

## **From Virtual Experience to Museum Visit Intention: The Roles of Visual Appeal, Narrative Quality, Authentic Experience, And Curiosity with Age as a Moderator**

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**ABSTRACT:** This study investigates how visual appeal and narrative quality in museum virtual tours influence authentic experience, curiosity, and ultimately museum visit intention. It also examines the moderating role of age in the relationship between curiosity and visit intention, as well as the sequential mediating roles of authentic experience and curiosity. A quantitative, causal, and cross-sectional research design was employed, with data collected through self-administered questionnaires completed by respondents after participating in a museum virtual tour. The proposed relationships were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The findings reveal that both visual appeal and narrative quality have positive and significant effects on authentic experience. Authentic experience, in turn, significantly enhances curiosity, which subsequently increases museum visit intention. However, age does not significantly moderate the relationship between curiosity and visit intention. The sequential mediation analysis further shows that authentic experience and curiosity significantly mediate the relationship between visual appeal and visit intention. These findings underscore the importance of visually engaging virtual museum environments in creating authentic experiences that stimulate curiosity and encourage intentions to visit museums physically. From a managerial perspective, virtual tours should be positioned as pre-visit marketing tools and integrated with museums' broader digital communication strategies. The study is limited to museums in the Special Region of Yogyakarta, adopts a cross-sectional design, and focuses on visit intention rather than actual visitation behavior.

**KEYWORDS:** Visual Appeal, Narrative Quality, Authentic Experience, Curiosity, Age, Visit Intention

### **I. INTRODUCTION**

Tourism is an important contributor to the global economy through employment creation, national income, social development, and cultural exchange (Gündoğdu et al., 2024). Before the COVID-19 pandemic, tourism accounted for approximately 10.2% of global gross domestic product (Gurusamy et al., 2023). However, the pandemic severely disrupted tourism activities worldwide, with international tourist arrivals declining by approximately 72% in 2020 (Chi et al., 2022). This disruption accelerated the need for tourism organizations to adapt their services and marketing strategies to changing tourist behaviors and an increasingly digital environment.

In Indonesia, tourism is an important source of foreign exchange and contributes substantially to national and regional economic development (Yuslistyari et al., 2023; Zainuri et al., 2021). Following the pandemic, the sector showed a strong recovery, with international tourist arrivals increasing from 5.8 million in 2022 to 11.6 million in 2023 (BPS, 2024). A similar recovery occurred in the Special Region of Yogyakarta, one of Indonesia's major cultural tourism destinations. Domestic tourist trips to Yogyakarta increased from 23.16 million during January–September 2023 to 28.48 million during the same period in 2024 (BPS, 2024).

Despite this broader recovery, museum visitation in Yogyakarta has shown a contrasting trend. Museums are important institutions for preserving cultural, artistic, and historical heritage, yet they increasingly face challenges in attracting visitors in a competitive tourism environment (Seale, 2023; Orts-Cardador et al., 2024). While visits to historical and cultural attractions in Yogyakarta increased from 1,931,538 in 2022 to 2,646,097 in 2023, museum visits declined by 24.3%, from 932,245 to 705,694 during the same period (Dinas Kepariwisata DIY, 2024). Museum visitation also remained below the pre-pandemic level of approximately two million visitors annually. This contrasting pattern indicates that the general recovery of tourism has not

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automatically resulted in greater museum visitation and highlights the need for innovative strategies to strengthen museum visit intention, which represents an important antecedent of future visitation behavior (M. J. Kim et al., 2022).

Digital transformation offers museums an opportunity to address this challenge by creating more accessible, interactive, and engaging experiences (Sequeira et al., 2025). Immersive technologies such as virtual reality (VR) allow users to explore cultural heritage through virtual visits, historical visualizations, and personalized content (de Pina & O'Neill, 2022; Q. Li et al., 2025). Virtual tours have therefore become an important component of hybrid tourism, in which physical and digital experiences complement each other to enhance accessibility and visitor engagement (Sánchez-Amboage et al., 2023; Baradaran Rahimi et al., 2022; Farina, 2025). Several museums in Yogyakarta have already adopted 360-degree virtual tours, augmented reality, and 3D scanning technologies (Dinas Kepariwisata DIY, 2024). However, the continued weakness of museum visitation raises an important question regarding whether virtual experiences effectively stimulate subsequent physical visits.

