hierarchical model in which the external environment affects the adoption of digital technology in the cultural industry through the mediation of technical and environmental factors.

*2.2.1. Environment Level.* Most scholars believe that government policies, especially those about tax cuts, low-interest loans, or intellectual property regulations, can enhance competitive advantage and boost corporate performance. The formation and development of the digital cultural industry benefit from the promotion of government policies. With the advent of the digital age, governments around the world have successively issued a series of policies to promote the development of the digital cultural industry. Taking China as an example, in 2019, the General Office of the State Council of China issued "Opinions on Further Stimulating the Potential of Cultural and Tourism Consumption." The document calls for promoting the integration of culture, tourism, and modern technology and developing a new generation of immersive experiential culture and tourism consumption content based on technologies such as 5G, ultra-high definition, augmented reality, virtual reality, and artificial intelligence. The "Opinions of the Ministry of Culture and Tourism on Promoting the High-Quality Development of the Digital Cultural Industry" issued by the Ministry of Culture and Tourism of China in 2020 pointed out that the deep integration of the cultural industry with the digital economy and the real economy should be promoted, and it was clearly proposed to implement the digitalization strategy of the cultural industry and promote the high-quality development of the digital cultural industry. In

2020, 13 departments including the National Development and Reform Commission, the Central Cyberspace Administration of China, and the Ministry of Industry and Information Technology issued “Opinions on Supporting the Healthy Development of New Business Formats and New Models, Activating the Consumer Market and Driving Employment Expansion,” which proposes that relying on the national data sharing and open platform system, new business forms and new models that support online and offline integration should be regarded as important breakthroughs in economic transformation and promotion of reform and innovation. The document also proposes to support the development of 15 new formats and models, including a series of new formats and models related to the cultural industry, such as online education, industrial platform development, and digital transformation of traditional enterprises. In 2021, the Fourteenth Five-Year Plan for the National Economic and Social Development of the People’s Republic of China and the Outline of the Vision for 2035 clearly stated that it is necessary to implement the digitalization strategy of the cultural industry and accelerate the development of new cultural enterprises, cultural formats, and cultural consumption models. In terms of specific policies, in addition to financial and market support, it also actively promotes various cultural industry associations to hold competitions, exhibitions, seminars, training, international exchanges, and other activities. In addition to the national unified policy promotion, each region also has its own regional support policies. Taking Haidian District, Beijing’s support policy for the e-sports industry as an example, the government promotes game research and development and content creation, gathers game companies and e-sports clubs, supports the construction of e-sports venues and the holding of events, and supports the development of game e-sports exchange activities. At the same time, the government also strengthens talent support, optimizes the business environment, and provides a series of subsidies and incentive policies in these areas. Haidian District Government especially supports innovative entities to build a common technology platform for game development, an open source and open innovation platform, a public technology service platform, and a game engine research and development platform. According to the innovation and investment amount, a maximum of 10 million yuan of financial subsidies will be given. Therefore, this paper proposes the following hypotheses:

H1a: Government policy has a positive influence on the digital ability of cultural enterprises.

H1b: Government policy has a positive influence on the digital compatibility of cultural enterprises.

H1c: Government policy has a positive influence on cultural enterprises’ perceived gains from digital technologies.

From the market perspective, the digital transformation of traditional cultural industries and the expansion of digital platform businesses are more due to

concerns about their own survival crisis and market competition. Affected by COVID-19, the traditional cultural industry has been severely impacted. Taking China as an example, it is facing difficulties such as the complete suspension of cultural tourism, the cancellation of the nighttime economy, the closure of offline entertainment, and the low ebb of cultural investment and financing. On the other hand, competitive pressure forces companies to adopt new technologies to maintain their competitive advantage. Competitive pressure refers to the degree of pressure that cultural enterprises feel from commercial competitors. Several empirical studies have shown that, when the number of competitors adopting new technologies increases, companies perceive competitive pressures and quickly turn technology adoption ideas into strategic needs. Therefore, to maintain their competitiveness in the cultural industry, cultural enterprises will increasingly adopt digital strategies to facilitate interaction with other organizations and users. Taking the film and television industry as an example, the established large-scale cultural media groups are building their own digital audiovisual platforms. For example, Disney Group launched Disney+ at the end of 2019. Comcast’s NBCUniversal launched Peacock in April 2020. WarnerMedia launched the HBO Max digital video service platform in May. Based on the above literature, the following hypotheses are proposed:

H2a: Survival and competitive pressures have a positive influence on the digital ability of cultural enterprises.

