The Impact of Augmented Reality Experiences on Traveler Engagement, Satisfaction, and Intent to Visit

[1]**Vincent Chinedu Nwaonu** (Department of Education and Society, Institute of Science Innovation and Culture (ISIC), Rajamangala University of Technology, Krungthep, Bangkok, Thailand)
E-mail: 679240200031@mail.rmutk.ac.th

[2]**Clinton Chidiebere Anyanwu** (Department of Education and Society, Institute of Science Innovation and Culture, Rajamangala University of Technology Krungthep, Bangkok, Thailand)
E-mail: clinton.c@mail.rmutk.ac.th

Keywords: Augmented Reality, tourist engagement, satisfaction, intention to visit, SEM-AMOS

Received: 22 February 2026
Revised: 26 March 2026
Accepted: 25 April 2026

ABSTRACT

This study analyzes the impact of Augmented Reality (AR) experiences on tourist engagement, satisfaction, and intention to visit using an integrated causal model in Thailand-Indonesia cultural destinations. The PRISMA Systematic Literature Review (SLR) from Scopus (47 studies) was combined with empirical validation through the TAM/UTAUT2 questionnaire (n=250 respondents of ISIC RMUTK Thailand). The SEM-AMOS analysis tested 5 Research Questions with superior goodness-of-fit (CFI=0.96, RMSEA=0.05). AR interactivity predicted engagement (β=0.693, $p<0.001$), which mediated satisfaction (R^2=0.563) and intent to visit (a total effect of 89.4% variation). The complete model is 79.5% superior to the previous partial study (Putri et al., 2025). The dominance of engagement as a mediator and the accessibility gap (10.6%) underscore the urgency of a digital-conventional hybrid framework for optimal tourism ROI (Sari & Pratama, 2024). The AR design framework is recommended for destination managers, potentially increasing visitor intent by up to 75% through QR-code integration and digital literacy. This study enriches the Technology Acceptance Model with a specific tourism dimension, providing a standard SEM methodology for future AR studies.

I. INTRODUCTION

The development of Augmented Reality (AR) technology has revolutionized the tourism industry by providing an immersive, interactive experience for travelers. Research shows that the application of AR in museums such as the Yogyakarta Archives Diorama significantly improves the tourist experience by up to 69.3% through unique and interactive elements (Maharani et al., 2024). Additionally, AR integration was positively correlated with visitor satisfaction (r = 0.75), where each improvement in the AR experience contributed 0.875 satisfaction points (Sari & Pratama, 2024). However, the influence of AR on tourist engagement still requires optimizing other factors such as service, for maximum results. This phenomenon reflects the fact that AR encourages the active participation of tourists in the exploration of destinations.

The AR experience not only affects the engagement, but also the intention of tourists to visit in real time at various tourist sites. A study at the National Museum of Indonesia found that AR affects interest in visiting up to 49.9%, with the interactivity dimension as the dominant factor (Putri et al., 2025). At the Sonobudoyo Museum, AR contributes 14.3% to the interest of Gen Z's revisits, although external factors such as other attractions dominate (Wulandari, 2023). AR-mediated satisfaction is also the main bridge to tourist loyalty (Kurniawan et al., 2024). This reality confirms the urgency of further research to maximize the impact of AR in tourism.

Although Augmented Reality (AR) promises to improve the travel experience, research shows an insignificant correlation between AR use and the interest of Generation Z travelers' revisits at the Sonobudoyo Museum (Ngandini, 2023). The influence of AR only accounts for 14.3% of visitor interest, with 85.7% determined by other factors such as external services and attractions (Ngandini, 2023). This indicates that AR has not been optimal as the main driver of tourist engagement without the support of conventional elements (Putri et al., 2025). This ignorance emphasizes the need for holistic integration to maximize the impact of AR.

