

**USER ACCEPTANCE AND USAGE BEHAVIOUR FOR DIGITAL  
TRANSFORMATION IN TEXTILE AND CLOTHING UNIVERSITY MUSEUMS: THE  
ROLE OF DIGITALLY INNOVATIVE EXPERIENCES**

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**ABSTRACT**

In the context of “Internet +” to promote the traditional industries to accelerate the transformation and integration of the development of the times, digital transformation has become museums generally face a trend of development, enhance the level of digital services, accelerate the digital construction is listed as an important strategic choice. Textile and Clothing University Museum should also firmly grasp the advantages of digital technology and network platform, digital management of the museum’s collections to extend the survival of time, clothing and cultural background of the multi-dimensional dissemination and broaden the sustainable update of educational resources, to open up a user demand-centred digital transformation of the museum road. The purpose of this study is to better assess the acceptance and use of technology applications related to digital transformation in museums by university students, and to measure the key factors for the diffusion of new technologies and systems based on the diffusion of innovation theory, so as to promote user acceptance and use. This study used a quantitative research method to survey 590 randomly selected students majoring in apparel-related disciplines from 13 Chinese institutions with textile and clothing university museums, and the data were analysed using two software packages, SPSS and AMOS, descriptive statistical analysis, exploratory factor analysis and structural equation modelling. The results of this study indicate that digital innovation experience has a significant effect on the acceptance of digital transformation in textile and clothing university museums, the acceptance of digital transformation in textile and clothing university museums also has a significant effect on their usage behaviour, and there is a mediating effect of the acceptance of digital transformation on the relationship between digital innovation experience and usage behaviour.

***Keywords: Museum, Digital transformation, Acceptance, Innovation***

**1. INTRODUCTION**

In its interpretation of the theme of the International Museum Day 2022 - The Power of Museums - International Council of Museums identified “digital and accessibility innovation” as one of the keyways to expand the power of museums, which has triggered a great deal of

attention to digital innovation in museums both inside and outside the industry, and a consensus in the museum industry to carry out digital transformation (Shen, 2022). In fact, as early as before the epidemic the museum industry has begun the exploration of digital transformation, such as the British Museum, the Victoria and Albert Museum and other British museums in the internal organisation of the addition of multimedia digital department, the use of the official website and app to publish information on exhibitions; Google and museums around the world, and after many iterations of upgrading, and gradually formed a Virtual Reality(VR), Augmented Reality(AR), 3Dimensions(3D) scanning, Artificial Intelligence(AI) and other technology-enabled online cultural sharing platform; New York's Museum of Modern Art is as early as 2014, the establishment of the "director of digital content and strategy," a new position, to coordinate the museum's digital transformation(Ma,2020). The digital transformation process of museums also faces challenges in various aspects, from technology mastery to business innovation, from organisational change to cultural reshaping, and from digital capacity building to talent cultivation, all of which cannot be substantially achieved overnight (Tu, 2023). In this context, the use of a new generation of information technology and the implementation of innovation-centred digital transformation will become an important way for museums to change and develop(Shen,2022).

With the development of digitalisation, more and more museums are using internet information technology to bring the user experience to a new dimension, such as carrying out online 3Dimensions museums, live museum broadcasting, as well as using a variety of digital technology means such as Fifth-generation(5G) technology, virtual reality technology, 3D modelling technology, Artificial Intelligence(AI), and other digital technology means for the digital transformation of museums to provide a rich technological support for the user to provide a more interesting and interactive experience (Dong, 2023). The development of museums is also gradually converging towards a new trend of experience and personalisation, i.e. museums are moving from a "collection-based" professional appreciation to a "people-centred" public experience (Wu,2021). A good user experience and positive intent to use are key to the ultimate success of digital transformation in museums (Wu et al, 2022).

Textile and Clothing University Museum as the protection and collection of textile and clothing related cultural relics collection, costume culture heritage, service education and teaching, scientific research and academic exchanges, how it should be adapted to the strategic requirements of the new environment of the digital era, on the basis of the protection of costume culture, to achieve the maximum sharing of textile and clothing collection resources(Shephard&Pookulangara, 2020). How to improve the dissemination of traditional dress culture and diversified educational effects through digital technology to meet the experience needs of college students is the current textile and clothing university museums urgently need to study the problem.

