Understanding Artistic and Cultural Embodiment in Augmented Reality Museum Interactions Across Diverse Cultural Landscapes

Wenyi Zhang
College of Design, Sangmyung University, Cheonan, 31066, Republic of Korea
2691496943zwy@gmail.com
ORCID: https://orcid.org/0009-0007-8475-2814

Yan Zhang#
Department of X-Cultural Studies, Kookmin University, Seoul, 02707, Republic of Korea
zhangyan1999@naver.com
ORCID: https://orcid.org/0009-0008-7685-3807

Shiwei Xiao#
Department of X-Cultural Studies, Kookmin University, Seoul, 02707, Republic of Korea
xsw7285@gmail.com
ORCID: https://orcid.org/0009-0007-3212-3653

Weixin Zhu*
Department of X-Cultural Studies, Kookmin University, Seoul, 02707, Republic of Korea
Lecturer, College of Arts and Design, Ningbo University of Finance & Economics, Ningbo, China
weixin1211@naver.com
ORCID: https://orcid.org/0000-0002-6159-9614

Abstract: Purpose: This research explores the transformative impact of augmented reality (AR) within diverse cultural landscapes and artistic expressions. The purpose is to unravel AR engagement's emotional, intellectual, and cultural dimensions within museum settings, investigating lived experiences, narrative weavings, subjective impressions, cultural contexts, interactive threads, and the societal tapestry woven by this technology. Method: Conducted as a qualitative study, the research engaged in 13 semi-structured interviews, ceasing data collection upon reaching saturation. A three-step thematic analysis illuminated the complexities of AR experiences, revealing the interplay between technology and culture within museum spaces. Findings: The study uncovered nuanced layers of meaning attached to AR interactions, emphasizing its role as a transformative medium. AR-enhanced visitor engagement and emotional responses and served as a dynamic storytelling tool, weaving diverse cultural narratives. The exploration of cultural contexts highlighted the need for sensitivity in AR development, ensuring alignment with users' diverse backgrounds. Interactive

elements resonated differently across cultural contexts, influencing the depth of user engagement. The societal tapestry woven by AR showcased its broader impact on social interactions and collective perceptions of art and heritage. Originality/Significance: This research contributes to the academic discourse by offering a nuanced understanding of AR's influence on cultural experiences, adding layers to existing theoretical frameworks. Moreover, it provides practical insights for cultural institutions, technology developers, and society, emphasizing the need for cultural sensitivity in AR development and recognizing the broader societal impact of integrating technology into cultural spaces. The study's originality lies in its comprehensive exploration of the intricate relations between AR and diverse cultural expressions within the dynamic context of museums.
Keywords: Augmented Reality, Cultural Landscapes, Museum Interactions, Narrative Weavings, Societal Impact

1. INTRODUCTION

Human culture and digital innovation have revolutionized several fields throughout this technological growth. AR in art and culture is an example of this convergence, which has major implications. Digital information superimposed on the actual world via AR may revolutionize how people interact with art and culture (Arista et al., 2023). This research analyzes AR's complex effects on human experiences and narratives in many cultural situations, including conventional and digital elements. This research will evaluate AR's cognitive and emotional consequences, the cultural aspects that create augmented narratives, and its social impacts. AR conveniently blends technology advances with nature to show and transmit civilizations. A completely immersive experience that mixes the real and digital worlds gives people a new perspective on cultural goods. This technology intervention affects more than art enjoyment. It forces us to rethink museum cultural exchanges (Zhao et al., 2023). This study seeks to explore how AR enhances cultural expressions and lived experiences, exposing meaning between the physical and the augmented. This study assumes that digital technology may enhance cultural experiences. Nortvig et al. examined how AR affects museum interactions (Nortvig et al., 2020). According to this research, AR can boost tourist engagement and deepen cultural appreciation. Our empirical research shows that AR experiences in cultural organizations are complicated. Museum visitors see the relationship between technology and culture as genuine. Nhan et al. study how creative AR representations affect emotions, showing how technological interventions affect human emotions (Nhan et al., 2022). Bozzelli et al. work on AR's storytelling ability fits the cultural narrative