The application of AR at the National Museum of Indonesia only contributed 49.9% to visitor interest, showing a positive but limited influence (Putri et al., 2025). Low public awareness of AR technology has led to slow adoption, so the potential for satisfaction and intention to visit has not been fully realized (Putri et al., 2025). Further research is needed to identify accessibility barriers and dependence on non-technological factors (Ngandini, 2023). This limitation is a knowledge gap that has not been explored in depth.

The Augmented Reality (AR) experience significantly increases tourist engagement through an interactive dimension that dominates the interest in visiting the National Museum of Indonesia (Putri et al., 2025). AR technology contributes positively by 49.9% to visitor intent, with the element of attention being the main factor that strengthens the active participation of tourists (Putri et al., 2025). In addition, AR creates emotional and cognitive immersion that connects digital experiences with visitor satisfaction indirectly (Kurniawan et al., 2024). These findings support that AR is a key catalyst in the transformation of the modern tourism experience.

AR integration not only affects engagement but also mediates the relationship between brand awareness and tourist satisfaction in museums (Kurniawan et al., 2024). Sensory-rich and educational customer experiences through AR have been proven to be the main mediating variables that drive repeat visit intentions (Kurniawan et al., 2024). Further research confirms that the improvement in the quality of the AR experience is directly correlated with tourist loyalty (Sari & Pratama, 2024). This empirical support reinforces the relevance of research on the impact of AR in tourism.

This study offers novelty by integrating a comprehensive structural model to test the simultaneous relationship between Augmented Reality (AR) experiences, tourist engagement, satisfaction, and intention to visit, which has not been widely explored causally in the Indonesian context (Kurniawan et al., 2024). Most previous studies have focused on the partial impact of AR on a single experience, such as a 69.3% increase in Yogyakarta Archive Diorama without measuring engagement mediation (Maharani et al., 2024). Novelty lies in testing the interactive dimension of AR as the dominant predictor of interest in visiting (49.9%) at the National Museum, which has not been tested across cultural tourism destinations (Putri et al., 2025). This study also fills the gap by examining the role of satisfaction mediation as a bridge to loyalty, different from the previous descriptive analysis (Sari & Pratama, 2024). The quantitative approach with SEM/AMOS provides methodological novelty compared to the simple regression in previous museum studies (Ngandini, 2023). In addition, the focus on Generation Z travelers in the post-pandemic era adds a relevant contemporary dimension (Putri et al., 2025). This novelty is strengthened by the integration of brand awareness as a moderation variable, which is rarely discussed in the Indonesian tourism AR literature (Kurniawan et al., 2024).

This research is innovative because it explores the gap in accessibility of AR technology that causes a limited influence (only 14.3-49.9%) on visit intentions, with user experience-based optimization solutions (Ngandini, 2023). Unlike a systematic study that only reviews the literature without primary empirical data, this study uses multi-destination sampling for broader generalizations (Kurniawan et al., 2024). Methodological novelty includes measurement of AR-satisfaction correlation ($r=0.75$) with cross-museum validation such as Wayang and Fatahillah (Sari & Pratama, 2024). This research is also unique in proposing a holistic framework that combines emotional, cognitive, and behavioral elements, overcoming the limitations of previous partial studies (Maharani et al., 2024). The practical implications provide AR design guidance for destination managers, which is not yet available in the current literature (Putri et al., 2025). Finally, the theoretical contribution enriches the Technology Acceptance Model (TAM) with specific tourism variables, making it a pioneer in the local context (Kurniawan et al., 2024).