Previous research provides conflicting evidence concerning the effect of VR on physical visit intention. Some studies suggest that virtual experiences can create a substitution effect by offering a sufficiently satisfying alternative to physical travel, thereby reducing motivation to visit the actual destination (Shafiee et al., 2019; Alkhalifah, 2021; Manchanda & Deb, 2022). Virtual experiences may even contribute to "tourism fatigue," further decreasing the desire for physical travel (Zhou & Gan, 2025). In contrast, other studies indicate that VR can function as a pre-visit experience that stimulates curiosity and strengthens intentions to visit physical destinations (Pallud & Straub, 2014; Kim et al., 2020). Immersive visualizations and interactive exploration can also generate emotional attachment and more positive attitudes toward destinations (Bigne & Maturana, 2023; Lázaro & Necochea-Chamorro, 2025; McLean & Alyahya, 2022). These conflicting findings suggest that the psychological mechanism through which virtual museum experiences translate into physical visit intention remains insufficiently understood.

To address this gap, this study integrates the Stimulus–Organism–Response (S-O-R) framework with the concept of digital servicescape. The S-O-R framework explains how environmental stimuli influence individuals' internal psychological states and subsequently generate behavioral responses (Mehrabian & Russell, 1974). Within a museum virtual tour, visual appeal and narrative quality are conceptualized as digital servicescape stimuli. Visual appeal reflects the aesthetic and visual presentation of the virtual museum, whereas narrative quality represents the clarity, attractiveness, and depth of the information presented through the virtual experience (Moens, 2018). These stimuli are expected to generate an authentic experience, which subsequently stimulates curiosity and ultimately increases museum visit intention. Authentic experience is particularly relevant because tourists tend to respond more positively when an experience genuinely represents the cultural and historical values of a destination (Coningham et al., 2019), while curiosity motivates individuals to seek further information and pursue new experiences (Casciaro et al., 2022).

Nevertheless, previous studies remain inconclusive regarding how visual appeal and narrative quality contribute to authentic experience. Several studies emphasize visual appeal as an important antecedent of authentic experience (Balaskas et al., 2025; Suganthi & Mohamed Jasim, 2025; Zhong et al., 2025), whereas other research highlights narrative quality as a more influential factor (Chekembayeva & Garaus, 2024). Furthermore, limited research has examined authentic experience and curiosity as sequential psychological mechanisms connecting digital servicescape elements with physical museum visit intention. Examining this process is important because a virtual experience may not directly generate physical visitation; instead, users may first perceive the experience as authentic, which subsequently stimulates curiosity about aspects of the museum that cannot be fully experienced virtually.

Age may further influence this process because responses to immersive technology vary across age groups (Sidhimantra et al., 2026). Younger users, particularly Generation Z and Millennials, tend to be more familiar with immersive technologies and may demonstrate stronger affective and behavioral responses to VR (Pokhrel et al., 2025; Robaina-Calderín et al., 2023). Older users may also value VR because of its accessibility, although technology-related anxiety may shape their interaction with immersive environments (Z.-J. Liu et al., 2026; M. Li et al., 2024a; Sancho-Esper et al., 2023). These differences provide a rationale for examining whether age moderates the relationship between curiosity and museum visit intention.

Accordingly, this study develops an integrative model in which visual appeal and narrative quality represent digital servicescape stimuli, authentic experience and curiosity operate as sequential organism states, and museum visit intention constitutes the behavioral response. The study contributes to the literature by extending servicescape from the physical museum environment to virtual museum experiences and by explaining how authentic experience and curiosity sequentially transform digital engagement into physical visit intention. By incorporating age as a moderating variable, the study further examines whether this psychological process differs across age groups. In doing so, the study conceptualizes virtual museum tours as digital pre-visit experiences that may stimulate, rather than substitute for, subsequent physical museum visitation.