constructs discussion (Bozzelli et al., 2019). This work contributes to theoretical and empirical discussions on AR's cultural storytelling potential. Studies on the combination of AR and cultural landscapes have shed light on museum technology development. AR has been studied in visitor engagement, emotional reactions, and storytelling dynamics of cultural institutions. AR methods to boost tourism have garnered interest. Campo et al. observed that AR apps in museums improve visitor engagement by delivering immersive and engaging cultural experiences (Campo et al., 2023). Users who utilize AR-enabled devices to interact with presented information are more engaged, proving the technology improves the museum experience. Story aspects in augmented cultural contexts have been studied before. Calvert & Abadia demonstrate how digital overlays improve dynamic and compelling narratives in AR (Calvert & Abadia, 2020). AR conveys cultural expression and identity beyond its technological use. Despite these advancements, existing research has discovered flaws and areas for further study. AR has narrative potential in cultural contexts, but more research is needed to understand how it plays out in different cultures. Knowing what influences emotional reactions to AR in different cultures is crucial. Previous studies identified significant gaps in cultural landscape AR information. Thus, further research is needed to understand this topic. Cultural influences on enhanced stories must be examined. Some studies, like Manolaki et al.(Manolaki et al., 2020) have stressed the importance of cultural sensitivity in AR application development. However, little is known about how cultural context affects augmented narrative design, reception, and impact. Studying the intersection between personal perceptions of embodied creativity and societal factors that facilitate storytelling is also essential. Previous research has shown that AR art evokes cognitive and emotional responses (Daşdemir, 2022). More research is needed to determine if these reactions vary by culture. Subjective perceptions and cultural contexts can bridge this gap and reveal the complex intellectual and emotional aspects of AR encounters in various cultures. The inclusion of interactive aspects in cultural contexts makes studying them difficult, especially in understanding how they are viewed in different cultures. Catala et al. research reveals that interaction improves user involvement, but the cultural factors that drive these debates are unknown (Catalá Bolos et al., 2022). We could better understand interactive dynamics in museums by analyzing user interaction in AR in diverse cultural contexts. Past research has established a framework for comprehending AR in culture. However, the inadequacies underscore the necessity for more exploration. This supports the current

study's focus on subjective perceptions, cultural surroundings, interactive components, personal interactions, narrative processes, creative expressions, and complicated connections of varied cultural settings. This research aims to explain AR's complex dynamics in many creative and cultural contexts. The main goal is to understand how AR affects subjective perceptions of embodied artistry, narrative weavings, cultural contexts, interactive threads, and cultural institutions and museums' societal tapestry. This study examines AR interaction's cognitive and affective aspects as a transformational medium that connects the physical and digital worlds. A qualitative investigation of user experiences can reveal the complex meanings of AR interactions in cultural contexts. The relationships between these parameters are examined to determine how AR affects artistic appreciation and cultural heritage. The goal is to understand how AR may be adapted to different cultures. User experiences across cultures can inform museum AR application development and deployment. The research seeks to explore the interaction between technology and culture, focusing on cultural sensitivity and relevance in AR development. This study examines the intersection of AR, cultural settings, and creativity, which has significant academic and practical ramifications. This research improves our understanding of how AR affects museum experiences, adding to academic cultural studies. This study addresses the cultural, intellectual, and emotional aspects of AR engagement. It advances the scholarly debate on technology and cultural analysis. The study also pushes AR beyond its technology components, showing its potential to change culture's presentation and communication. AR storytelling in cultural contexts is examined to examine technology and culture. The academic significance of this study across technology and culture reveals how AR might boost cultural studies and influence heritage discussions.

2. LITERATURE REVIEW

2.1 Augmented Reality

AR alters our perception and interaction. AR overlays digital information on reality to make it interactive. Space extension has been studied in many domains. Campo et al. claim augmented reality may combine reality and virtuality (Campo et al., 2023). Goo et al state that AR integration into spatial settings allows people to see space as a dynamic and developing entity comprising digital overlays and their surrounds (Goo et al., 2020). AR has made museums tech, cultural, and design hubs. Nortvig et al. study