This study takes university students majoring in textile and clothing-related disciplines in colleges and universities with textile and clothing university museums across the country as the investigated user group, and investigates the impact of digital innovation experience on user

acceptance and usage behaviour of digital transformation in textile and clothing university museums.

## 2. LITERATURE REVIEW

According to Rogers, who developed the Diffusion of Innovations (DOI) in the 1960s, the diffusion of innovation is essentially the process by which something or an idea perceived to be novel is diffused in society through special channels (Rogers, 1962). The theory suggests that for a particular type of innovative product, the rate of diffusion depends largely on the influence of factors such as complexity, compatibility, comparative advantage, testability and observability (Rogers, 1995), and it is useful in predicting the adoption behaviour of users towards new technologies.

Diffusion of innovations theory can be divided into two parts, innovation and diffusion. Innovation that is regarded as a new idea, practice or thing by users or other receiving units, while diffusion is the process of recommending more users or units to accept new ideas, practices or things through the media (Rogers, 1983). Innovation encompasses both knowledge and innovations in technology and perspectives. In deciding whether to accept new technologies, users often encounter disturbances that can affect their acceptance or non-acceptance of technological innovations (Li, et al., 2019). Digital innovation experience in museums refers to intelligent, immersive and multi-sensory interactive communication through the application of new technologies such as artificial intelligence, deep learning technology, virtual reality, augmented reality, etc., which gives users a new sensory experience, and the technology is novel and useful for the users of the University of Textile and Clothing Museum. In innovation diffusion theory, this new multi-sensory based technology experience is defined as digital innovation experience. Diffusion, on the other hand, is “the process by which an innovation is communicated among members of a social system through certain channels” (Rogers, 1995). The digital innovation experience in museums, as a new technological tool, has more potential users, and the compatibility of the diffusion of innovations theory can precisely examine the degree of compatibility between the innovative technology and the existing values, skills and work practices of potential users (Li, et al., 2019). Therefore, this study examines the willingness to accept and use analysis of digital innovation experiences for digital transformation of museums through innovation diffusion theory.

## 3. RESEARCH HYPOTHESES

### 3.1 Impact of Digital Innovation Experience (DIE) on user acceptance of digital transformation in textile and clothing university museums

Digital Innovative Experience (DIE) refers to the immersive multi-sensory experience effect created by using a variety of emerging technological means. Xu (2023) emphasized to the uniqueness of the museum digital experience differentiated from the offline experience, which needs to always keep a keen sense of the changing needs of the audience, and be able to construct a connection with the current context, application scenario, and the audience's

experience in terms of content and form. Trunfio Mariapina et al (2022) analyzed visitors' willingness to communicate by studying the content of museum exhibitions, using innovative technologies of VR and AR to improve their experience and satisfaction. Wang & Zhang (2020) through the introduction of VR, AR digital experiential tours, optimize the cultural consumption experience and cultural diffusion effect, stimulate the consumer's sense of cultural identity, the use of big data technology to sort out the feedback data to facilitate the museum's timely correction. Lai (2022) argues that the museum digital divide should be avoided by focusing on audience media use and social preferences to address the issue of differential museum diffusion effects in a timely manner. Zollo et al (2022) found that the digital experience is a significant predictor of a museum's willingness to return. Tech-savvy visitors enjoy and appreciate the overall digital experience, thus seeing themselves as part of the museum, becoming loyal, and willing to provide financial support. Domínguez-Quintero et al. (2020) mentioned that in order to attract new visitors, museums should create innovative experiences that are different from those of their competitors, thus increasing the satisfaction of exhibitions through perceptual customization. Based on the above analysis, the following hypotheses were formulated for this study:

**H1 : There is a positive correlation between DIE and user acceptance of digital transformation in textile and clothing university museums.S**

### **3.2 The Impact of User Acceptance of Digital Transformation on Usage Behavior in Textile and Clothing University Museums**