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## II. LITERATURE REVIEW

This study is grounded in The Stimulus–Organism–Response (S–O–R) framework developed by Mehrabian and Russell (1974) explains how external stimuli influence individuals' internal psychological states and subsequently shape behavioral responses. In the context of museum virtual tours, this framework is relevant for explaining how digital environmental cues affect users' experiences and their intention to visit museums physically. Visual appeal and narrative quality represent the stimulus (S). Visual appeal refers to the aesthetic quality of the virtual environment that attracts attention and enhances engagement, while narrative quality refers to the extent to which museum stories are presented coherently, meaningfully, and engagingly. Effective narratives can foster cognitive and emotional involvement by transporting users into the narrative experience (Green & Brock, 2000). Moreover, VR design features such as interactivity, clarity, and realism can strengthen immersive museum experiences (Chang et al., 2018).

The organism (O) is represented by authentic experience and curiosity. Authentic experience reflects the perception that an experience is genuine and meaningfully connected to the cultural and historical values of a destination (MacCannell, 1973). Curiosity refers to a cognitive motivation that arises when individuals recognize a gap between what they know and what they want to know (Loewenstein, 1994). In a virtual museum context, an authentic experience may stimulate curiosity and encourage users to explore the museum further.

The response (R) is represented by museum visit intention, referring to an individual's tendency or willingness to visit a museum in the future. Accordingly, this study proposes that visual appeal and narrative quality shape authentic experience, which subsequently stimulates curiosity and strengthens physical visit intention.

Age is included as a moderating variable in the relationship between curiosity and visit intention. Differences in age may influence how individuals translate curiosity generated through virtual experiences into behavioral intentions. Thus, the proposed model positions visual appeal and narrative quality as stimuli, authentic experience and curiosity as sequential organism states, and museum visit intention as the behavioral response. The following is the development of the hypothesis in this study.

### 1. The effect of Visual Appeal on Authentic Experience

Visual appeal is an important element of virtual museum experiences because realistic, detailed, and aesthetically engaging representations can enhance immersion and users' perceptions of authenticity (Loureiro et al., 2020; Tian et al., 2024). High-quality visual elements can also strengthen the perception that a virtual environment closely represents the actual museum, thereby enhancing authentic experience (Grayson & Martinec, 2004; Kim et al., 2020). Accordingly, the following hypothesis is proposed:

**H1: Visual appeal has a positive effect on authentic experience.**

### 2. The effect of Narrative Quality on Authentic Experience

Narrative quality enables museums to communicate cultural and historical information in an engaging and meaningful manner, thereby strengthening visitors' emotional involvement and perceived realism (Antoniou et al., 2019; Carrozzino et al., 2018). Clear, credible, and engaging storytelling can also enhance perceptions of authenticity by connecting virtual experiences with the historical context represented by the museum (Song et al., 2022; Leong et al., 2024). Accordingly, the following hypothesis is proposed:

**H2: Narrative quality has a positive effect on authentic experience.**

### 3. The effect of Authentic Experience on Curiosity

Authentic experiences encourage visitors to engage more deeply with cultural objects, narratives, and historical meanings. Museum objects perceived as authentic have been shown to stimulate exploratory behavior and increase visitors' curiosity (Bunce, 2017). Similarly, authenticity can strengthen cognitive and emotional engagement, encouraging visitors to seek further information and exploration (Hede et al., 2014; Eck et al., 2023). Accordingly, the following hypothesis is proposed:

**H3: Authentic experience has a positive effect on curiosity.**

### 4. The effect of Curiosity on Museum Visit Intention

Curiosity motivates individuals to explore unfamiliar destinations and seek additional knowledge and experiences (Davari & Jang, 2024). In virtual tourism, immersive experiences can stimulate curiosity about aspects of a destination that remain unexplored, thereby encouraging subsequent physical visitation (Dutta et al., 2025; C. W. Lee & Idris, 2024). In museum virtual tours, greater curiosity is therefore expected to strengthen the intention to experience the museum directly. Accordingly, the following hypothesis is proposed:

