

Examining The Influence of Visual Aesthetics in Digital Storytelling on Audience Engagement for The Promotion of Intangible Cultural Heritage on Social Media

Liu Yuxiao*

Khairul Azhar Mat Daud**

c22e056f@siswa.umk.edu.my* & azhar.md@umk.edu.my** (Corresponding Author)

Abstract

The preservation and promotion of intangible cultural heritage (ICH) increasingly depend on digital storytelling via social media, where compelling visual aesthetics can enhance cultural recognition, authenticity, and public engagement. While widely adopted, the empirical understanding of how visual aesthetics influence audience behaviour in ICH promotion remains limited. This study addresses this gap by examining the relationship between visual aesthetics and social media promotion behaviour—conceptualised as consumption, contribution, and creation—using the Stimulus-Organism-Response (S-O-R) framework and a reflective-formative hierarchical model. Data from 359 undergraduate students at Daqing Normal University were analysed using a two-stage structural equation modelling approach. Results show that visual aesthetics significantly and positively impact audience behaviour ($\beta = 0.135$, $p = 0.020$), explaining 50.8% of the variance ($R^2 = 0.508$). These findings confirm that visually enriched storytelling boosts user engagement behaviours such as liking, commenting, and sharing. The study advances theoretical understanding of visual stimuli in digital heritage communication and offers practical insights for content creators and policymakers to enhance user interaction with ICH content. Future research should consider cross-cultural user groups, culturally specific design elements, and additional mediating effects to deepen knowledge of visual engagement in digital cultural heritage promotion.

Keywords: *Intangible Cultural Heritage (ICH), Social Media Engagement, Visual Aesthetics*

Submitted: 18 August 2025

Revised: 08 September 2025

Published: 30 September 2025

* Postgraduate Student, Faculty of Creative Technology and Heritage, Universiti Malaysia Kelantan, 16300 Bachok, Kelantan Malaysia.

** Assoc Prof, Faculty of Creative Technology and Heritage, Universiti Malaysia Kelantan, 16300 Bachok, Kelantan Malaysia.



Mengkaji Pengaruh Estetika Visual dalam Penceritaan Digital Terhadap Penglibatan Masyarakat bagi Tujuan Pemerkasaan Warisan Budaya Tidak Ketara di Media Sosial

Liu Yuxiao*

Khairul Azhar Mat Daud**

c22e056f@siswa.umk.edu.my* & azhar.md@umk.edu.my** (Corresponding Author)

Abstrak

Pemeliharaan dan pemerkasaan Warisan Budaya Tidak Ketara (WBTK) semakin bergantung pada penceritaan digital melalui media sosial, di mana estetika visual yang menarik dapat meningkatkan pengiktirafan budaya, keaslian, dan penglibatan masyarakat. Walaupun telah digunakan secara meluas, pemahaman empirikal mengenai bagaimana estetika visual mempengaruhi tingkah laku pengguna dalam promosi WBTK masih terhad. Kajian ini menangani jurang tersebut dengan meneliti hubungan antara estetika visual dan tingkah laku promosi di media sosial yang dikonseptualisasikan sebagai penggunaan (consumption), sumbangan (contribution), dan penciptaan (creation) berdasarkan kepada kerangka Stimulus-Organism-Response (S-O-R) serta model hierarki reflektif - formatif. Data daripada 359 pelajar sarjana muda di Daqing Normal University telah dianalisis menggunakan pendekatan pemodelan persamaan berstruktur dua peringkat. Hasil kajian menunjukkan bahawa estetika visual memberi kesan positif dan signifikan terhadap tingkah laku pengguna ($\beta = 0.135$, $p = 0.020$), dengan menerangkan 50.8% varians ($R^2 = 0.508$). Dapatan ini mengesahkan bahawa penceritaan dengan elemen visual yang diperkaya dapat meningkatkan tingkah laku penglibatan pengguna seperti memberi tanda suka, memberi komen, dan berkongsi. Kajian ini menyumbang kepada pemahaman teori mengenai rangsangan visual dalam komunikasi warisan digital, serta menawarkan pandangan praktikal kepada pencipta kandungan dan pembuat dasar bagi meningkatkan interaksi pengguna dengan kandungan WBTK. Kajian masa hadapan disarankan untuk meneliti kumpulan pengguna rentas budaya, elemen reka bentuk khusus budaya, serta kesan pengantara tambahan bagi memperdalam pengetahuan mengenai penglibatan visual dalam promosi warisan budaya digital.