Bhattacharjee (2001) points out that user acceptance is only the first step in an information system and its ultimate success depends more on continued use. Venkatesh et al. (2012) studied that consumers' willingness to adopt has an impact on their subsequent adoption behavior. Wu et al (2022) found that when users have access to useful information to help them with their learning tasks in a digital costume museum, they perceive the system as more beneficial than otherwise, and this positive attitude translates into actual use behavior and increased frequency of use. Wu et al (2021) found that studying the behavior of online museum visitors is essential for developing useful websites and increasing user engagement. Digital museums as an information system that promotes culture and disseminates knowledge through the medium of the Internet, a good user experience and sustained intent are also key to their ultimate success. Liao (2021) found that consumers' subjective acceptance of wearing mobile smart devices directly affects their actual usage behavior. Based on the above analysis, the following hypotheses were formulated for this study:

**H2: There is positive correlation between user acceptance and usage behavior of digital transformation in textile and clothing university museums**

### **3.3 Mediating effects of user acceptance of digital transformation in textile and clothing university museums**

According to the Theory of Rational Behavior, an individual's behavior is determined by his or her intention to adopt the behavior, and the Theory of Planned Behavior uses intention as

an important predictor variable of behavior (Ajzen & Fishbein,1980). Shi (2022) mentioned that when visitors have an immersive experience during their visit to a digital museum, they will feel a sense of pleasure from the inside out, which then affects their perception and acceptance of the overall visit experience, meets their expectations, and thus affects their satisfaction and usage behavior. When visitors have an immersive experience, they will ignore the passage of time, and are more likely to spend a longer time browsing the current website or digital platform, and increase the depth and breadth of the current platform's use, conduct more clicks and searches, and ultimately affect the attitude and willingness to accept the entire digital platform, leading to eventual purchasing behavior (Hoffman&Novak, 1996). Based on the immersive experience, virtual experience, augmented experience, personalized experience generated by digital media technology, constitutes the significant characteristics of the digital museum contextual experience, when the user produces a better experience, the frequency and browsing time of the user's visit to the website will be significantly increased, and can be a good prediction of the user's willingness to use and the actual purchasing behavior (Kim, et al., 2017). Based on the above analysis, the following hypotheses were formulated for this study:

**H3:User Acceptance of Digital Transformation in Textile and Clothing University Museum on Digital Innovation Experience and Mediating relationship between usage behavior**

#### **4. RESEARCH METHODOLOGY**

This study is based on the theoretical studies related to the Diffusion of Innovation Theory and adopts a quantitative research methodology aimed at investigating the impact of digital innovation experience on the acceptance and use behavior of the transformation of textile and clothing university museums to study and propose the measurement question items for the three related variables, Digital Innovation Experience (DIE), Museums Acceptance Digital Transformation (MADT), and University Students' Usage Behaviour(UB), and three hypotheses for exploring the relationship between the hypotheses. Data collection was carried out through a structured questionnaire, which referred to the scales of several scholars such as Zollo et al. (2022), GülerTekin Genç et al. (2022), Wu et al. (2021), Pan (2021), Domínguez-Quintero et al. (2020), Shephard & Pookulangara (2020) and several other scholars' scales, and the final questionnaire design was determined by consulting relevant experts. All questions in the questionnaire, except for personal statistical information, were measured using a 5-item Likert scale ranging from strongly disagree (1) to strongly agree (5) to ensure the quantifiability of the data and accuracy of the analysis.

In this study, 760 questionnaires were randomly distributed by distributing the questionnaire link to textile and clothing college students in 13 colleges and universities with textile and clothing university museums across the country in a two-month period from October to December 2023, and the final questionnaires were collected through Questionnaire Star, with a total response rate of 80%. After excluding the total answer time less than one minute, invalid questionnaires and questionnaires with no value, a total of 590 valid questionnaires were obtained as the research object of this empirical study.