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**H4: Curiosity has a positive effect on museum visit intention.**

## 5. Age moderates the effect of curiosity on visit intention

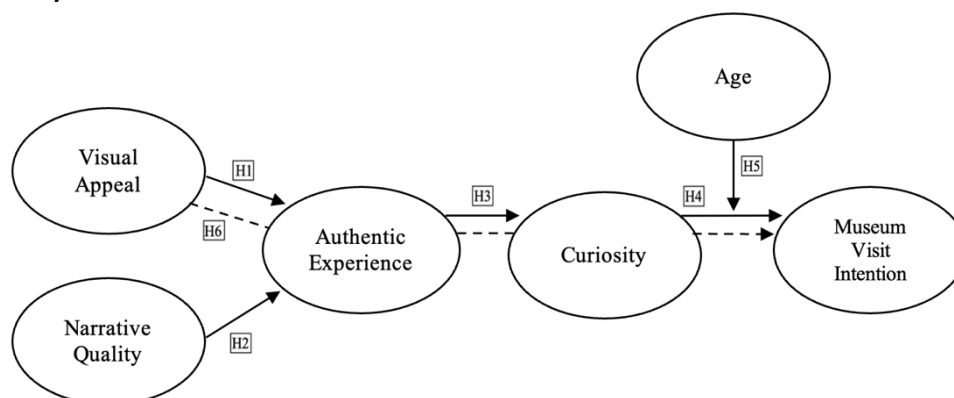
Responses to virtual tourism and curiosity may differ across age groups because younger and older tourists vary in technology familiarity, information processing, travel motivation, and reactions to immersive experiences (Shafiei et al., 2026; G. Liu & Tian, 2024). Evidence also suggests that the relationship between VR-induced curiosity and visit intention may vary across generations (Prodan & Egresi, 2023; C. W. Lee & Idris, 2024). Therefore, age is expected to condition the extent to which curiosity translates into museum visit intention. Accordingly, the following hypothesis is proposed:

**H5: Age moderates the positive relationship between curiosity and museum visit intention.**

## 6. Effect of Visual appeal on museum visit intention through the sequential mediation of authentic experience and curiosity

In virtual museum environments, visual appeal can strengthen perceptions of realism and authenticity, which subsequently stimulate curiosity and encourage further exploration (Loureiro, 2019; Z. Chen et al., 2026). Curiosity then transforms the interest generated by an authentic virtual experience into a motivation to experience the museum physically (Chekembayeva & Garaus, 2024). Thus, visual appeal is expected to influence museum visit intention through the sequential psychological processes of authentic experience and curiosity. Accordingly, the following hypothesis is proposed:

**H6: Visual appeal has a positive indirect effect on museum visit intention through the sequential mediation of authentic experience and curiosity.**



**Figure 1. Conceptual Framework**

## III. RESEARCH METHOD

This study employed a quantitative, causal, and cross-sectional research design to examine the relationships among visual appeal, narrative quality, authentic experience, curiosity, and museum visit intention, as well as the moderating role of age. A quantitative approach is appropriate for testing theoretically specified relationships among variables using numerical data and statistical analysis (Sekaran & Bougie, 2016; Schindler & Pamela S, 2019).

Data were collected through a self-administered survey. Respondents participated in a digitally provided museum virtual tour before completing the questionnaire, allowing their perceptions and behavioural intentions to be evaluated based on the virtual experience. The study therefore employed a virtual research setting in which participants interacted with visual and narrative elements of the museum through an online platform. The unit of analysis was the individual participant who completed the virtual museum tour.