Kata Kunci: Warisan Budaya Tidak Ketara (WBTK), Penglibatan Media Sosial, Estetika Visual

Dihantar:: 18 Ogos 2025

Disemak: 08 September 2025

Diterbit: 30 September 2025

* Pelajar Pascasiswazah,, Fakulti Teknologi Kreatif dan Warisan, Universiti Malaysia Kelantan, 16300 Bachok, Kelantan Malaysia.

** Prof. Madya, Fakulti Teknologi Kreatif dan Warisan, Universiti Malaysia Kelantan, 16300 Bachok, Kelantan Malaysia.



1.0 Introduction

This chapter highlights research on visual aesthetics in digital storytelling, its fundamental role in the promotion of intangible cultural heritage (ICH), and how the use of such digital media strategies can benefit cultural preservation efforts, particularly in engaging the public to actively participate in ICH promotion through social media platforms. The proceeding section explains the current state of ICH dissemination, with a focus on the growing reliance on digital platforms and the opportunities and challenges they present. It also discusses how visually compelling storytelling can enhance cultural recognition, perceived authenticity, and audience engagement in the ICH context. The next section highlights the specific problems addressed in this study, particularly the limited empirical understanding of how visual aesthetics influence audience behaviour in digital heritage promotion.

The preservation and promotion of intangible cultural heritage (ICH) have increasingly relied on digital platforms, particularly social media, to engage wider and younger audiences (Cao et al., 2021). As traditional forms of cultural dissemination face limitations in scale and immediacy, digital storytelling—especially when enriched with compelling visual aesthetics—has emerged as a crucial vehicle for revitalising heritage narratives and fostering audience connection (Kujur & Singh, 2020). However, while visual storytelling has become a prevalent strategy, empirical understanding of how visual aesthetics influence audience behaviour in the context of ICH promotion remains underdeveloped. Prior studies have suggested that visually engaging content may increase cultural recognition and perceived authenticity (Kujur & Singh, 2020; Rietveld et al., 2020), yet there remains a lack of integrative models that explain how these psychological responses jointly shape behavioural outcomes in the digital heritage context.

Therefore, this research question: What is the strength of the relationship between visual aesthetics in digital storytelling and the behaviour of social media promotion of intangible cultural heritage? By addressing this question, the study aims to contribute to theoretical advancement in the intersection of digital media, heritage communication, and audience psychology, while also offering practical insights for cultural content creators, institutions, and policymakers.

2.0 Literature Review

2.1 The Role of Digital Storytelling in Intangible Cultural Heritage (ICH) Promotion

Digital storytelling has become an important approach for promoting intangible cultural heritage (ICH), combining multimedia formats such as images, videos, and interactive technologies to translate traditional narratives into forms that resonate with modern audiences (Fang et al., 2024). It serves both educational and promotional functions, bridging historical traditions with contemporary communication channels and enhancing the visibility of underrepresented cultural identities.

2.2 The Central Role of Visual Aesthetics in Digital Media

Within this framework, visual aesthetics play a pivotal role in attracting attention and shaping audience responses in digital media environments (Lavie & Tractinsky, 2004). Elements such as harmonious color schemes, balanced composition, symbolic



imagery, and coherent editing rhythm not only enhance emotional impact but also foster deeper cognitive engagement(Tractinsky, 2004).