The 590 samples contained 154 male and 436 female respondents, 99.2 percent of whom were predominantly Han Chinese. The study population focused on undergraduate students under the age of 24, with 19.3% coming from first-tier cities, 40% from new first-tier cities, 28.3% from second-tier cities, and 12.4% from other cities. The majors of the surveyed students cover a wide range of textile and clothing related majors such as clothing design and engineering, clothing and dress design, textile materials, etc. It is worth noting that the frequency of this group of people using the digital resources of the museums of textile and clothing universities in their own and other institutions is significantly higher than the frequency of their visits to the physical museums, and that 90.3 per cent of the students go through the self-media platforms of Beeping, Xiaohongshu, Jittering, and WeChat public numbers, 63.3% of students access museum digital information through TV variety shows, and 62% of students access museum digital information through teachers' and experts' recommendations. Through descriptive analysis, it can be found that the main focus of contemporary college students on the application of new technology in museums is on online booking, self-service audio guide, multimedia interactive devices, panoramic digital museums, etc. 63.2% of the students want to obtain digital information through the digital transformation of museums, which can enhance the insights and expand their knowledge, and the specific descriptive analysis is shown in Table 1.

**Table 1: Descriptive analysis of demographics**

Form	Options	Frequency	Percent(%)
Gender	Male	154	26.1
	Female	436	73.9
Age	Under 19	101	17.1
	20-24	439	74.4
	25-29	31	5.3
	Over 30	19	3.2
Nation	Han ethnic group	585	99.2
	Other ethnic groups	5	0.8
	Ploytechnic	2	0.3
Education level	Degree	579	98.1
	Master	7	1.2
	PHD	2	0.3
	Grade 1	68	11.5
Grade	Grade 2	253	42.9
	Grade 3	193	32.7
	Grade 4	76	12.9
	Fashion Design and Engineering	130	22.0
Major	Fashion and apparel design	134	22.7
	Apparel Product Design	106	18.0
	Apparel Materials and Engineering	97	16.4
	Textile materials	111	18.8

	Other specialities	12	2.0
	First-tier city	114	19.3
City	New first-tier city	236	40.0
	Second-tier city	167	28.3
	Other cities	73	12.4
	Yes	383	64.9
Digital Exploration	No	207	35.1
Frequency of visits to physical museums	1-3 times	396	67.1
	4-6 times	188	31.9
	7-9 times	5	0.8
	More than 10 times	1	0.2
Frequency of use of digital museums	1-3 times	109	18.5
	4-6 times	175	29.7
	7-9 times	192	32.5
	More than 10 times	114	19.3

Source: Author

Accompanied by the maturity of digital technology, the continuous development of social media, college students access to digital museum information presents a diversified situation, their demand for information technology continues to rise, the digital transformation of the museum is unstoppable, The Museum of the University of Textiles and Clothing should keep up with the times and make comprehensive use of artificial intelligence, infrared sensors, augmented reality and other technological means to draw closer to the z-generation crowd, constantly update and improve the user's experience, and realise the effective dissemination of clothing culture.

## 5. DATA ANALYSIS AND RESULTS

In this study, SPSS software was first used to summarise the data, correct and exclude abnormal data, and conduct exploratory factor analysis. Then AMOS software was used for path analysis, model fitting and hypothesis testing.

### 5.1 Exploratory factor analysis

In order to further improve and effectively analyse the structural validity of the questionnaire, it is necessary to conduct exploratory factor analysis. Before conducting exploratory factor analysis on the questionnaire, the data obtained from the questionnaire were firstly subjected to KMO test and Bartlett's sphere test to determine whether each variable was suitable for exploratory factor analysis.

The KMO value (Kaiser Meyer Olkin) and Bartlett's test of sphericity in this study showed KMO=0.945 and Bartlett's test of sphericity was significant (Sig.=0.000,  $p < 0.01$ ) indicating that the questionnaire in this study was suitable for conducting factor analysis (Table 2).

**Table 2: KMO and Bartlett’s Test**

<b>KMO and Bartlett’s Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.945
	Approx. Chi-Square	7512.860
Bartlett’s Test of Sphericity	df	276
	Sig.	0.000

Source: Author

In this study, principal component analysis and orthogonal rotation were used to conduct exploratory factor analysis on the 24 question items of the questionnaire, and the factors with principal component eigenvalues greater than 0.5 in the model were extracted, and the results are shown in Table 2. After the factor analysis, the dimensional structure consisting of 24 test items and three factors was finally obtained. By rotating the component matrix, it can be seen that there is no cross-factor situation for a certain question on different dimensions, and also there is no situation where the factor loading is less than 0.5, and the cumulative explained variance of the three factors is 60.270%, which has exceeded the threshold value of 60.000% (Wu, 2009), therefore, it is considered that the questionnaire has a better structure, and then reliability analysis is carried out to determine a good level of reliability for the scale.