All constructs were measured using 5 point Likert scales 1-5 with 1 (strongly disagree) and 5 (strongly agree). The questionnaire assessed respondents' perceptions of visual appeal, narrative quality, authentic experience, curiosity, and museum visit intention, while age was included as a moderating variable. Data were collected at a single point in time, consistent with a cross-sectional research design (Sekaran & Bougie, 2016).

The proposed research model was analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM). This approach enables the simultaneous assessment of measurement and structural models and is suitable for examining complex relationships involving direct effects, mediation, sequential mediation, and moderation (Hair Jr. et al., 2019). The analysis was conducted using SmartPLS 4 to test the proposed hypotheses and evaluate the relationships among the constructs in the research model.

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## IV. RESULT

### 1. Respondent Characteristics

**Table 1. Respondent Characteristics**

| Description    | Category                        | Frequency  | Percentage (%) |
|----------------|---------------------------------|------------|----------------|
| Gender         | Female                          | 285        | 62,23          |
|                | Male                            | 173        | 37,77          |
|                | <b>Total</b>                    | <b>458</b> | <b>100,00</b>  |
| Age            | 17–20                           | 315        | 68,78          |
|                | 21–30                           | 78         | 17,03          |
|                | 31–40                           | 20         | 4,37           |
|                | 41–50                           | 17         | 3,71           |
|                | > 50                            | 28         | 6,11           |
|                | <b>Total</b>                    | <b>458</b> | <b>100,00</b>  |
| Occupation     | University Student              | 360        | 78,60          |
|                | Civil Servant                   | 22         | 4,80           |
|                | Employee                        | 16         | 3,49           |
|                | Entrepreneur                    | 13         | 2,84           |
|                | Lecturer                        | 8          | 1,75           |
|                | School Student                  | 15         | 3,28           |
|                | Other                           | 24         | 5,24           |
|                | <b>Total</b>                    | <b>458</b> | <b>100,00</b>  |
| Monthly Income | < IDR 5.000.000                 | 409        | 89,30          |
|                | IDR 5.000.000 – IDR 10.000.000  | 35         | 7,64           |
|                | IDR 10.000.001 – IDR 20.000.000 | 10         | 2,18           |
|                | > IDR 20.000.000                | 4          | 0,87           |
|                | <b>Total</b>                    | <b>458</b> | <b>100,00</b>  |

**Source:** Processed data (2026)

A total of 458 respondents participated in this study. Female respondents accounted for 62.23% of the sample, while male respondents represented 37.77%. In terms of age, most respondents were between 17 and 20 years old (68.78%), followed by those aged 21–30 years (17.03%), indicating that the sample was predominantly composed of younger participants. This pattern was consistent with respondents' occupational characteristics, as 78.60% were university students. Regarding monthly income, 89.30% of respondents reported earning less than IDR 5,000,000, which is consistent with the predominance of student respondents. Overall, the respondent profile indicates a relatively young and socioeconomically homogeneous sample, providing an appropriate context for examining perceptions of museum virtual tours and subsequent museum visit intention.

### 2. Validity & Reliability Test

Validity test in this study included content validity and construct validity. Content validity was evaluated through expert judgment to ensure that the questionnaire items were relevant to the research objectives and adequately represented the constructs being measured. Construct validity was assessed using Confirmatory Factor Analysis (CFA). The suitability of the data for factor analysis was evaluated using the Kaiser–Meyer–Olkin Measure of Sampling Adequacy (KMO MSA) and Bartlett's Test of Sphericity. The data were considered appropriate for further analysis when the KMO value exceeded 0.50 and Bartlett's Test was statistically significant at  $p < 0.05$ . These criteria were used to confirm that the measurement items adequately represented the underlying constructs examined in the study.

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**Table 2. KMO MSA dan Bartlett's Test of Sphericity**

|                                                  |                    |          |
|--------------------------------------------------|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | ,866     |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 4170,779 |
|                                                  | df                 | 153      |
|                                                  | Sig.               | 0,000    |

**Source:** Processed data (2026)

As shown in Table 2, the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was 0.899, exceeding the recommended threshold of 0.500. Bartlett's Test of Sphericity was also significant ( $p < 0.001$ ), indicating sufficient correlations among the measurement items for factor analysis. Construct validity was subsequently assessed based on factor loadings obtained from the Rotated Component Matrix. Items with factor loadings greater than 0.500 were considered acceptable. The validity assessment results are presented in Table 3.