2.3 Visual Aesthetics as a Driver of Social Media Promotion Behaviour in ICH

On social media, audience engagement with cultural content goes beyond passive viewing to include liking, commenting, sharing, and content creation—actions driven by emotional resonance, cultural relevance, and identity expression. Platforms like TikTok, WeChat, and Instagram enable grassroots, user-driven heritage communication. Empirical evidence shows that visually enriched storytelling significantly increases users' willingness to share and advocate for ICH(Zheng et al., 2024).

For this study, social media promotion behaviour is conceptualised as a second-order formative construct comprising consumption, contribution, and creation(Katz et al., 1973). Prior research indicates that aesthetically compelling visuals encourage higher engagement levels—from immediate likes to reflective comments and active sharing(Chugh et al., 2019; Lou & Koh, 2017). When visuals incorporate culturally symbolic elements, they can evoke pride and strengthen identity expression, further motivating audience participation(Baldus et al., 2015; Hollebeek, 2011). Accordingly, this study hypothesizes that visually appealing ICH-themed storytelling on social media positively influences audience engagement at multiple levels.

Hypothesis: Visual aesthetics in digital storytelling have a significant positive relationship with the effectiveness of social media promotion behaviour related to intangible cultural heritage.

3.0 Methodology

This study employed a quantitative research design to systematically test the proposed hypotheses. Data were collected through a questionnaire survey. Before the main survey, the questionnaire was examined for face validity and content validity to ensure that the items adequately reflected the research variables. A pilot test was then conducted to evaluate the reliability of the instrument. The results of Cronbach's alpha showed that all scales exceeded the commonly accepted threshold of 0.7, indicating good internal consistency. After confirming the validity and reliability of the questionnaire, the research team conducted the final data collection and subsequently performed statistical analysis on the data.

3.1 Research Design

This research adopted a quantitative cross-sectional online survey, which collects data at a single point in time(Christensen et al., 2011). Due to the lack of a complete sampling frame for ICH users on WeChat, a non-probability convenience sampling approach was chosen (Sekaran, 2016). This method is suitable when the target population is dispersed and difficult to enumerate, as in the case of social media users. Undergraduate students from the School of Art and Design at Daqing Normal University were recruited for their accessibility and their relevance to the research context, as they are trained in visual aesthetics and digital media. The survey was administered through the Sojump platform, with a QR code distributed in class to increase response rates and enable real-time clarification of questions. Data were collected using a five-point Likert scale.



The faculty's total student population is approximately 1,000. Based on Krejcie & Morgan's sample size table, a minimum of 278 respondents was required, and this number was used as the target sample size for the study.

3.2 Research Instrument Development

Following feedback from four university professors in the relevant research area, the questionnaire was slightly revised to enhance face and content validity (Baharuddin et al., 2024). To evaluate construct reliability, Cronbach's alpha was computed as a measure of internal consistency among the items. A Cronbach's alpha value of 0.90 or higher is widely recognized as indicating excellent reliability (Sürücü & Maslakci, 2020). As shown in Table 1, both Visual Aesthetics (VA) and Behavior of Social Media Promotion of ICH (BEH) achieved excellent reliability, with Cronbach's alpha values exceeding 0.90.

Table 1: Constructs reliability statistics
(Source: IBM SPSS Statistics 27 Output /survey result)

Constructs	Cronbach's Alpha
Visual Aesthetics (VA)	0.907
Behaviour of social media promotion of ICH (BEH)	0.971

3.4 Data Collection Procedures

The survey is designed in English, we followed the translation-back-translation procedure to translate the original English language questionnaire into Chinese, and all questions were closed questions. The data collection for the final test of this study lasted for two months, from March 2025 to May 2025. A total of 375 questionnaires were collected, with 359 valid responses. In the survey, we have designed 2 questions to filter out individuals who are not suitable for our study: "Have you received art education?" If you select "no," the survey will terminate, and the incomplete questionnaire will be excluded from the data analysis. In order to ensure that the sample has the ability to interact with intangible cultural heritage content through WeChat Channels, we designed another question to filter those who do not have such experience: "Do you interact with intangible cultural heritage-related content videos through WeChat Channels, in any of the following ways?" Please check all that apply. There are seven multiple-choice questions: 'Videos of intangible cultural heritage viewed', 'Videos of intangible cultural heritage liked', 'Videos of intangible cultural heritage retweeted', 'Videos of intangible cultural heritage commented', and 'None of the above'. If you select "None of the above", the survey is terminated, leaving an incomplete questionnaire that is excluded from data analysis.