From the results of the reliability test in Table 3, the Cronbach’s alpha values for Digital Innovation Experience (DIE), Museums Acceptance Digital Transformation (MADT), and University Students’ Usage Behaviour (UB) are 0.891, 0.910, and 0.912, respectively, and all of these values are greater than 0.7, which indicates a high internal consistency (Hair et al, 1998). Thus, overall, the scale has high reliability and a relatively stable dimensional structure.

**Table 3: Exploratory factor analysis & Reliability**

<b>Factor</b>	<b>Item</b>	<b>Loadings</b>	<b>CIT C</b>	<b>Total</b>	<b>% of Variance</b>	<b>of Cumulative %</b>	<b>Cronbach’s <math>\alpha</math></b>
university students usage behaviour (UB)	UB1	0.773	0.750	5.534	23.058	23.058	0.912
	UB2	0.760	0.741				
	UB3	0.671	0.656				
	UB4	0.549	0.500				
	UB5	0.694	0.648				



	UB6	0.609	0.606				
	UB7	0.783	0.768				
	UB8	0.757	0.700				
	UB9	0.764	0.752				
	UB10	0.685	0.662				
Museums Acceptance Digital Transformation (MADT)	MADT 1	0.696	0.630				
	MADT 2	0.753	0.704				
	MADT 3	0.747	0.712				
	MADT 4	0.771	0.754	4.94	20.614	43.672	0.910
	MADT 5	0.754	0.721	7			
	MADT 6	0.777	0.746				
	MADT 7	0.749	0.701				
	MADT 8	0.729	0.696				
Digital Innovation Experience (DIE)	DIE1	0.759	0.690				
	DIE2	0.772	0.700				
	DIE3	0.845	0.786	3.98	16.597	60.270	0.891
	DIE4	0.749	0.664	3			
	DIE5	0.811	0.728				
	DIE6	0.771	0.693				