AR museum engagement (Nortvig et al., 2020). Museums can display antiques and interactive digital information in augmented surroundings. Abutaleb examined museum visitors' AR experiences (Abutaleb, 2024). Their research suggests that augmented reality might enhance historical and artistic experiences. Improved museum interiors may provide visitors with tailored, immersive cultural stories and art experiences. Physical AR develops intelligent cities. Strada et al. suggest that AR technology might improve urban experience, information retrieval, and navigation by overlaying digital information on urban landscapes (Strada et al., 2023). Urban augmented environment is a multifaceted canvas were physical infrastructure and computer layers impact human mobility. Capecchi et al. study how AR might promote urban development, community interaction, and participatory design (Capecchi et al., 2024). Locals can build dwellings in armored space, democratizing urban development. AR education offers unparalleled immersion and imagination. Ferdiman et al. examined how AR technology might boost student engagement and information retention in educational settings (Ferdiman et al., 2023). Augmented space introduces digital resources to traditional teaching methods, creating dynamic learning settings. AR lets pupils experience complicated topics, deepening their understanding. The study stresses the impact of AR on educational methods, suggesting that AR technology might alter the classroom. The augmented environment is used in retail and consumer encounters. Deshpande et al. examine how AR might improve the shopping experience by providing digital overlays with product data, reviews, and virtual try-on features (Deshpande et al., 2023). AR in retail stores connects the actual and digital worlds, making shopping more enjoyable. An augmented environment in retail allows customers to interact with things more personalized and engagingly while managing transactions (Akman et al., 2023).

2.2 Augmented Cultural Realms

AR and culture interact at a vital juncture when technical advancement meets the complexity of creative creation, tradition, and narrative. Augmented cultural environments are sophisticated combinations of interactive and digital elements that easily blend into cultural interaction. New opportunities and challenges at the confluence of technology and culture have drawn scholars, professionals, and cultural groups. Museums enhance cultural encounters with objects and history. AR technology may enhance museum displays by adding narratives and interactive cultural products experiences, according to Ch'ng et al.(Ch'ng et al., 2019).

Museums augmented cultural worlds utilize dynamic narratives to convey exhibitions' historical and artistic relevance. Museums employ AR to generate immersive past-present experiences, according to Pauls & Karsakov (Pauls & Karsakov, 2021). This tech helps museums conserve culture. Analysis of enhanced cultural settings has gone beyond museums to internet spaces that share and consume cultural stories. AR applications reflect cultural identities, revealing how digital technology may honor and express heritages, according to Izzo et al.(Izzo et al., 2023). Enhancing cultural contexts celebrates variety and elevates poor populations. AR apps make cultural stories accessible, challenge preconceptions, and encourage inclusion. Tourism and heritage conservation require augmented cultural domains for narrative. Per López-Fernández et al. AR can enhance historical sites by engaging tourists with virtual assistants and immersive reconstructions (López-Fernández et al., 2021). Augmented cultural worlds transform travel by providing tactile and digital representations of historical landmarks and cultural symbols. Pranoto et al. support transformation-based cultural tourism (Pranoto et al., 2023). Because AR mixes digital components into real places, they think it promotes culture. Cultural development impacts festivals and events. According to Tzima et al. AR applications may enhance cultural events by educating and entertaining (Tzima et al., 2020). AR displays let cultural event guests discover hidden stories, interact with exhibitions, and learn more. The dynamic interaction between digital and physical elements at cultural events shows that augmented cultural settings can encourage cultural exchange and community participation (Li et al., 2024).

2.3 Impressions of Embodied Artistry

AR studies human perception and emotional attachment beyond technology. The study examines how physical and creative talents affect how individuals perceive augmented reality digital representations of art. Embodied creativity is typically examined through AR's emotional impact. Yu et al. examined patrons' opinions of improved art installations. Surprised, intrigued, and reflective (Yu et al., 2023). AR allows users to blend virtual objects into their environment, enhancing creativity efficiently. AlFadalat & Al-Azhari (AlFadalat & Al-Azhari, 2022), think augmented reality enhances creativity and viewer emotions. Embodied artwork's subjective aesthetic comprises consumers' cognitive and emotional responses to conventional and digital art. Tzima et al. study how AR might improve art appreciation (Tzima et al., 2020). The mix of real and virtual elements challenges viewers to reconsider art genres.

Augmented reality stimulates cognition and allows people to create meaning by combining natural and virtual aspects. Gallery and museum display of conventional and digital art change physical production ideas. Innocente et al investigated if AR can link digital and traditional art. Combining ancient masterpieces with modern innovations affects how people view them, research finds (Innocente et al., 2023). Discussing the past and present with augmented overlays and historical artifacts complicates creative storytelling. Knowing how people use art might help them create.