4.0 Results and Discussion

This study employs a second-order reflective–formative hierarchical component model (Type II) and applies the two-stage approach, consistent with the methodologies outlined by Hair (2017) and Rahman (2018), as illustrated in Figure 1 (Stages of Data Analysis in PLS-SEM). As shown in Figure 2 (Proposed Model), an endogenous latent variable, also referred to as a second-order latent variable, is constructed by combining three first-order

reflective variables (BEH1, BEH2, BEH3). These first-order variables represent a formative construct, and each is measured through its own set of reflective indicators (Hair, 2017). The analysis was carried out in three steps: (1) Data Screening and Test for Common Method Bias; (2) Evaluation of the Reflective Model (Stage One of the Two-Stage Approach) and Evaluation of the Formative Model (Stage Two of the Two-Stage Approach); and (3) Structural Model Assessment and Hypothesis Testing

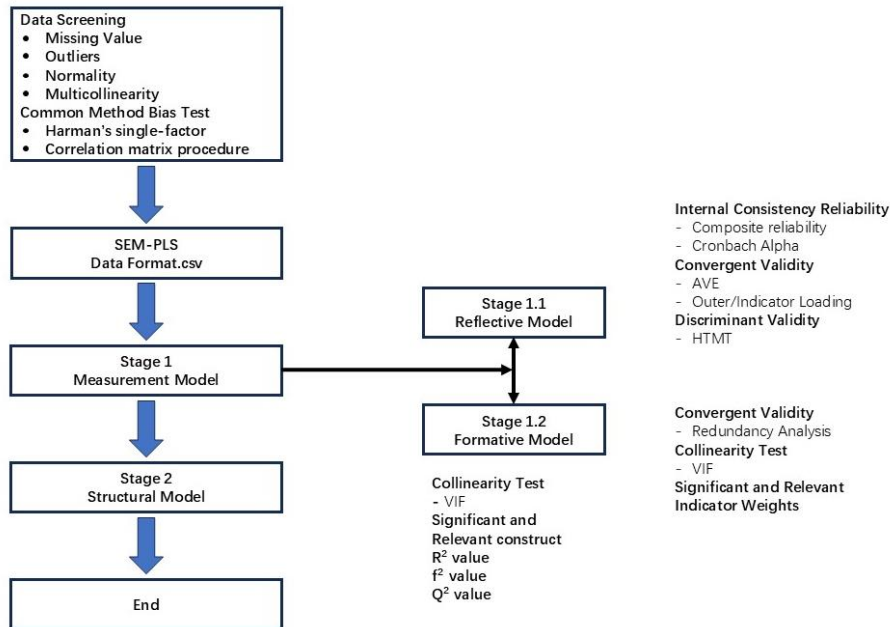


Figure 1: Stages of Data Analysis in PLS-SEM

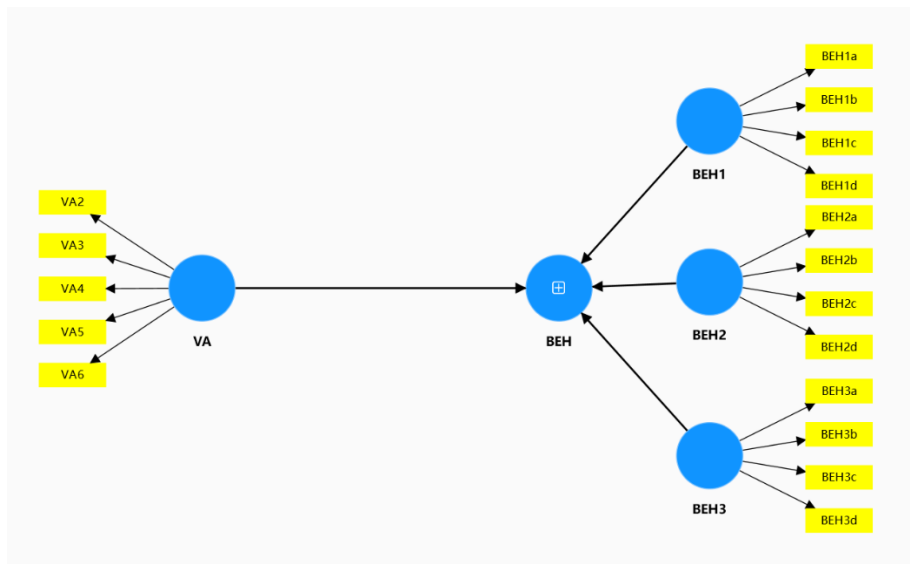


Figure 2: Proposed model



4.1 Data screening and Test for Common Method Bias

Prior to conducting structural equation modelling, this study systematically conducted data screening and preprocessing procedures, including missing data analysis, outlier detection, and multicollinearity assessment, in line with recommendations by Puig et al. (2017). The dataset contained no missing values (Valid = 359, Missing = 0), and all outliers identified via boxplots remained below the 5% threshold, with distributions showing no substantial skewness (Puig & Ming, 2017). Using the Two-Stage Approach for modelling a reflective-formative second-order construct (Puig & Ming, 2017), the inner VIF values for BEH1 (1.558), BEH2 (1.794), and BEH3 (1.716) were well below the 3.3 threshold, indicating no multicollinearity concerns (Hair Jr et al., 2021). To assess potential common method bias (CMB), Harman's single-factor test and the correlation matrix procedure were applied. Results showed that the first factor explained only 31.96% of the variance, with eight components extracted, and no single factor emerged. Additionally, all construct correlations were below 0.9, confirming that CMB was not a significant issue (Tehseen et al., 2017).