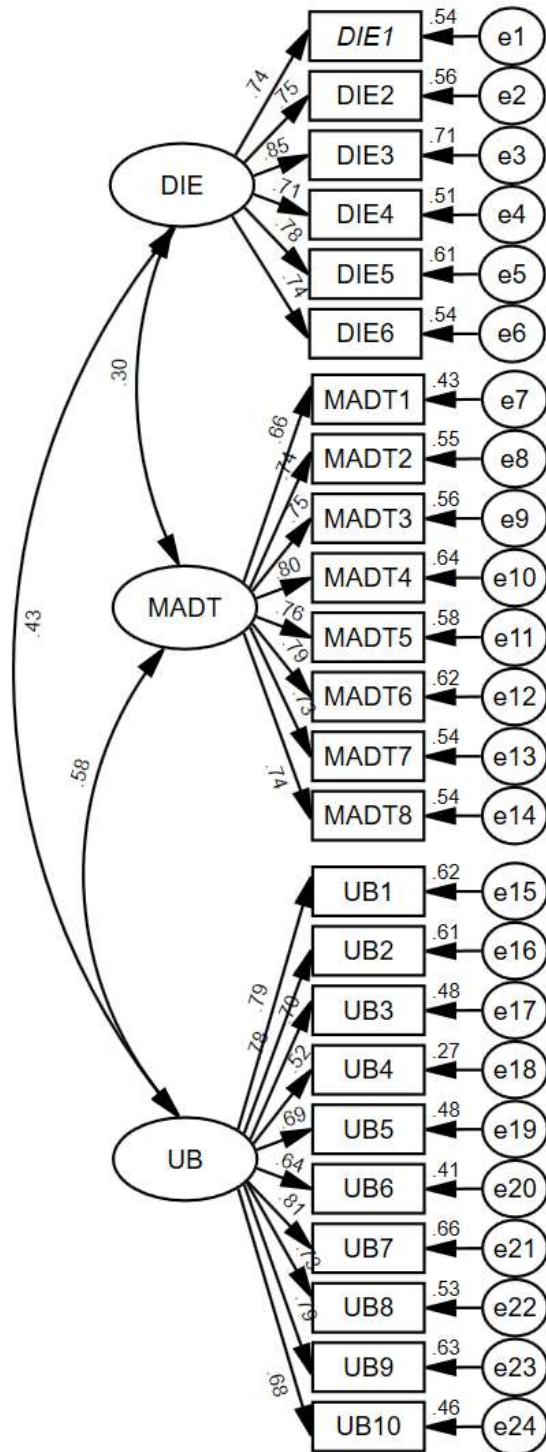
Source: Author

## 5.2 Confirmatory Factor Analysis

Confirmatory Factor Analysis (CFA) refers to the measurement of whether the logical relationship between a factor and its corresponding measurement item conforms to the predefined logical relationship when the researcher prepares the scale (Bollen, 1989). In this study, AMOS26.0 software was used to conduct a validation factor analysis to determine the fitting effect of the model of the impact of digital innovation experience on the acceptance and use behaviour of digital transformation in the museum of the University of Textile and Clothing through the fitting indexes of the model and to test the ability of the model obtained from the exploratory factor analysis to fit to the actual observed data, as shown in Figure 1. Judged according to the fitting indicators and criteria proposed by Wu(2009), the measurement validation procedure using CFA recommended by Anderson and Gerbing (1988) showed satisfactory CFA results for the present measurement model, Chi=450.333, df=249; Root Mean Square Error of Approximation (RMSEA) of 0.037, CFI of 0.974; GFI of 0.943; and CMIN of 1.809, which is lower than the recommended level of 3 (Hair et al, 2010), and it can be found that all the results of this model fit meet the fitting criteria (Table 4), and that the model fit is good.

**Figure 1: Measurement Model**

chi-square=450.333 df=249  
 chi-square/df=1.809 p=.000  
 GFI=.943 AGFI=.931 IFI=.974  
 RMSEA=.037 CFI=.974 TLI=.971



Source: Author

**Table 4: Results of Model Fit**

Fit indicators	Standard value	Statistical results
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$\chi^2/df$	< 3.000	1.809
CFI	> 0.900	0.974
GFI	> 0.900	0.943
RMSEA	< 0.080	0.037
AGFI/IFI/TLI	> 0.900	0.931/0.974/0.971

Source: Author

When performing Confirmatory Factor Analysis, analysis of discriminant and convergent validity is required. Convergent validity, also known as convergent validity, emphasises the correlation of measurement question items under the same latent variable, and two indicators, (Average Variances Extracted) AVE value and (Composite Reliability, Combined Reliability), can be used in the analysis of convergent validity. It is generally accepted that when the combined reliability is greater than 0.700, it indicates that the sample data has a good combined reliability (Bagozzi et al, 1995). As shown in Table 5, the combined reliability of the three factors ranges from 0.892 ~ 0.913, which exceeds the threshold of 0.700, indicating that the scale has a robust reliability.

Regarding convergent validity, the general discriminatory criteria are as follows: standardised factor loading over 0.500 (Bailey et al, 2006); average variance extracted (AVE) over 0.500 (Fornell et al, 1981); and combinatorial reliability (CR) over 0.700 (Bagozzi et al, 1995), and meeting the above conditions indicates convergent validity is good. The results of the validated factor analysis are shown in Table 5, which shows that the factor loadings of the test items exceeded 0.500; in addition, the combined reliability of the three factors exceeded 0.700, and the average variance extracted (AVE) value also exceeded 0.500. In summary, the scale has good convergent validity.