**Table 3. Validity Test (Rotated Component Matrix)**

| Item | Component |       |       |       |       |       | Conclusion |
|------|-----------|-------|-------|-------|-------|-------|------------|
|      | 1         | 2     | 3     | 4     | 5     | 6     |            |
| VA1  | 0.824     |       |       |       |       |       | Valid      |
| VA2  | 0.816     |       |       |       |       |       | Valid      |
| VA3  | 0.855     |       |       |       |       |       | Valid      |
| VA4  | 0.787     |       |       |       |       |       | Valid      |
| NQ1  |           |       |       |       | 0.814 |       | Valid      |
| NQ2  |           |       |       |       | 0.867 |       | Valid      |
| NQ3  |           |       |       |       | 0.950 |       | Valid      |
| AE1  |           |       |       | 0.754 |       |       | Valid      |
| AE2  |           |       |       | 0.577 |       |       | Valid      |
| AE3  |           |       |       | 0.803 |       |       | Valid      |
| AE4  |           |       |       | 0.772 |       |       | Valid      |
| AG1  |           |       |       |       |       | 0.955 | Valid      |
| CR1  |           | 0.873 |       |       |       |       | Valid      |
| CR2  |           | 0.888 |       |       |       |       | Valid      |
| CR3  |           | 0.887 |       |       |       |       | Valid      |
| VI1  |           |       | 0.842 |       |       |       | Valid      |
| VI2  |           |       | 0.862 |       |       |       | Valid      |
| VI3  |           |       | 0.869 |       |       |       | Valid      |

**Source:** Processed data (2026)

Factor analysis was conducted using Principal Component Analysis (PCA) with Varimax rotation and Kaiser normalization. As presented in Table 3, all measurement items showed factor loadings above 0.500, indicating acceptable item validity. In addition, the items loaded consistently on their respective components, confirming that the indicators were appropriately grouped according to their intended constructs. Reliability Test shown in Table 4.

**Table 4. Reliability Test**

| Variables            | Cronbach's Alpha | Conclusion |
|----------------------|------------------|------------|
| Visual Appeal        | 0,888            | Reliabel   |
| Narrative Quality    | 0,873            | Reliabel   |
| Authentic Experience | 0,897            | Reliabel   |
| Curiosity            | 0,895            | Reliabel   |
| Visit Intention      | 0,887            | Reliabel   |

**Source:** Processed data (2026)

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Table 4 shows that the Cronbach's Alpha values were 0.888 for visual appeal, 0.873 for narrative quality, 0.897 for authentic experience, 0.895 for curiosity, and 0.887 for visit intention. Since all values exceeded the recommended threshold of 0.70, all constructs demonstrated satisfactory internal consistency and reliability.

### 3. Goodness of Fit Test

**Table 5. Goodness of Fit Test**

| No. | Goodness of Fit | Criteria    | Estimated Value | Description                          |
|-----|-----------------|-------------|-----------------|--------------------------------------|
| 1   | SRMR            | $\leq 0,08$ | 0,065           | <i>Good Fit</i>                      |
| 2   | Chi-square      | Low/Small   | 507,816         | Acceptable as a supporting indicator |
| 3   | NFI             | $\geq 0,90$ | 0,880           | <i>Poor Fit</i>                      |

**Source:** Processed data (2026)

The model fit results are presented in Table 5. The SRMR value was 0.065, which is below the recommended threshold of 0.08, indicating an acceptable model fit. The Chi-square value was 507.816 and was considered as supplementary information rather than the primary criterion for assessing model fit. Meanwhile, the NFI value was 0.880, which was slightly below the recommended threshold of 0.90. Overall, although the NFI did not reach the ideal criterion, the acceptable SRMR value indicates that the model demonstrates an adequate fit with the empirical data and is suitable for further evaluation of the measurement and structural models.