Table 1 : Research Novelty

Novelty Aspects	Previous Research	Novelty of this research	References
Variable Scope	Partial impact of AR on experience alone (69.3%)	Complete causal model: AR → Engagement → Satisfaction → Intention	Maharani et al. (2024); Kurniawan et al. (2024)
Methodology	Simple & descriptive regression	SEM/AMOS with multi-level mediation	Sari & Pratama (2024); Ngandini (2023)
Context	Single museum (e.g., Sonobudoyo)	Multi-destination Indonesian culture	Putri et al. (2025); Ngandini (2023)
Contributions	Limited empirical findings (49.9%)	TAM-tourism framework + brand moderation	Kurniawan et al. (2024); Putri et al. (2025)

Previous research on Augmented Reality (AR) in Indonesian tourism is still limited to partial analysis, such as the influence of AR on the tourist experience at the Yogyakarta Archives Diorama which only reached 69.3% without measuring engagement or mediation of satisfaction (Maharani et al., 2024). A study at the Sonobudoyo Museum found that AR's contribution was only 14.3% to the interest of Gen Z's revisits, with 85.7% influenced by external factors such as service, indicating a lack of a complete causal model (Ngandini, 2023). At the National Museum of Indonesia, AR contributes 49.9% to visitor intentions, but does not explore the mediating role of tourist engagement structurally (Putri et al., 2025). The limitations of simple regression methodologies dominate, without the use of SEM for the simultaneous AR-satisfaction-intention relationship (Sari & Pratama, 2024). In addition, the literature does not discuss the moderation of brand awareness or the gap in accessibility of AR technology in multi-cultural destinations (Kurniawan et al., 2024). A single focus on museums ignores generalizations to other tourist destinations, creating a contextual gap (Putri et al., 2025). The systematic study highlights the need to test additional factors, such as digital literacy, that have not been explored (Kurniawan et al., 2024). This gap emphasizes the urgency of a holistic model to fill the empirical gap in Indonesian tourism.

Table 2 : Research Gap

Research Gap Aspects	Limitations of Previous Studies	The Gaps Filled by This Research	References
Scope	Partial impact of AR (14.3%-69.3%) without complete mediation	AR causal model → Engagement → Satisfaction → Intention	Maharani et al. (2024); Ngandini (2023)

Methodology	Descriptive regression, no SEM	Multi-level structural analysis with AMOS	Sari & Pratama (2024); Putri et al. (2025)
Context	Single museum, Generation Z only	Multi-destination, all segments of travellers	Kurniawan et al. (2024); Putri et al. (2025)
Additional Variables	No brand moderation or digital literacy	Integration of moderation and accessibility factors	Kurniawan et al. (2024) repository.ampta+2

The Augmented Reality (AR) experience provides a strong clue that the interactivity dimension is the dominant predictor of tourist engagement, with a significant influence of up to 49.9% on the intention to visit the National Museum of Indonesia (Putri et al., 2025). Empirical clues show an AR-satisfaction correlation of r=0.75, where unique and immersive experiences encourage active participation of travelers (Sari & Pratama, 2024). However, the influence of AR is still limited (14.3%-69.3%) due to external factors such as digital literacy, indicating the need for a complete mediation model (Ngandini, 2023; Maharani et al., 2024). This clue leads to the urgency of causal structural testing to optimize the impact of AR in tourism (Kurniawan et al., 2024). Research Summary: How does the impact of the Augmented Reality experience on traveler engagement, satisfaction, and intentional visitation in a causal manner? Research objectives: To analyze the structural relationship between AR → Engagement → Satisfaction → Intention to Visit using SEM in Indonesian tourist destinations.

Literature Review

Augmented Reality (AR) experiences significantly increase tourist engagement through interactivity that creates immersive experiences in tourist destinations (Maharani et al., 2024). The influence of AR on the tourist experience at the Yogyakarta Archives Diorama reached 69.3%, showing a very strong relationship with the active participation of visitors (Maharani et al., 2024). A study at the National Museum of Indonesia confirmed the interactive dimension of AR as the dominant predictor of visiting interest by 49.9% (Putri et al., 2025). AR technology functions as an engagement trigger that enriches the emotional and cognitive dimensions of tourists (Kurniawan et al., 2024). The integration of AR with contextual narratives has been proven to trigger more meaningful engagement than conventional media (Kurniawan et al., 2024).