4.2 Socio-Demographic Profile

Table 2 presents the socio-demographic details of the respondents, providing a concise summary of the sample characteristics.

Table 2: Socio-demographic characteristics of the respondents

(Source: IBM SPSS Statistics 27 Output / Survey Result)

Socio-Demographic	Characteristics	N	Percentage
Gender	Female	233	64.90%
	Male	126	35.10%
	Total	359	100%
Degree	Undergraduate	359	100%
Grade	first-year student	172	47.91%
	Second-year student	118	32.87%
	Third-year student	69	19.22%
	Total	359	100%
Monthly income	No income	304	84.68%
	0-200RMB	28	7.80%
	200-500RMB	7	1.95%
	500-1000RMB	10	2.79%
	1000-3000RMB	4	1.11%
	Above 3000RMB	6	1.67%
	Total	359	100%



4.3 Evaluation of the Reflective Model (Stage One of Two-Stage Approach)

In the first stage of the two-stage approach, the reflective measurement model was assessed, focusing on the first-order constructs, including Visual Aesthetics (VA) and the three dimensions of behavioural engagement. During this first stage, the measurement properties of each reflective construct were evaluated through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity, following the recommendations by Hair et al. (2021). The assessment confirmed that all constructs met the thresholds required for reliable and valid measurement, as shown in Table 3.

According to Hair et al. (2017), in social science research, factor loadings above 0.7 are considered acceptable, and AVE values greater than 0.5 indicate adequate convergent validity (Hair Jr et al., 2021). In this study, all latent variables demonstrated factor loadings and AVE values above the recommended thresholds. As shown in the table, the CR, Cronbach's Alpha (CA), and AVE results for all constructs meet the required standards.