### 4. Results of Direct and Indirect Effects

**Table 6. Results of Direct and Indirect Effects**

| No | Hypothesis                                                                                                                                     | Original Sample ( $\beta$ ) | P-Values | Conclusion    |
|----|------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|----------|---------------|
| 1  | Visual appeal has a positive effect on authentic experience                                                                                    | 0,429                       | 0,000    | Supported     |
| 2  | Narrative Quality has a positive effect on pada Authentic Experience                                                                           | 0,153                       | 0,004    | Supported     |
| 3  | Authentic Experience has a positive effect on Curiosity                                                                                        | 0,318                       | 0,000    | Supported     |
| 4  | Curiosity has a positive effect on museum Visit Intention                                                                                      | 0,194                       | 0,000    | Supported     |
| 5  | Age moderates the positive relationship between curiosity and museum visit intention.                                                          | -0,052                      | 0,313    | Not supported |
| 6  | Visual appeal has a positive indirect effect on museum visit intention through the sequential mediation of authentic experience and curiosity. | 0,027                       | 0,011    | Supported     |

**Source:** Processed data (2026)

The hypothesis testing results are presented in Table 6. H1 was supported, as visual appeal had a positive and significant effect on authentic experience ( $\beta = 0.429$ ,  $p < 0.001$ ). This indicates that greater visual appeal strengthens users' perceptions of an authentic museum experience. H2 was also supported. Narrative quality had a positive and significant effect on authentic experience ( $\beta = 0.153$ ,  $p = 0.004$ ), indicating that higher-quality narratives contribute to stronger perceptions of authenticity. For H3, authentic experience had a positive and significant effect on curiosity ( $\beta = 0.318$ ,  $p < 0.001$ ). Thus, stronger perceptions of authentic experience were associated with greater curiosity, supporting H3. H4 was supported, as curiosity positively and significantly influenced museum visit intention ( $\beta = 0.194$ ,  $p < 0.001$ ). This result suggests that greater curiosity increases individuals' intention to visit the museum physically. H5 examined the moderating role of age in the relationship between

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curiosity and museum visit intention. The interaction effect was negative and statistically significant ( $\beta = -0.052$ ,  $p = 0.001$ ). This finding indicates that age significantly weakens the positive relationship between curiosity and museum visit intention. Therefore, H5, which proposed a positive moderating effect of age, was not supported. Sequential mediation was assessed using bootstrapping and specific indirect effects in SmartPLS. H6 examined the indirect effect of visual appeal on museum visit intention through authentic experience and curiosity. The sequential indirect effect was positive and significant ( $\beta = 0.027$ ,  $p = 0.011$ ), supporting H6. This finding indicates that visual appeal enhances authentic experience, which subsequently stimulates curiosity and ultimately strengthens museum visit intention.

### V. DISCUSSION

The results demonstrate that visual appeal and narrative quality significantly enhance authentic experience, while authentic experience subsequently increases curiosity. Visual appeal showed the strongest effect on authentic experience ( $\beta = 0.429$ ,  $p < 0.001$ ), indicating that realistic, detailed, and aesthetically engaging virtual museum environments play an important role in shaping users' perceptions of authenticity. This finding is consistent with the concept of iconic authenticity and prior studies showing that high-quality visual representations, panoramic imagery, and immersive displays strengthen presence and perceived authenticity (Grayson & Martinec, 2004; Loureiro, 2019; Petousi et al., 2023; Tian et al., 2024; W.-H. Kim et al., 2020). Narrative quality also had a positive effect on authentic experience ( $\beta = 0.153$ ,  $p = 0.004$ ), suggesting that clear and meaningful storytelling helps users interpret museum objects within their historical and cultural contexts, thereby strengthening perceived authenticity (Chronis, 2012; Carrozzino et al., 2018; Leong et al., 2024; Paiva et al., 2023).