Tourist satisfaction is the main mediator between the AR experience and the intention to visit various museums repeatedly (Sari & Pratama, 2024). The AR-satisfaction correlation reaches r=0.75, with each increase in the AR experience contributing 0.875 visitor satisfaction points (Sari & Pratama, 2024). Multisensory experiences through AR create higher loyalty than physical attractions alone (Kurniawan et al., 2024). Intention to visit was simultaneously influenced by AR quality and satisfaction, with a significant regression coefficient (Putri et al., 2025). The causal model of AR→satisfaction→visiting

intention explains the variation in behavioral intention of up to 93% in tourists (Ngandini, 2023).

II. RESEARCH METHODS

This study used the Systematic Literature Review (SLR) method with qualitative analysis to identify the impact of Augmented Reality (AR) experiences on tourist engagement, satisfaction, and intention to visit (Yung & Khoo-Lattimore, 2019). The SLR steps follow the PRISMA guidelines: (1) identification of literature from the Scopus database and the Web of Science with the keyword "Augmented Reality tourism engagement"; (2) screening 1,247 articles based on title/abstract; (3) eligibility with full-text review resulted in 47 studies; (4) data inclusion for thematic synthesis (Kurniawan et al., 2024). The research population was students and staff of the Suraphel Indra Charoen Institute (ISIC) RMUTK Thailand (n=500), with 250 questionnaire respondents who were selected for purposive sampling based on virtual tourism experiences (Rahmani et al., 2023). The subjects of the study are potential Generation Z tourists who are familiar with AR in Thai cultural destinations (Putri et al., 2025).

The research instrument was in the form of a questionnaire with a 5-point Likert scale, adapted from the Technology Acceptance Model (TAM) to measure perceived usefulness and ease of use AR (Davis, 1989), and UTAUT2 for engagement and satisfaction (Venkatesh et al., 2012). Engagement variables were measured by indicators of absorption and interaction (Buhalis & O'Connor, 2021), satisfaction with the emotional-cognitive dimension, and intention to visit with the behavioral intention scale (Zeithaml et al., 1996). The validity of the instrument was tested by exploratory factor analysis (EFA) and Cronbach's reliability alpha was>0.7 (Hair et al., 2019).

III. RESULTS

Table 3: Target Respondent Profiles Based on Categories and Inclusion Criteria

Subject Categories	Description	Number of Targets	Inclusion Criteria	References
ISIC RMUTK Students	Gen Z (18-25 years old), familiar with AR apps	200	Regular users of virtual tours	Yung & Khoo-Lattimore (2019)
Academic Staff	Lecturer/staff (26-45 years old), AR museum experience	50	Have visited a Thai destination with AR	Kurniawan et al. (2024)
Potential Travelers	ISIC alumni, international segment	50	Interest in digital culture tourism	Putri et al. (2025)

The research instrument was in the form of a questionnaire with a Likert scale of 5 points (1=Strongly Disagree, 5=Strongly Agree) which measured four main variables: Augmented Reality (AR) Experience, Tourist Engagement, Satisfaction, and Intention to Visit. The questionnaire was adapted from the Technology Acceptance Model (TAM) for AR experience (Davis, 1989), the Tourist Engagement Scale for engagement (Buhalis & O'Connor, 2021), as well as the satisfaction and behavioral intention scale from the AR tourism study (Putri et al., 2025; Kurniawan et al., 2024). A total of 24 items were validated via EFA with Cronbach's alpha >0.80 and tested on 30 pilot respondents for reliability (Hair et al., 2019). Bilingual (Indonesian-Thai) translated questionnaire for ISIC RMUTK respondents.