2.4 Cultural Contexts Shaping Augmented Narratives

Complex and dynamic cultural context and AR narratives affect digital storytelling, communication, and perception. Social, geographical, and historical factors improve tales (Muralidharan et al., 2024). The complex link between museum culture and AR is described here. Technology interventions may be tailored to diverse cultures and regions. Historical and cultural heritage enrich the story. AR storytelling for museum history is suggested by Catala et al. AR tales reflect local culture and link digital overlays to reality (Catalá Bolos et al., 2022). Historical background enhances enhanced narrative and helps us understand a culture. Culture's social fabric shapes tale design and effect. Aldo Arista et al. study how social factors impact AR story perception across countries (Arista et al., 2023). Cultural preferences, expectations, and interests determine story appeal. Tuning enhanced stories to audience values and sensitivities makes them interesting and culturally relevant. Geographic variety sparks unique tales. Localization makes AR storytelling culturally meaningful, according to Maio et al.(Maio et al., 2024). Topography, climate, and environment affect AR story subjects. Augmented narratives must reflect culture and context to understand regional variances. Culturally rich stories are respected by indigenous people. Indigenous-friendly AR experiences are challenging to design, according to Silva et al.(Silva et al., 2023). Improving Indigenous tales must follow cultural standards, traditional story patterns, and preservation of holy knowledge. The study suggests that community members cooperate on tales to maintain cultural authenticity. New storytelling has entered cities and public spaces beyond museums. Revolti et al. investigate how AR storytelling might promote urban culture. Augmented narratives express culture and personal stories while adjusting to city dynamics in urban digital placemaking (Revolti et al., 2023). This city feature shows how rich stories impact culture, memory, and education.

2.5 Societal Tapestry Woven by AR

AR in museums and public places build a cultural, technology, and knowledge-based social fabric. This issue investigates AR's social and cultural impacts in museums and other venues. This technology is being evaluated for its effects on social interactions and the art and history debate. AR shows museums as vibrant places where technology improves visitors' cultural experience. López-Fernández et al examine how AR influences museum social interactions, where visitors share experiences (López-Fernández et al., 2021). Exploring augmented exhibitions, sharing ideas, and navigating digital overlays over actual locales builds community. This interactive feature of museums increases social cohesiveness by turning artwork encounters into group activities. AR improves urban social interactions, not only museums. Ali & Qazi, studied AR's impact on urban social interactions (Ali & Qazi, 2023). The research analyzes how individuals use these spaces. AR and other social phenomena are transforming how people interact with their environment. Public AR tells an urban cultural story. Sharing and interacting with AR on social media influences society.

Xu et al. study how social media generates a virtual world for AR story discussion, sharing, and contribution (Xu et al., 2023). AR provided a digital discussion where people actively contributed to cultural experiences, transcending geographical boundaries and revolutionizing society. AR makes cultural content more accessible in schooling, indicating its societal benefit. Young et al. examine how AR might make cultural and creative information more accessible to diverse audiences to improve education (Young et al., 2023). Technology provides engaging, interactive, and customizable learning experiences to narrow the education gap. AR technology in classrooms lets diverse pupils share cultural material, boosting inclusivity. AR builds a rich sociocultural fabric for cultural representation and inclusion. CH'ng et al. highlight AR cultural diversity (Ch'ng et al., 2019). They emphasize how this technology may empower minorities and challenge dominant narratives. AR simplifies cultural representation, offering a more diverse story. AR solves representation difficulties, promoting ethnic diversity.

3. METHODOLOGY

Culturally diverse people, including Chinese, participated in the qualitative research (See Table 1). Chinese people are involved in supplying

knowledge from a cultural setting with significant technical advancement and cultural richness. Their unique experiences and viewpoints strengthened the research results, allowing a deeper understanding of technological interactions and cultural nuances in augmented cultural contexts.