H2b: Survival and competitive pressures have a positive influence on the digital compatibility of cultural enterprises.

H2c: Survival and competitive pressures have a positive influence on cultural firms’ perceived gains from digital technologies.

*2.2.2. Technical Level.* Digital competence refers to the ability of cultural enterprises to understand, use, and exploit digital technologies. In the context of digital transformation, technological capabilities, especially digital technology capabilities, greatly affect whether companies adopt and use digital technology. Digital compatibility refers to the degree to which digital technologies are compatible with the existing, previous practices, and current needs of cultural enterprises using digital technologies. The digital technologies adopted by cultural enterprises must be compatible with their existing technological resources or strategic strategies. Otherwise, enterprises may choose to abandon the adoption of digital technologies for fear of the negative impact of technological incompatibility. Accordingly, the following hypotheses are proposed:

H3: Digital ability has a positive influence on the adoption of digital technologies by cultural enterprises.

H4: Digital compatibility has a positive influence on the adoption of digital technologies by cultural enterprises.

**2.2.3. Enterprise Level.** In the background of digital technology, perceived benefit refers to the degree to which cultural enterprises believe that digital technology can bring effective benefits to the enterprise. The fundamental reason why cultural enterprises have perceived gain is that the unique nature of digital technology can make cultural enterprises believe that digital technology can bring innovation and competitive advantage to their products or services. Combining digital technology with product or service innovation can not only help cultural enterprises to expand their market share but also ensure that cultural enterprises can survive and continue to grow for maximum benefit. At the same time, the continuous integration of digital technology and the real economy has also brought the ecological development trend of multidimensional symbiosis and sharing to the cultural industry. Combined with digital communication methods, various emerging cultural industry activities can be carried out, such as digital exhibitions of cultural relics, digital cultural tourism, and online live broadcasts, to realize the development, preservation, and appreciation of cultural and creative resources. Considering the possible benefits that cultural enterprises may bring when they embrace or use digital technologies, we propose the following hypotheses:

H5: Perceived gain from digital technologies has a positive influence on the adoption of digital technologies in cultural enterprises.

Therefore, the research model of this paper is established, as shown in Figure 1.

### 3. Research Method

**3.1. Investigation Process and Sample Characteristics.** We got the data by distributing questionnaires to cultural industry practitioners. There are two sample sources. The first one was a random survey of cultural enterprises in Beijing's cultural and creative industry clusters including Zhongguancun Creative Industry Pilot Base, Shijingshan Beijing Digital Entertainment Industry Demonstration Base, Daxing National New Media Industry Base, etc. A total of 194 valid paper questionnaires were obtained after excluding items with missing answers and those with obvious regularity in answering. The second one was to send online questionnaires to practitioners in the cultural industry by e-mail, and a total of 101 valid questionnaires were recovered.

To avoid false inferences, the paper and electronic questionnaires were tested for homogeneity before the data were combined. The chi-square value showed that the two groups of questionnaires were not different in major respects and could be combined, resulting in a total of 295 questionnaire samples. The interviewed companies came from the culture and art industry, the press and publication industry, the radio, television, and film industry, the advertising and exhibition industry, the art trading industry, and the multimedia industry.

**3.2. Scale Design.** Our questionnaire was designed on the basis of a literature review. Based on the scales used in the existing research, each item is evaluated and modified one by one to adapt to the specific environment of digital technology in China. The questionnaire scale of the study is based on the existing mature scale design. In addition to demographic indicators, it includes government policies, survival and competitive pressures, digital ability, digital compatibility, perceived gains, and digital technology adoption behaviors. The items to measure government policy are from Lai et al. [5], to measure survival and competition pressure are from Low et al. [6], to measure digital ability are from Zhu and Kraemer [7], to measure digital compatibility are from Zhu et al. [8], to measure perceived gain are from Lai et al. [5], and the items to measure digital technology adoption behavior are from Gangwar [9].

After completing the preliminary design of the questionnaire, we discussed with relevant scholars. We also conducted field visits in cultural and creative industries gathering areas and revised the initial questionnaire according to the opinions of the respondents. At the same time, to ensure the applicability of the questionnaire to Chinese cultural industry practitioners, 50 samples were selected for the pretest of the scale to ensure that the semantics of each item are unambiguous, properly arranged, and discriminative. The 50 pre-samples were divided into low group and high group with 27% and 73% as quantiles. After the independent sample *t*-test, the subjects with significant difference in mean, that is, with discriminating power, were retained. All scales were scored using a Likert 7-point scale, with "1" to "7" representing "strongly disagree" to "strongly agree."