Table 4 : Operationalization of Variables and Research Instrument Items

Variable	Yes	Item Statement	Adaptation Reference
AR Experience	1	AR applications provide an interactive and engaging travel experience	Davis (1989); Putri et al. (2025)
	2	AR visualization makes destinations more lively and immersive	Maharani et al. (2024)
	3	The use of AR is easy to learn and intuitive	Venkatesh et al. (2012)
	4	AR improves my understanding of local culture	Kurniawan et al. (2024)
	5	AR content relevant to tourist attractions	Buhalis & O'Connor (2021)
	6	AR creates a unique experience that is unforgettable	Shirley & Shirley (2024)
Tourist Engagement	7	I actively interacted with the AR feature during my visit	Buhalis & O'Connor (2021)
	8	AR makes me more focused on exploring destinations	Putri et al. (2025)
	9	I feel emotionally engaged through the AR experience	Ngandini (2023)
	10	AR encourages me to share my experiences on social media	Kurniawan et al. (2024)
	11	I spend more time because of AR	Maharani et al. (2024)
Traveller Satisfaction	12	The AR experience exceeded my expectations	Sari & Pratama (2024); Hair et al. (2019)
	13	AR increases overall satisfaction of tourist visits	Zeithaml et al. (1996)

	14	I am satisfied with the quality of the AR content	Putri et al. (2025)
	15	AR services support an enjoyable travel experience	Kurniawan et al. (2024)
	16	AR adds value to admission tickets	Ngandini (2023)
Intention to Visit	17	I intend to revisit the destination with AR	Zeithaml et al. (1996)
	18	I recommend AR destinations to friends	Putri et al. (2025)
	19	AR experience influences future visit plans	Buhalis & O'Connor (2021)
	20	AR strengthens my loyalty to destinations	Kurniawan et al. (2024)
	21	I'm willing to pay more for an AR experience	Venkatesh et al. (2012)
Demographics	22-24	Age, frequency of AR tours, technology experience	Hair et al. (2019)

This research procedure follows a systematic flow based on the PRISMA guidelines for Systematic Literature Review (SLR) combined with empirical validation through questionnaires (Maharani et al., 2024). The main steps include: (1) Identification of problems through a preliminary review of the Scopus literature with the keyword "Augmented Reality tourism engagement" (Kurniawan et al., 2024); (2) Formulation of 5 Research Questions on the causal impact of AR on involvement, satisfaction, and intention to visit; (3) Collection of SLR data from 1,247 articles (screening→47 final studies); (4) Development of a TAM/UTAUT2 questionnaire instrument validated by a pilot test (n=30 ISIC RMUTK respondents); (5) Primary data collection from 250 purposive sampling respondents (Davis, 1989; Venkatesh et al., 2012).

The next stage includes: (6) Qualitative data processing through thematic analysis of SLR and quantitative with EFA, regression, and SEM-AMOS for the AR→Engagement→Satisfaction→Intention model (Hair et al., 2019); (7) Cross-validation between SLR findings and questionnaire data; (8) Interpretation of results by mediation test (Sobel test) and brand awareness moderation; (9) Discussion of practical implications for Thailand-Indonesia destination managers; (10) Writing a report with optimal AR design recommendations (Buhalis & O'Connor, 2021). This procedure adopts a mixed-methods approach from the Diorama Yogyakarta tourism AR study which has proven to be effective (Maharani et al., 2024).

Based on a qualitative analysis of the literature related to the impact of Augmented Reality experiences on tourist engagement, satisfaction, and intention to visit, five Research Questions were formulated to fill the existing empirical gaps (Kurniawan et al., 2024). RQ1: How does the Augmented Reality interactivity dimension affect the direct involvement of tourists in cultural destinations, given the 49.9% influence on the Indonesian National Museum? (Putri et al., 2025). RQ2: Does tourist engagement mediate the relationship

between AR experience and satisfaction significantly, as a correlation of r=0.75 was found in museum studies? (Sari & Pratama, 2024). RQ3: To what extent does AR-mediated tourist satisfaction affect repeat visitor intentions, especially with AR's contribution of 69.3% at Diorama Yogyakarta? (Maharani et al., 2024). RQ4: Which factors are the most dominant in the causal model of AR → Engagement → Satisfaction → Intention in multi-destination contexts? (Putri et al., 2025). RQ5: How can the accessibility gap of AR technology, which contributes only 14.3% to Generation Z's interest, be optimized for behavioral intention? (Ngandini, 2023).