Table 3: Assessment of AVE, CR, Factor Loadings, Cronbach's Alpha, and Rho_A

Construct	Items	Factor Loadings	Cronbach's Alpha	Composite reliability (Rho_A)	Average variance extracted
BEH1	BEH1a	0.833	0.838	0.839	0.674
	BEH1b	0.845			
	BEH1c	0.811			
	BEH1d	0.794			
BEH2	BEH2a	0.755	0.827	0.833	0.659
	BEH2b	0.844			
	BEH2c	0.853			
	BEH2d	0.790			
BEH3	BEH3a	0.774	0.871	0.897	0.720
	BEH3b	0.890			
	BEH3d	0.883			
	BEH3e	0.842			
VA	VA2	0.752	0.815	0.817	0.574
	VA3	0.787			
	VA4	0.743			
	VA5	0.767			
	VA6	0.737			

Note: Visual Aesthetics (VA), Consumption behaviour (BEH1), Contribution behaviour (BEH2), Creation behaviour (BEH3)



The Heterotrait-Monotrait ratio (HTMT) is recommended for assessing discriminant validity, as it demonstrates higher specificity and sensitivity across various simulation scenarios. According to Henseler et al. (2015), a threshold value of 0.85 is suggested for HTMT, where values exceeding 0.85 indicate insufficient discriminant validity (Tehseen et al., 2017). As presented in Table 4, all constructs meet the HTMT criterion, thereby confirming discriminant validity

Table 4: HTMT criterion

Construct	BEH1	BEH2	BEH3	CG1	CG2	EO	NC	VA
BEH1								
BEH2	0.541 (0.413, 0.648)							
BEH3	0.462 (0.317, 0.578)	0.652 (0.525, 0.748)						
VA	0.493 (0.362, 0.606)	0.479 (0.344, 0.596)	0.402 (0.261, 0.530)	0.447 (0.308, 0.574)	0.393 (0.280, 0.503)	0.588 (0.435, 0.731)	0.509 (0.382, 0.622)	

Note: Visual Aesthetics (VA), Consumption behaviour (BEH1), Contribution behaviour (BEH2), Creation behaviour (BEH3)

4.4 Evaluation of the Formative Model (Second Stage of the Two-Stage Approach)

The reflective–formative construct (BEH) was further examined in the second stage, following the procedures recommended by Hair et al. (2021) and Sarstedt et al. (2019). This evaluation included redundancy analysis, collinearity diagnostics, and an assessment of the significance of indicator weights.

In line with Hair et al. (2021), a global single-item measure (BEH_all), representing the overall perception of the construct, was incorporated into the model as a reflective indicator. The formative construct (BEH), consisting of three lower-order dimensions (BEH1–BEH3), was connected to this global item. Convergent validity was assessed by examining the path coefficient from the formative construct to the global item. The coefficient from BEH to BEH_all was 0.757, which is above the recommended threshold of 0.70. This result confirms that the formative construct BEH demonstrates adequate convergent validity, as presented in Table 5.



Table 5: Path coefficient value

Structural path	Path coefficient
BEH -> BEH_all	0.757

Noted: Behavior of social media promotion of ICH (BEH)

Collinearity among the formative indicators was assessed by examining the Variance Inflation Factor (VIF) values. As shown in Tables 6 and 7, both the inner and outer VIF values are below 3.3, indicating that collinearity does not pose a concern (Hair Jr. et al., 2021).

Table 6: Inner VIF values

Structural path	VIF value
VA-> BEH	1.468

Noted: Visual Aesthetics (VA), Behaviour of social media promotion of ICH (BEH),

Table 7: Outer VIF values

Indicator	VIF value
BEH1	1.311
BEH2	1.603
BEH3	1.515

Noted: Consumption behaviour (BEH1), Contribution behaviour (BEH2), Creation behaviour (BEH3)

In this study, the results of the formative measurement model, presented in Table 8, show that all formative indicators have positive and statistically significant outer weights. The t-values exceeded 1.96, and p-values were below 0.05, confirming significance at the 5% level. The 95% confidence intervals for each indicator did not include zero, indicating estimate stability. Statistical significance of outer weights meets the minimum requirement for retaining indicators in a formative model.