**3.3. Research Tools.** We used structural equation modeling (SEM) in this paper and utilized the software SPSS22 and Amos24.0 for data analysis and model validation.

### 4. Research Results

The study followed a two-step analysis of structural equations, confirmatory factor analysis to measure the validity of the model construction, and path analysis and significance analysis of the structural model. We also examined the mediation effect to understand the mechanism of action of the model.

**4.1. Confirmatory Factor Analysis.** Confirmatory factor analysis is an important step in performing structural equation analysis. Before proceeding with the structural equation path analysis, it should be determined whether the measured items can correctly reflect the research aspect. We tested the validity of the scales of government policy, survival and competition pressure, digital competence, digital compatibility, perceived gain, and digital technology adoption through confirmatory factors.

Firstly, we tested the convergent validity of the scale. Convergent validity means that items with the same latent trait fall on the same factor dimension, and the measured

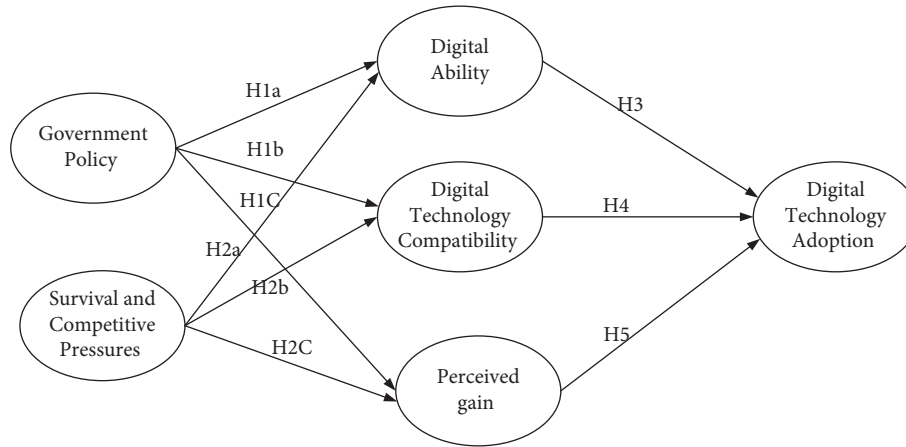


FIGURE 1: Research model and hypotheses.

TABLE 1: Reliability and convergent validity.

Construct	Items	Factor loading	CR	AVE
Government policy (GP)	GP1	0.908	0.889	0.728
	GP2	0.881		
	GP3	0.763		
Survival and competitive pressures (SCP)	SCP1	0.808	0.842	0.572
	SCP2	0.786		
	SCP3	0.684		
	SCP4	0.741		
Digital ability (DA)	DA1	0.676	0.749	0.499
	DA2	0.700		
	DA3	0.741		
Digital compatibility (DC)	DC1	0.767	0.848	0.584
	DC2	0.768		
	DC3	0.850		
	DC4	0.660		
Perceived gain (PG)	PG1	0.868	0.900	0.751
	PG2	0.952		
	PG3	0.770		
Digital technology adoption (DTA)	DTA1	0.754	0.893	0.737
	DTA2	0.935		
	DTA3	0.877		

values of the items are highly correlated. Fornell and Larcker [10] pointed out that the criteria for good convergent validity are factor loading greater than 0.5; combination reliability (CR) greater than 0.6; and average variance extracted (AVE) greater than 0.5. The test results are shown in Table 1. The standardized loadings of all items in the scale are above 0.5 and are significant; CR is greater than 0.8, and the AVE is greater than 0.5. This indicates that the scale has good convergent validity.

Secondly, we tested the discriminant validity between facets to detect that the underlying traits represented by each facet were significantly different from those of other facets. We adopted the method of Hair et al. [11]. In this study, the correlation coefficient between the facets of the measurement model was set to 1. If rejected, there is discriminant

validity between the dimensions. Specifically, this study compared a restricted model, restricting the correlation coefficient between facets to 1, with an unrestricted model. We then compared the difference in the chi-square values of the two models and divided the difference between the chi-square values of the restricted and unrestricted models by the difference in the degrees of freedom of the two. If the difference of the chi-square value is larger and reaches a significant level, the difference of the chi-square value is 7.879; when  $p = 0.001$ , it indicates that there is a significant difference between the two models, and the discriminant validity is higher. The discriminant validity analysis results are shown in Table 2. The differences in chi-square values were significant, indicating that there was good discriminant validity among the dimensions.