**Table 5: Validity & Reliability statistics**

Factor	Item	Unstd.	S.E.	z	P	Std.	CR	AVE
Digital Innovation Experience (DIE)	DIE1	1.000				0.737	0.892	0.580
	DIE2	1.057	0.059	17.786	***	0.751		
	DIE3	1.184	0.059	20.042	***	0.845		
	DIE4	0.975	0.058	16.815	***	0.712		
	DIE5	1.092	0.059	18.515	***	0.781		
	DIE6	0.991	0.057	17.395	***	0.736		
Museums Acceptance Digital Transformation (MADT)	MADT1	1.000				0.659	0.910	0.559
	MADT2	1.326	0.084	15.799	***	0.741		
	MADT3	1.274	0.080	15.969	***	0.751		
	MADT4	1.473	0.088	16.823	***	0.800		
	MADT5	1.302	0.081	16.121	***	0.759		
	MADT6	1.374	0.083	16.635	***	0.789		

	MADT7	1.293	0.082	15.684	***	0.735		
	MADT8	1.286	0.082	15.723	***	0.737		
	UB1	1.000				0.788		
	UB2	1.022	0.049	20.707	***	0.783		
	UB3	0.909	0.051	17.883	***	0.696		
university	UB4	0.619	0.048	12.881	***	0.524		
students	UB5	0.908	0.051	17.709	***	0.690	0.913	0.516
usage	UB6	0.898	0.056	16.176	***	0.640		
behaviour (UB)	UB7	1.036	0.048	21.672	***	0.812		
	UB8	0.855	0.045	18.930	***	0.729		
	UB9	1.154	0.055	21.024	***	0.793		
	UB10	0.887	0.051	17.319	***	0.678		

Source: Author

For Discriminant validity which emphasises on the differentiation between potential variables, the square root of AVE is greater than the correlation coefficients between the factor and the other factors, then it indicates a better discriminant validity between the factors (Fornell et al, 1981). As can be seen in Table 6, the square root of the Average Variance extraction (AVE) values of the three factors comprising the scale is greater than the correlation coefficients between each factor and the other factors, which proves that the discriminant validity of this study is acceptable.

**Table 6: Discriminant Validity**

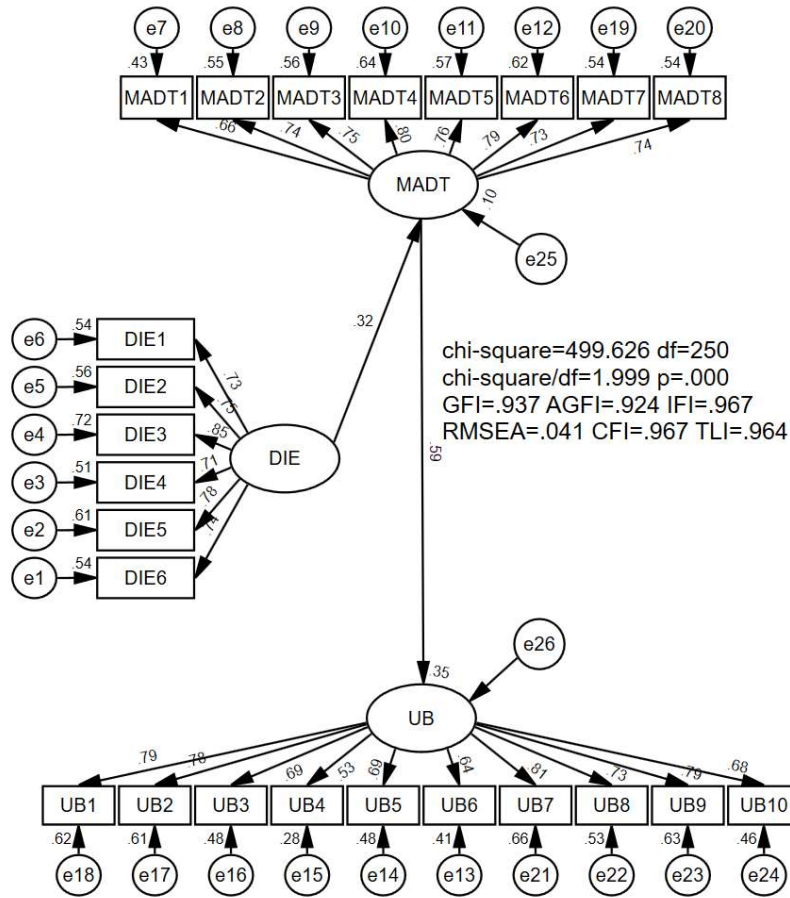
Factor	UB	MADT	DIE
UB	0.718		
MADT	0.584	0.747	
DIE	0.427	0.298	0.762