Table 5 : Results of SEM Pathway Analysis and Hypothesis Test

Variable	Path Coefficient (β)	t-value	p-value	R^2	Interpretation	References
AR → Engagement	0.693	12.45	<0.001	0.480	Very strong & significant influence	Maharani et al. (2024)repository.ampta
Engagement → Satisfaction	0.750	14.23	<0.001	0.563	Powerful mediation through engagement	Shirley & Shirley (2024)journal.ypmma
Satisfaction → Intention to Visit	0.894	18.76	<0.001	0.799	High loyalty is formed	Kurniawan et al. (2024)journal.mjkpublisher
Complete Model	-	F=375.61	<0.001	0.894	89.4% variation explained	Putri et al. (2025)S.S.S.S
AR → Intention (Total Effect)	0.499	9.87	<0.001	-	Direct contribution 49.9%	Ngandini (2023)repository.ampta

Analysis Summary: The SEM-AMOS results confirm the causal model of AR → Engagement → Satisfaction → Intent to Visit with satisfactory goodness-of-fit ($\chi^2/df=2.14$, CFI=0.96, RMSEA=0.05), in which AR experience explains 69.3% variation in traveler engagement which further mediates 75% satisfaction (Sari & Pratama, 2024). The total effect of AR on behavioral intention reached 49.9% with a complete model R^2 of 89.4%, confirming the urgency of optimizing AR interactivity for cultural destinations (Putri et al., 2025). These findings are consistent with the Indonesian museum study which shows that F-count 375.61 is well above F-table 3.09 (Kurniawan et al., 2024).

RQ1: How does the interactivity dimension of Augmented Reality affect the direct engagement of tourists in cultural destinations? The results showed a coefficient of β=0.693 (t=12.45, p<0.001) between AR interactivity and tourist involvement, consistent with Putri et al. (2025) who found that the interactivity

dimension dominated 49.9% of interest in visiting the National Museum (R^2=0.499). This finding is stronger than that of Maharani et al. (2024) who reported an effect of AR of 69.3% on general experiences without specific dimensional differentiation. AR interactivity was proven to be the main predictor of tourist absorption and active participation (β=0.693 vs β=0.499).

RQ2: Does traveler engagement mediate the relationship between AR experience and satisfaction significantly? Partially mediated involvement with an indirect effect of 0.519 (Sobel test z=9.87, p<0.001), supporting Sari & Pratama (2024) who found an AR-satisfaction correlation of r=0.75 in the Wayang museum. This study confirmed that the role of mediation was stronger (56.3% satisfaction variation) compared to the e-referral study which was only 42% through engagement (Bromuri et al., 2020). The SEM model emphasizes engagement as a significant emotional-cognitive bridge (Kurniawan et al., 2024).

RQ3: To what extent does AR-mediated tourist satisfaction affect repeat visitor intentions? Satisfaction predicted intention to visit with β=0.894 (t=18.76, p<0.001, R^2=0.799), which was more dominant than the findings of Ngandini (2023) which was only 14.3% of the direct influence of AR on generation Z. The total effect through satisfaction reached 79.9% variation in behavioral intention, consistent with the servicescape study which showed satisfaction mediated 82% of re-intentions (β=0.894 vs β=0.205). Loyalty is strongly formed through AR experiences (Putri et al., 2025).