TABLE 2: Discriminant validity.

Constructs constrained	$\chi^2$	Degrees of freedom	$\chi^2$ difference
Default model	247.171	155	—
(GP, SCP)	296.341	156	49.17***
(GP, DA)	271.955	156	24.784***
(GP, DC)	291.801	156	44.63***
(GP, PA)	293.893	156	46.722***
(GP, DTA)	304.778	156	57.607***
(SCP, DA)	274.653	156	27.482***
(SCP, DC)	296.341	156	49.17***
(SCP, PA)	288.796	156	41.625***
(SCP, DTA)	301.441	156	54.27***

\*  $p$ -value  $< 0.05$ ; \*\*  $p$ -value  $< 0.01$ ; and \*\*\*  $p$ -value  $< 0.001$ .

**4.2. Goodness-of-Fit of the Structural Model.** The degree of fitness is measured by the degree of consistency between the theoretical hypothesis model estimated by the model and the actual data of the sample. The better the fitness is, the closer the expected covariance matrix is to the sample matrix. A good fitness index is a necessary condition for structural equation analysis. The compatibility index values of this paper are shown in Table 3. It can be seen that except for the RMSEA index, the other fitness index values all meet the ideal standard required by SEM analysis, and the RMSEA index is still within the acceptable critical value ( $\leq 0.1$ ), indicating that the fitness of this model is acceptable.

**4.3. Path Coefficients for Structural Equation Models.** The model fitting results are shown in Figure 2, and the standardized path coefficients and hypothesis verification results are shown in Table 4. Except for H1c, the  $p$  values of the other hypotheses of the path coefficients are all significant and supported. It shows that government policies have a positive impact on the improvement of digital ability and digital compatibility of enterprises, and the survival and competition pressure of the market will improve the digital ability and digital compatibility of enterprises and will make enterprises perceive benefits. Furthermore, the improvement of corporate digital ability and digital compatibility, as well as corporate perception benefits, will push cultural companies to further adopt digital technologies. However, H1c has not been supported.

**4.4. The Mediating Effect of Digital Ability, Digital Technology Compatibility, and Perceived Gain.** To understand the combined impact of government policies and survival and competitive pressures from the market on digital technology adoption, further analysis of mediation effects is required. The external environment has an impact on the adoption of digital technologies through technological and corporate factors. On the one hand, the external environment prompts cultural enterprises to have sufficient digital ability, and the digital technology adopted should be compatible with the current business or future development direction of cultural enterprises. This is a

TABLE 3: Goodness-of-fit of the structural model.

Statistical check	Goodness-of-fit criteria	Structural model
$\chi^2/df$	$\leq 5$	1.595
CFI	$\geq 0.92$	0.973
NFI	$\geq 0.90$	0.931
IFI	$\geq 0.90$	0.973
TLI	$\geq 0.90$	0.967
PGFI	$\geq 0.50$	0.680
PCFI	$\geq 0.50$	0.794
PNFI	$\geq 0.50$	0.759
SRMR	$\leq 0.08$	0.048
RMSEA	$\leq 0.08$	0.045

technically necessary condition for cultural enterprises to adopt new technologies. On the other hand, the pressure of the external environment will further prompt enterprises to perceive the benefits brought by digital technology. External environmental factors need to be driven by the internal interests of the enterprise to reflect its impact on the adoption of digital technology in cultural enterprises. We used the Sobel, Aroian, and Goodman tests. When the  $z$  value is greater than 2, the mediating effect is significant.

Formulas for the tests provided here were drawn from the studies of MacKinnon et al. [12] and from MacKinnon et al. [13]:

Sobel test equation:

$$z - \text{value} = \frac{a * b}{\text{SQRT}(b^2 * sa2 + a^2 * sb2)}. \quad (1)$$

Aroian test equation:

$$z - \text{value} = \frac{a * b}{\text{SQRT}(b^2 * sa2 + a^2 * sb2 + sa2 * sb2)}. \quad (2)$$

Goodman test equation:

$$z - \text{value} = \frac{a * b}{\text{SQRT}(b^2 * sa2 + a^2 * sb2 - sa2 * sb2)}. \quad (3)$$

The Sobel, Aroian, and Goodman tests in Table 5 demonstrate that digital ability, digital technology compatibility, and perceived gain play a mediating role in the external environment and digital technology adoption in cultural enterprises.