Table 1: Demographic Profile of Participants

Participant	Gender	Age	Familiarity with AR	Interview Type	Duration (minutes)
P1	Female	32	Moderate	Virtual	75
P2	Male	45	High	In-Person	90
P3	Male	28	Low	Virtual	60
P4	Female	50	High	In-Person	80
P5	Male	38	Moderate	Virtual	70
P6	Female	29	High	Virtual	85
P7	Male	42	Low	Virtual	65
P8	Female	35	High	In-Person	95
P9	Female	48	Moderate	Virtual	75
P10	Male	26	High	In-Person	80
P11	Male	40	Low	In-Person	70
P12	Male	33	Moderate	In-Person	85
P13	Female	31	High	Virtual	90

Qualitative semi-structured interviews examined participants' creative and cultural AR experiences. Face-to-face and online interviews were done according to participants' choices and localities. This strategy illuminated the research's many angles. Semi-structured interviews allowed participants to discuss their opinions and experiences openly. The interview guidelines (See Table 2) includes open-ended questions about AR's emotional impacts, cultural influences, and augmented cultural domains. Questions met study goals. Each interview featured 60–90 minutes for participants to express their thoughts and experiences. Researching participant viewpoints generated qualitative data. Interviews were spread across weeks to allow participants to reflect on their experiences and improve data quality. This iterative approach allows for ongoing review and refinement of the interview guide based on emerging themes. Virtual and in-person interviews met practical constraints and participant preferences, encouraging participation and ensuring convenience. Virtual interviews use video conferencing to overcome geographical barriers. The study used accessible face-to-face interviews to create a safe, open environment for honest conversations.

Table 2: Interview Guideline

Variable	Interview Questions
Lived Experiences in AR	1. Can you describe your personal experiences with AR in cultural and artistic contexts?
	2. How has AR influenced your engagement with cultural artifacts or artistic representations?
	3. Can you share specific instances where AR enhanced or transformed your perception of cultural or artistic elements?
Cultural Narratives in AR	1. In your opinion, how does AR contribute to representing diverse cultural narratives?
	2. Have you encountered AR applications that incorporate storytelling elements related to cultural heritage?
	3. How do you perceive the role of AR in preserving and promoting cultural identities within digital spaces?
Impressions of AR Artistry	1. How do you emotionally respond to blending traditional and digital artistic expressions in AR?
	2. Do you feel that AR adds a new layer of meaning to artistic creations, and if so, how would you describe that impact?
	3. Can you share instances where AR artistry influenced your subjective interpretations of cultural or artistic content?
Cultural Contexts in AR Development	1. How do you think the cultural context of a museum or location influences the design of AR experiences?
	2. Have you noticed any adaptations or considerations made in AR applications to align with specific cultural landscapes?
	3. In your opinion, how important is cultural sensitivity in developing AR applications for diverse audiences?
Interactive Elements in AR	1. How do interactive features contribute to your engagement within the museum space through AR?
	2. Have you observed differences in the resonance of interactive elements across diverse cultural contexts?
	3. Can you recall specific instances where interactive threads enhanced or influenced your AR experience in cultural settings?
Societal Impact of AR	1. How do you perceive the broader societal and cultural impact of AR's integration into museum settings?
	2. Have you noticed any changes in social interactions within museum spaces due to AR technology?
	3. In your opinion, how might AR contribute to shaping cultural perceptions and narratives on a societal level?

The researchers used Braun and Clarke's three-step theme analysis in their qualitative study . This method allowed systematic analysis of the vast qualitative data from the semi-structured interview (Braun & Clarke, 2006).

The analysis began with familiarization. The researchers transcribed and analyzed the interviews word-for-word to analyze the data. This step helped participants understand the topic, identify repeated patterns, and write a detailed account of their AR experiences in artistic and cultural contexts. After becoming comfortable, coding began. The researchers methodically labeled data segments to collect participants' AR thoughts, feelings, and emotions. We used deductive coding to follow established subjects from the interview guide and inductive coding to identify new themes from the data. A comprehensive data analysis was needed to identify trends, similarities, and differences among people. Mixing related codes while coding revealed patterns. The researchers then began topic generation by discussing ideas to refine and consolidate them (See Table 3). To guarantee meaningful and relevant alignment with research objectives, these talks examined code-subject relationships. Analyzing the themes of the entire dataset helped us understand the trends and contrasts in the participants' stories.