Authentic experience positively influenced curiosity ( $\beta = 0.318$ ,  $p < 0.001$ ), and curiosity subsequently increased museum visit intention ( $\beta = 0.194$ ,  $p < 0.001$ ). These findings indicate that when virtual museum experiences are perceived as authentic, realistic, memorable, and unique, users become more motivated to explore aspects of the museum that remain unknown. This supports previous research showing that authenticity can stimulate curiosity, cognitive engagement, and exploratory behavior (Bunce, 2017; Hede et al., 2014; Eck et al., 2023). Curiosity, in turn, appears to function as a psychological mechanism that converts virtual exploration into an intention to experience the museum physically. This result is consistent with studies suggesting that destination curiosity encourages further information seeking, exploratory behavior, and travel intention (Davari & Jang, 2024; C. W. Lee & Idris, 2024; Strzelecki et al., 2024; Sobarna, 2023). However, age did not significantly moderate the relationship between curiosity and visit intention ( $\beta = 0.014$ ,  $p = 0.313$ ), indicating that the influence of curiosity on visit intention was relatively similar across age groups. This result supports previous evidence that chronological age is not always a strong determinant of tourism-related behavioral intention (Haque & Yoon, 2024; Kang et al., 2019; Tosyali et al., 2025).

The sequential mediation analysis further showed that visual appeal significantly influenced museum visit intention through authentic experience and curiosity ( $\beta = 0.027$ ,  $p = 0.011$ ). Since the direct effect of visual appeal on visit intention also remained significant ( $\beta = 0.336$ ,  $p < 0.001$ ), the mediation was partial. This finding indicates that visual appeal can strengthen visit intention both directly and indirectly by first creating a more authentic experience and then stimulating curiosity. The result is consistent with previous research showing that vivid and realistic VR attributes enhance presence and authenticity, which subsequently contribute to curiosity and behavioral intention (M. Li et al., 2024; J. Xu et al., 2023; Liu & Tian, 2024; Davari & Jang, 2024). Overall, these findings support the view that museum virtual tours can function as effective digital pre-visit experiences that stimulate, rather than substitute for, subsequent physical museum visitation.

### CONCLUSIONS

This study demonstrates that museum virtual tours can strengthen physical visit intention through a sequential psychological process. Visual appeal and narrative quality significantly enhance authentic experience, which subsequently increases curiosity and strengthens museum visit intention. Visual appeal also influences visit intention indirectly through authentic experience and curiosity, while the direct effect remains significant, indicating partial mediation. In contrast, age does not significantly moderate the relationship between curiosity and visit intention, suggesting that curiosity may operate relatively consistently across age groups. These findings support the Stimulus–Organism–Response (S–O–R) framework by positioning visual appeal and narrative quality as stimuli, authentic experience and curiosity as sequential organism states, and museum visit intention as the behavioral response. The study also extends the servicescape perspective into the digital museum context by showing how virtual environmental cues can shape psychological responses and subsequent behavioral intention.

From a managerial perspective, museum virtual tours should be designed as digital pre-visit experiences rather than merely as online representations of museum spaces. Museum managers should improve visual realism, image quality, object details, navigation, and narrative clarity while incorporating interactive storytelling and curiosity-triggering features. Virtual tours should

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also be linked to practical visit information, exhibitions, educational programs, reservations, and ticketing features to help convert virtual engagement into actual visits.

This study is limited by its reliance on self-reported perceptions, its focus on museums in the Special Region of Yogyakarta, its cross-sectional design, and its use of visit intention rather than actual visitation behavior. Future research should therefore consider qualitative, longitudinal, or experimental approaches, extend the model to museums in other regions and visitor segments, and incorporate behavioral indicators such as ticket purchases, reservations, or actual museum visits. Additional variables, including perceived usefulness, perceived ease of use, presence, enjoyment, trust, and perceived value, may also provide a more comprehensive explanation of how virtual museum experiences influence physical visitation.

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