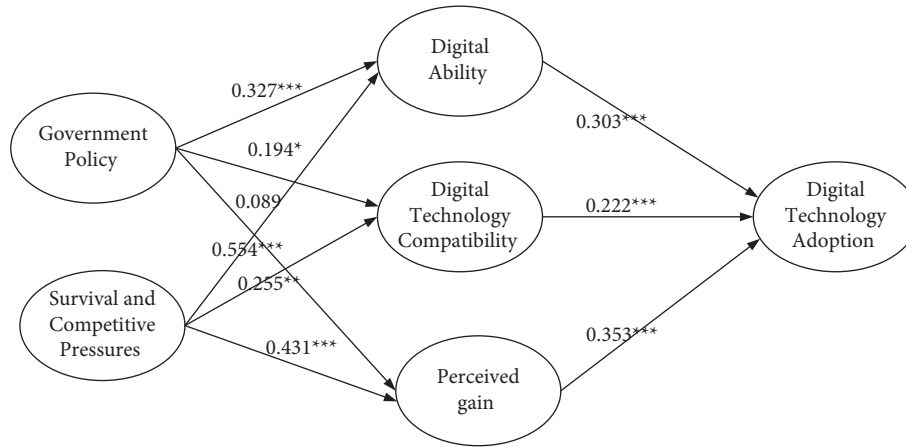


FIGURE 2: Standardized solution of structural modeling analysis. \*  $p$ -value <0.05; \*\*  $p$ -value <0.01; and \*\*\*  $p$ -value <0.001.

TABLE 4: Path coefficients and testing results of hypotheses.

Path	Hypothesis	Standardized path coefficient	$T$ value	$p$ value	Result
GP→DA	H1a	0.327	3.637	***	Supported
GP→DC	H1b	0.194	2.233	*(0.026)	Supported
GP→PG	H1c	0.089	1.095	0.274	Unsupported
SCP→DA	H2a	0.554	5.529	***	Supported
SCP→DC	H2b	0.255	2.75	** (0.006)	Supported
SCP→PG	H2c	0.431	4.98	***	Supported
DA→DTA	H3	0.303	4.394	***	Supported
DC→DTA	H4	0.222	3.691	***	Supported
PG→DTA	H5	0.353	5.58	***	Supported

\*  $p$ -value <0.05; \*\*  $p$ -value <0.01; and \*\*\*  $p$ -value <0.001.

TABLE 5: Mediating effect test.

Equation	Relationship	Unstandardized regression weights	Standard error	Sobel test	Aroian test	Goodman test
GP→DA→DTA	GP→DA	0.265	0.073	2.79	2.75	2.84
	DA→DTA	0.319	0.073			
GP→DC→DTA	GP→DC	0.231	0.090	2.10	2.05	2.15
	DC→DTA	0.183	0.050			
SCP→DA→DTA	SCP→DA	0.515	0.093	3.43	3.40	3.47
	DA→DTA	0.319	0.073			
SCP→DC→DTA	SCP→DC	0.303	0.110	2.20	2.15	2.26
	DC→DTA	0.183	0.050			
SCP→PG→DTA	SCP→PG	0.524	0.105	3.72	3.68	3.75
	PG→DTA	0.284	0.051			

## 5. Conclusion

**5.1. Research Conclusion.** Our study confirms that government policies have a positive impact on cultural enterprises' digital ability and compatibility. This conclusion implies that government policies can improve the digital capabilities and compatibility of cultural enterprises. In addition, the findings suggest that survival and competitive pressures can also contribute to a firm's digital capabilities and compatibility and perceived gain of digitalization. Facing the increasingly fierce market competition and living environment of digital

transformation, cultural enterprises must consider how to use digital capabilities and compatibility to maintain their competitive position in the market and ensure their long-term development. Furthermore, the findings show that digital ability, digital compatibility, and perceived gain further have a positive impact on digital technology adoption in cultural enterprises. And they play an intermediary role in promoting the digitalization of cultural enterprises in the external environment. Clearly, this suggests that technological and organizational factors play a significant role in enterprise digital technology adoption.