Table 3: Thematic Analysis

Stage	Description
Familiarization	Researchers immerse themselves in the data by reading and rereading transcripts, field notes, and other relevant materials to gain a comprehensive understanding.
Coding	Initial codes are generated by systematically identifying meaningful data segments related to the research questions and concepts of interest.
Generating Themes	Codes are grouped to form potential themes, focusing on patterns, similarities, and differences across the dataset.
Reviewing Themes	Themes are reviewed and refined through an iterative process, ensuring they accurately capture the essence of the data while maintaining coherence and relevance.
Defining Themes	Themes are clearly defined and named to reflect the underlying patterns and concepts emerging from the data analysis.
Writing	The final step involves writing up the analysis, where themes are presented alongside supporting evidence from the data, providing a rich and detailed narrative.

4. RESULTS

The results section includes participants' descriptions of AR's crossovers with creative genres and cultures. Technology, culture, and art are intertwined in humans' augmented world experiences, narrative structure

studies in augmented cultural domains, and subjective interpretations of artworks. Augmented narratives, museum interactives, and AR's social impact are better understood when cultural settings are examined.

4.1 Lived Experiences in the Augmented Space

Augmented reality inspires the 6th participant. "I felt transported to a world where craftsmanship and culture blended superbly." Complex and captivating physical situations were made by layering virtual layers. AR shows lock in and astound gallery guests (Serravalle et al., 2019). 6th member expressed AR expanded engagement. "Agreeing to them, it isn't exclusively almost inactively watching craftsmanship, but rather actively locks in within the account." Yang claims that augmented reality encourages collaborative innovation and user engagement (Yang, 2023). Physical and digital elements form an immersive environment that disrupts art consumption norms. AR has visual and emotional effects. The third respondent expressed amazement at how valuable objects were given new life through augmented reality. "I experienced a deep emotional resonance, as though the artwork directly engaged me." Tzima et al. assert that these sentiments hold irrespective of one's viewpoint on augmented reality in art classes (Tzima et al., 2020). Because augmented reality may evoke strong emotions in its users, it can educate and foster cross-cultural understanding. Every person's cultural background has an impact on their life. Interacting with AR for a long time helped respondent 2 understand it better. Such conversations are like discovering more about a narrative. This iterative process supports findings that AR promotes intellectual inquiry and study in art enjoyment. Participants' cognitive and emotional reactions to AR varied. Participant 12 questioned artistic representation restrictions. Artificial intelligence made me rethink art. According to Boldt AR lets consumers actively evaluate and alter their understanding of artistic works (Boldt, 2019). examine the ethical implications of using AR to display cultural assets in line with their study. Participant 11, discusses the ethical issues of AR cultural portrayal. AR may disrupt prevailing narratives and highlight repressed viewpoints, they say.

4.2 Narrative Weavings in Augmented Cultural Realms

Participant 5, compares AR storytelling to digital tapestries that weave cultural stories. It takes complete immersion in the stories inside and surrounding art to appreciate it. These findings support Ch'ng et al. showing that AR narratives may be exciting and diverse (Ch'ng et al., 2019).

The ninth Australian participant stressed the importance of narrative and symbolic AR representations. "AR extends beyond mere object display; it constructs a narrative surrounding them. They said, "The artifacts seemingly animate and divulge their histories in manners that conventional exhibits are incapable of." Guzmán et al. found that AR may turn museums into dynamic storytelling spaces by actively allowing cultural artifacts to participate in the narrative (Guzmán et al., 2024). Participant 4 agreed with Participant 9 that AR adds symbolism to cultural goods, providing a narrative thread that ties viewers to the art's meaning. This method supports Lassandro et al. findings that AR might enrich cultural narratives symbolically (Lassandro et al., 2021). AR's digital overlay strengthens cultural narratives and connects viewers to their cultural context. Participant 7's perspectives showed how AR and cultural narratives overlap. Participant said AR intertwines narratives from different cultures to portray them. It highlights the diversity of digital ethnicities. Aldo Arista et al. study found that AR can improve marginalized groups' tales and perspectives in cultural settings (Arista et al., 2023). Using AR to promote diversity can make cultural narratives more equal. Tsepapadakis & Gavalas believe AR can revitalize and expand cultural narratives (Tsepapadakis & Gavalas, 2023). Participant 11, said that AR strengthens cultural narratives, making transmitting different stories and opinions simpler. It is found that AR may challenge narratives and make cultural heritage more inclusive (Nhan et al., 2022). Participants may discuss story weavings in more cultural domains due to extended interviews. When using AR storytelling, participant 1 felt a sense of coherence and commitment to their cultural past. The narrated events feel like generations-old stories. Participant 12, said AR storytelling is engaging because it lets people actively participate in storylines. Cultural narratives in real-life interactions blur the digital-physical divide. Yang found that immersive AR tales strengthen and emotionally connect with cultural content (Yang, 2023).