Source: Author

### 5.3 Hypotheses testing structural modelling examination

In order to test the degree of matching between the research model and the actual data, this study uses AMOS26 to test the hypotheses of the predictive model. In this study, the structural equation model of factors influencing user acceptance and usage behaviour of digital transformation in the museum of Textile and Clothing University was fitted and analysed through digital innovation, and the most commonly used fit test indexes in the test of structural model were selected, and the results are shown in Figure 2, with CMIN of 1.999, RMSEA of 0.041, CFI of 0.967, and GFI of 0.937, which meets the judgement criteria, and the indicators are all relatively reliable, which indicates that the valid questionnaire data collected and the research model constructed in this study have an ideal fit and can be used for the next step of the study.

**Figure. 2 Summary of hypotheses test results**



Source: Author

By importing the sample data from the formal questionnaire in the structural equation model constructed for this study, the path coefficients of each variable of the model are shown in Table 7. On the basis of the model can be accepted, the model’s significance and other aspects of the judgement, the main judgment criteria for the C.R. and P value, “C.R.” is the critical ratio, when the P value, that is, the level of significance is less than 0.05, the critical ratio of the critical ratio estimate is greater than 1.96 or less than -1.96 is called significant.

**Table 7: Path Analysis**

Hypothesis	Path	Std.	Unstd.	S.E.	C.R.	P	Test result
H1	DIE→MADT	0.317	0.289	0.044	6.641	***	significant
H2	MADT→UB	0.592	0.880	0.083	10.599	***	significant

Source: Author

Usually, the standardised path coefficients indicate the influence relationship between variables. As can be seen in Table 7, DIE has a significant positive effect on MADT ( $\beta= 0.317$ ,  $P<0.05$ ), and the hypothesis is valid; MADT has a significant positive effect on UB ( $\beta= 0.592$ ,  $P<0.05$ ), and the hypothesis is valid;

The Bias-Corrected and Percentile values at the 95% confidence level were obtained by running 1000 iterations using the Bootstrap method with AMOS, as shown in Table 8. The mediating effect for DIE→MADT→UB was 0.203, and the confidence intervals for the Bias-Corrected and Percentile 95% CIs does not contain 0, indicating that the mediation effect is valid.

**Table 8: Mediation effect test**

Path relationship	Point Estimate	Product of coefficient		Bootstrapping			
				Bias-corrected 95%CI		Percentile 95%CI	
				SE	Z	Lower	Upper
<b>DIE→MADT→UB</b>	0.203	0.036	5.639	0.143	0.289	0.14	0.282

Source: Author

## 6. CONCLUSION

Based on the review of previous literature and based on the theory of diffusion of innovation, this study verifies the correlation hypothesis between DIE, MADT, and UB through the process of scientific instrumentation development. The study finds that the innovated innovation experience has a significant positive impact on the acceptance of the users of the digital transformation of the museum of the University of Textile and Clothing; There is a significant positive effect of digital transformation user acceptance of textile and clothing university museums on the usage behaviour of university students; The acceptance of digital transformation at the University Museum of Textile and Clothing mediates the effect between digital innovation experience and usage behaviour.

The University Museum of Textiles and Clothing plays an important role as an informal educational venue for the teaching of textile and clothing disciplines, bridging the professional curriculum and education in clothing disciplines. Many students in China's colleges and universities are unable to enjoy equal educational resources, and the digital transformation of the Textile and Clothing University Museum can break down the campus barriers for such professions, and by building high-quality digital teaching resources, it is convenient for teachers and students of clothing-related professions across the country to achieve the dual responsibilities of classroom teaching and serving the public more conveniently. Exploring users' behavioural responses to the emerging digital transformation of museums, providing some reliable suggestions for the development of museums towards personalised intelligence, and promoting the overall quality and efficiency of the University of Textiles and Clothing Museum.

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