Table 8: Formative Indicator Weights

Structural Path	outer weight	outer loadings	T statistics (O/STDEV)	P values	95% BCaConfidence Interval	Standard deviation (STDEV)	Significance (p < 0.05)
BEH1 -> BEH	0.449	0.786	6.156	0.000	[0.302,0.590]	0.073	YES
BEH2 -> BEH	0.353	0.805	4.919	0.000	[0.213,0.496]	0.072	YES
BEH3 -> BEH	0.442	0.820	6.393	0.000	[0.303,0.570]	0.069	YES



Noted: Behaviour of social media promotion of ICH (BEH), Consumption behaviour (BEH1), Contribution behaviour (BEH2), Creation behaviour (BEH3)

4.5 Structural Model and Hypothesis Testing

Collinearity in the structural model was first assessed using the Variance Inflation Factor (VIF). As presented in Table 12, all VIF values were well below the recommended threshold of 3.3, confirming that multicollinearity among predictors is not a concern (Hair Jr. et al., 2021).

4.5.1 Structural Model

The results of the structural model assessment demonstrate that the hypothesised path Ha1 from Visual Aesthetics (VA) to Behaviour of Social Media Promotion of ICH (BEH) was statistically significant at the 0.05 level. As shown in **Table 9**, VA had a positive and significant effect on BEH ($\beta = 0.135$, $t = 2.318$, $p < 0.05$, 95% CI [0.019, 0.250]), indicating a substantial influence.

Table 9: Path Coefficients of the Structural Model

Path	Path Coefficients (β)	T statistics ($ O/STDEV $)	95% Confidence Intervals	P values	Significance ($p < 0.05$)
VA → BEH	0.135	2.318	[0.019, 0.250]	0.000	YES

Noted: Visual Aesthetics (VA), Behaviour of social media promotion of ICH (BEH),

In terms of explanatory power, the R^2 value for BEH is reported in **Table 10**. The value of 0.508 suggests that Visual Aesthetics explains 50.8% of the variance in BEH, which indicates a moderate level of predictive power for the model.

Table 10: R^2 values

Construct	R-square value
BEH	0.508

Noted: Behaviour of social media promotion of ICH (BEH)

The effect size (f^2) of VA on BEH is presented in **Table 11**. The f^2 value of 0.025 is classified as small according to Hair et al. (2021). This finding suggests that, although VA has a significant effect on BEH, its contribution is relatively modest when compared with stronger potential predictors.

Table 11: f^2 effect size

Structural Path	f^2 values
VA → BEH	0.025

Noted: Visual Aesthetics (VA), Behaviour of social media promotion of ICH (BEH),

Predictive relevance was then evaluated using Q^2 statistics. As displayed in **Table 12**, BEH achieved a Q^2 value of 0.355, which exceeds the threshold of 0.35, reflecting medium predictive power (Shmueli et al., 2019). The low RMSE (0.814) and MAE (0.589) values further confirm satisfactory predictive accuracy and strengthen the evidence of predictive validity.

Table 12: Q^2 , RMSE, MAE Values

Construct	Q^2 predict values	RMSE values	MAE values
BEH	0.355	0.814	0.589

Note: Behaviour of social media promotion of ICH (BEH)

4.5.2 Hypotheses Testing

To test the hypothesised relationships, a bootstrapping procedure with 5,000 resamples was conducted. The results in **Table 13** confirm that Visual Aesthetics has a statistically significant and positive direct effect on BEH ($\beta = 0.135$, $p = 0.020$, $f^2 = 0.025$). Therefore, hypothesis Ha1 is fully supported.