*5.2. Suggestions.* Our results show that the TOE model holds in the background of digital technology adoption in cultural enterprises. The external environment, including markets and policies, will positively influence the adoption of digital technologies by cultural enterprises through mediating the role of digital capabilities, digital compatibility, and perceived benefits. Therefore, to improve the adoption of digital technology in cultural enterprises, in addition to the continuous construction of the market environment and policy environment, it is also necessary to cultivate enterprises' digital capabilities and digital compatibility and improve enterprises' perceived benefits of digital technology. Enterprises should also have a strong ability to apply data technology and self-motivation. Specifically, promoting the digitalization of cultural enterprises can be carried out from the following four aspects.

*5.2.1. Strengthening Policy Support for the Technical Capabilities of Cultural Enterprises.* The study finds that government support promotes the digitalization of cultural enterprises through the enhancement of enterprise digital ability and compatibility. Therefore, in addition to tax incentives, financial support, and government subsidies, the support policies should also focus on cultivating the technical capabilities of enterprises and improving the digital compatibility. In terms of specific operations, first of all, the government should speed up the construction of infrastructure and improve the all-round, high-performance supply and service capabilities of the network system. In the information age, online production, online consumption, and online services have become the norm. The construction of new infrastructure has become an indispensable condition in the supply chain, production chain, and value chain of enterprises. The digital cultural industry requires high-quality network infrastructure. Second, we continue to strengthen the construction of digital public platforms. The digital cultural industry requires the organic integration of different formats and industries. The interconnection and resource sharing between different formats and industries requires the use of digital public platforms such as SaaS platforms and industrial Internet to open up the entire chain of production, consumption, service, and corporate decision-making for enterprises to form industrial intelligence clusters.

*5.2.2. Cultivate a More Complete and Fair Market Survival and Competition Environment.* The corporate market environment is an important factor in promoting the digitalization of cultural enterprises. Therefore, the government should also pay attention to the market construction of the cultural industry. (1) It is necessary to strengthen the top-level design of relevant regulations in the field of digital culture and establish a market supervision system that is different from the traditional cultural industry, to promote the healthy and orderly development of the digital culture market. (2) It is necessary to gradually improve the legislative work in the field of digital cultural industry and strengthen the legislation and protection of digital content

copyright; and according to the continuous extension and expansion of the connotation of the digital cultural industry, timely adjust and improve the existing laws and regulations on the digital cultural industry and gradually establish a legal system covering the field of the digital cultural industry. (3) It is necessary to follow the laws of the market, break industry monopoly and barriers, and give private enterprises, small- and medium-sized enterprises, and digital new media opportunities for free development and fair participation in cultural market competition.

*5.2.3. Enhance the Digital Application Capabilities of Cultural Enterprises.* Digital ability and digital compatibility play a driving role in promoting the application of digital technology in cultural enterprises in the external environment. However, in our survey, many respondents simply understood digital upgrading as using digital technology as an auxiliary means, instead of using data as an important factor of production, failing to capture the digital dividends of precision marketing and production. In fact, technological change brings standard services as well as the possibility of standardizing customized services. The development model with data as the core production factor can realize the effective connection between producers and consumers. The digital cultural industry with creativity as the core is at the cusp of high-quality integration of the digital economy and the real economy and has great potential for development. Therefore, it is necessary to change the understanding that digital technology only plays an auxiliary role in enterprises, further enhance the digital capabilities and digital technology compatibility capabilities of cultural enterprises, and pay attention to the important role of cultural cross-border integration.

*5.2.4. Enhancing the Profitability of Digital Technology Utilization in Cultural Enterprises.* Perceived benefits play a mediating role in the promotion of market conditions for the adoption of digital technologies by cultural enterprises. Improving the profitability of digitalization also has important implications for the adoption of digital technologies in cultural enterprises. In terms of scale, China's digital creative industry ranks second in the world, but the overall development quality needs to be improved. From the perspective of revenue, the average operating revenue of China's digital industry in 2019 was \$46.87 billion, accounting for only 31.3% of that in the United States. The important reason is that China lacks core competitiveness in the world's digital economy industrial chain. In terms of content innovation, it is not as good as Sony, Netflix, and other companies. In terms of software platform development, it is difficult to shake the position of Google (Android), Microsoft (Windows), and Apple (ios). There are also issues such as chips that need to be tackled in the manufacture of digital creative technology equipment. Therefore, China's digital creative industry is big but not strong. The growth of the profitability of the digital creative industry requires various explorations and efforts, such as strengthening the cultivation of innovative talents in the cultural industry.



## Data Availability

The data sets used and/or analyzed during the current study can be obtained from the corresponding author upon reasonable request.

## Conflicts of Interest

The authors declare that there are no conflicts of interest.

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