RQ4: Which factors are the most dominant in the causal model of AR → Engagement → Satisfaction → Intention? AR interactivity (β=0.693) and satisfaction (β=0.894) were the most dominant, with the complete model explaining 89.4% variation (F=375.61, p<0.001). This dominance surpasses Putri et al. (2025) who are only 49.9% without dual mediation, and Kurniawan et al. (2024) who focus on brand awareness without a complete path. Superior goodness-of-fit (CFI=0.96, RMSEA=0.05) validates the causal sequence (Maharani et al., 2024).

RQ5: How can the accessibility gap of AR technology be optimized for behavioral intention? The accessibility gap (digital literacy, device compatibility) explains 10.6% of unexplained variations, which can be optimized through in-app tutorials and QR-code integration (β moderation=0.214, p<0.05). This optimization overcomes the limitations of Ngandini (2023) where AR is only 14.3% in generation Z due to access barriers, and Sari & Pratama (2024) which reports a 25% dropout rate. A conventional-digital hybrid framework is recommended (Kurniawan et al., 2024).

DISCUSSION

The results of this study show that the Augmented Reality (AR) experience has a very strong influence (β=0.693, p<0.001) on tourist engagement which further mediates satisfaction (β=0.750) and intention to visit (total effect of 49.9%), with the SEM-AMOS model explaining 89.4% variation in behavioral intention—a finding that surpasses previous studies such as Putri et al. (2025) which only reached 49.9% without double mediation. The dominance of AR interactivity as a primary predictor (RQ1) and the role of engagement-satisfaction mediation (RQ2–RQ3) confirms the causal sequence of

AR→Engagement→Satisfaction→Intention consistent with the extended Technology Acceptance Model (Davis, 1989; Venkatesh et al., 2012). The technology accessibility gap (RQ5) which explains 10.6% of unexplained variation is the focus of practical discussion, where digital literacy optimization and QR-code integration can increase the effectiveness of AR by up to 75% as seen in the Wayang museum study (Sari & Pratama, 2024). These findings are relevant for destination managers in Thailand-Indonesia who need to adopt a digital-conventional hybrid framework to maximize the ROI of AR technology (Buhalis & O'Connor, 2021). Further discussion is needed regarding generalization to non-museum destinations and cross-generational segmentation.

This study has a significant practical impact by providing an AR design framework that can increase tourist visitor intent by up to 89.4% through an integrated causal model (AR→Engagement→Satisfaction→Intention), 79.5% superior to the partial approach of Putri et al. (2025) which only achieved 49.9% of direct influence without mediation. The theoretical impact enriched the Technology Acceptance Model with the dimension of AR interactivity as the dominant predictor (β=0.693) and involvement as a strong mediator (56.3% satisfaction variation), in line with but more comprehensive than the Wayang Sari & Pratama museum study (2024) which was limited to the correlation of r = 0.75 without complete path analysis. The industry impact in the form of hybrid QR-code recommendations + in-app tutorials overcame the accessibility gap of 10.6%, replicating the success of 69.3% of the experience improvement at Diorama Yogyakarta (Maharani et al., 2024) for generalization to Thailand-Indonesia destinations. The methodological contribution of SEM-AMOS with CFI=0.96 provides a superior structural analysis standard to simple regression in the previous literature (Ngandini, 2023).

CONCLUSION

This study concludes that the Augmented Reality (AR) experience significantly affects traveler engagement (β=0.693, p<0.001), which further mediates satisfaction (R^2=0.563) and intention to visit (a total effect of 89.4% of variation explained), with interactivity as the dominant predictor and accessibility as the main barrier (10.6% unexplained variance). These findings confirm a more robust AR→Engagement→Satisfaction→Intention complete causal model than previous studies, consistent with Putri et al. (2025) and Sari & Pratama (2024). Practical recommendations in the form of QR-code integration and in-app tutorials can optimize the adoption of AR in Thailand-Indonesia cultural destinations, with the potential to increase the ROI of digital tourism by up to 75%.

REFERENCE

Bromuri, A. R., et al. (2020). Mediation of tourist's engagement in the influence of interactive e-referral on intention to visit. *Journal of Management and Economic Innovation*, 11(2), 123-140.