Table 13: Hypothesis testing result

Hypothesis	Relationship	Std Beta	P-value	T-value	f^2	Decision	2.5% CI LL	97.5% CI UL
Ha1	VA → BEH	0.135	0.020	2.318	0.025	Fully supported	0.019	0.250

Note: Visual Aesthetics (VA), Behaviour of social media promotion of ICH (BEH)

5.0 Conclusion and Recommendations

This study offers practical insights for visual design professionals and ICH promoters in developing effective social media strategies, while also extending theoretical contributions on visual factors in cultural promotion. However, its limitations suggest avenues for future research, such as exploring how culturally specific aesthetics—like patterns, rituals, and colour schemes—shape public engagement with ICH storytelling across diverse contexts and user groups.

References

- Baharuddin, I. H., Ismail, N., Naing, N. N., Ibrahim, K., Yasin, S. M., & Patterson, M. S. (2024). Content and face validity of Workplace COVID-19 Knowledge & Stigma Scale (WoCKSS). *BMC Public Health*, 24(1), 874.
- Baldus, B. J., Voorhees, C., & Calantone, R. (2015). Online brand community engagement: Scale development and validation. *Journal of Business Research*, 68(5), 978-985.
- Cao, D., Meadows, M., Wong, D., & Xia, S. (2021). Understanding consumers' social media engagement behaviour: An examination of the moderation effect of social media context. *Journal of Business Research*, 122, 835-846.
- Christensen, L. B., Johnson, B., Turner, L. A., & Christensen, L. B. (2011). Research methods, design, and analysis.



- Chugh, R., Patel, S. B., Patel, N., & Ruhi, U. (2019). Likes, comments and shares on social media: Exploring user engagement with a state tourism Facebook page. *International Journal of Web Based Communities*, 15(2), 104-122.
- Fang, J., Li, J., Liu, S., & Zhang, Y. (2024). Harnessing digital innovation for cultural heritage: a study on communicating West Lake folk tales through digital picture books. *International Communication of Chinese Culture*, 11(2), 259-279.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Evaluation of formative measurement models. In *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (pp. 91-113). Springer International Publishing Cham.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115-135.
- Hollebeek, L. D. (2011). Demystifying customer brand engagement: Exploring the loyalty nexus. *Journal of marketing management*, 27(7-8), 785-807.
- Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *The public opinion quarterly*, 37(4), 509-523.
- Kujur, F., & Singh, S. (2020). Visual communication and consumer-brand relationship on social networking sites-uses & gratifications theory perspective. *Journal of theoretical and applied electronic commerce research*, 15(1), 30-47.
- Lavie, T., & Tractinsky, N. (2004). Assessing dimensions of perceived visual aesthetics of web sites. *International journal of human-computer studies*, 60(3), 269-298.
- Lou, L., & Koh, J. (2017). Enhancing Fan participation in social media based virtual brand communities: The case of like, comment, and share activities. *Asia pacific journal of information systems*, 27(1), 54-76.
- Puig, L. C. M., & Ming, X. (2017). Experience value, satisfaction and loyalty of international tourists in Shanghai: A PLS-SEM analysis. *International Business Research*, 10(8), 114.
- Rietveld, R., Van Dolen, W., Mazloom, M., & Worrying, M. (2020). What you feel, is what you like influence of message appeals on customer engagement on Instagram. *Journal of Interactive Marketing*, 49(1), 20-53.
- Sekaran, U. (2016). Research methods for business: A skill building approach. In: John Wiley & Sons.
- Sürücü, L., & Maslakci, A. (2020). Validity and reliability in quantitative research. *Business & Management Studies: An International Journal*, 8(3), 2694-2726.
- Tehseen, S., Ramayah, T., & Sajilan, S. (2017). Testing and controlling for common method variance: A review of available methods. *Journal of management sciences*, 4(2), 142-168.
- Zheng, F., Wu, S., Liu, R., & Bai, Y. (2024). What influences user continuous intention of digital museum: integrating task-technology fit (TTF) and unified theory of acceptance and usage of technology (UTAUT) models. *Heritage Science*, 12(1), 253.