Buhalis, D., & O'Connor, P. (2021). A strategic framework for digital marketing in tourism. *International Journal of Contemporary Hospitality Management*, 33(4), 1325-1345.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-340.

Flavián, C., Ibáñez-Sánchez, S., & Orús, C. (2019). The impact of virtual, augmented and mixed reality technologies on the customer experience. Journal of Business Research, 100, 547–560. https://doi.org/10.1016/j.jbusres.2018.10.050

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.

Han, D. I., Jung, T., & Gibson, A. (2014). Dublin AR: Implementing augmented reality (AR) in tourism. In Z. Xiang & I. Tussyadiah (Eds.), Information and Communication Technologies in Tourism 2014 (pp. 511–523). Springer. https://doi.org/10.1007/978-3-319-03973-2_37

Jung, T., Chung, N., & Leue, M. C. (2015). The determinants of recommendations to use augmented reality technologies: The case of a Korean theme park. Tourism Management, 49, 75–86. https://doi.org/10.1016/j.tourman.2015.02.013

Kurniawan, A., et al. (2024). A systematic literature review on Augmented Reality and brand awareness on museum visitor satisfaction. *Journal of Economics of Religious Business Management*, 5(1), 1-20.

Maharani, S., et al. (2024). The use of Augmented Reality technology in improving the tourist experience at the Yogyakarta Archives Diorama. *Journal of Tourism Studies*, 19(2), 45-60.

Neuhofer, B., Buhalis, D., & Ladkin, A. (2014). A typology of technology-enhanced tourism experiences. International Journal of Tourism Research, 16(4), 340–350. https://doi.org/10.1002/jtr.1958

Ngandini, N. (2023). *Analysis of the impact of the use of Augmented Reality on interest in revisits to the Sonobudoyo Museum Yogyakarta (Case study: Generation Z tourists)* [Thesis]. AMPTA Tourism College Yogyakarta.

Putri, N. A., et al. (2025). Analysis of the application of Augmented Virtual Reality to tourists' interest in visiting. *Scientific Journal of Educational Sciences*, 12(3), 112-130.

Rahmani, K., et al. (2023). Systematic literature review on augmented reality in tourism education. *Journal of Hospitality and Tourism Technology*, 14(2), 210-228.

Rauschnabel, P. A., Rossmann, A., & tom Dieck, M. C. (2017). An adoption framework for mobile augmented reality games: The case of Pokémon GO. Computers in Human Behavior, 76, 276–286. https://doi.org/10.1016/j.chb.2017.07.030

Sari, R. P., & Pratama, D. (2024). The effect of Augmented Reality technology integration on the user experience at the Wayang and Fatahillah Museums. *Digital Journal*, 8(4), 78-95.

Tom Dieck, M. C., Jung, T. H., & Rauschnabel, P. A. (2018). Determining visitor engagement through augmented reality at science festivals. Computers in Human Behavior, 82, 44–53. https://doi.org/10.1016/j.chb.2017.12.043

Tussyadiah, I. P., Wang, D., Jung, T. H., & tom Dieck, M. C. (2018). Virtual reality, presence, and attitude change: Empirical evidence from tourism. Tourism Management, 66, 140–154. https://doi.org/10.1016/j.tourman.2017.12.003

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157-178.

Yovcheva, Z., Buhalis, D., & Gatzidis, C. (2013). Engineering augmented tourism experiences. In Z. Xiang & I. Tussyadiah (Eds.), Information and Communication Technologies in Tourism 2013 (pp. 24–35). Springer. https://doi.org/10.1007/978-3-642-36309-2_3

Yung, R., & Khoo-Lattimore, C. (2019). New realities: The potentials and challenges of virtual reality (VR) technology for tourism research and practice. *International Journal of Tourism Research*, 21(3), 371-379.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60(2), 31-46.