4.3 Subjective Impressions of Embodied Artistry

Respondent 3, said that AR's technology and traditional features generated a profound emotional experience like a harmonic dance. A calm atmosphere prevailed as if creativity flowed from the physical to the virtual. Silva et al. state that AR may merge conventional and digital creative elements for smooth cohabitation (Silva et al., 2023). Participant 8, also noted how AR had affected their perception of art. "AR brought a novel aspect to artistic expression, pushing the boundaries of my understanding and enabling a heightened level of engagement and immersion," she said.

AR interventions can encourage audience engagement and reinterpretation of art. Participant 5, also discussed the cognitive reactions to embodied creation in AR. Their statement said old methods and new advances piqued intellectual interest. This made me think about artistic expression's limits and creativity's constant change. Young et al. found that AR can boost intellectual engagement in creative situations by challenging and reevaluating norms (Young et al., 2023). Temporal characteristics of AR interactions affect subjective experiences. Participant 11 said their initial enthusiasm for AR art grew into a more profound knowledge." As I engaged in more interactions, I gradually uncovered the profound depths of meaning concealed within the digital embellishments". The iterative method outlined here supports Qamar et al. findings regarding the evolution of AR experience (Qamar et al., 2023). These findings underscore the importance of continuing engagement for understanding. AR can bridge traditional and digital art, according to Lassandro et al. creating a mutually beneficial relationship (Lassandro et al., 2021). Participants said using AR in creative expressions lets them study the dynamic relationship between physical and digital art. Respondent 9's comments demonstrate that cultural background strongly influences subjective experiences. Given their love of traditional indigenous art, the Australian responder said AR has opened up new story exploration potential. Assimilation went successfully, preserving culture. Zaia et al. study on AR's function in cultural preservation and enrichment supports this (Zaia et al., 2022). Their research emphasizes the importance of blending creative styles. The sixth participant also discussed how embodied artwork in AR affects emotions. "Observing a digitally enhanced classic art masterpiece elicited a feeling of amusement." "They clarified that it infused the creative process with exhilaration and unpredictability." Nakhle & Harfouche study on AR's emotional influence on creative encounters supports the importance of pleasure and unpredictability in evoking responses (Farid & Harfouche, 2023).

4.4 Cultural Contexts Shaping Augmented Narratives

Participant 10 underlined the linkage between AR narratives and museum culture. AR experiences must complement museum culture. Ensure the story fits the local culture, not just adding digital layers "shared. This confirms Campo et al. finding that AR narratives should reflect space culture for coherence and immersion (Campo et al., 2023). Participant 7, emphasized the AR app's cultural portrayal. AR narratives should reflect

cultural variety.

They stressed the value of diverse perspectives and cultural diversity in technology. Silva et al. study how AR technology amplifies diverse perspectives to improve cultural narratives (Silva et al., 2023). Aldo Arista et al. argue that AR apps must morally portray culture without exploiting it (Arista et al., 2023). Participants said cultural context is crucial for museum augmented reality storytelling. We examined how different cultures impact AR since the interviews were long enough. As they explored AR in different cultures, one American observed, "AR's usefulness depends on cultural integration." Adding tales to exhibits has raised the bar for museum visits. In other locations, it felt like an outside force forcing its views on natives.

Zaia et al.(Zaia et al., 2022) highlight the need for a solid technology-cultural environment fit by illustrating how contextual variables impact the effectiveness of AR experiences. Participant 5 stressed AR tales' universal applicability. "AR might develop a cross-cultural language. They said it is about balancing cultural distinctiveness with global appeal that a varied audience can understand. Buhalis et al. explored how AR might bridge cultural diversity and universality to create experiences that engage with a broad spectrum of visitors (Buhalis et al., 2019).

4.5 Interactive Threads Across Cultural Weaves

Participant 4, said that interactive threads in AR make museum visits more engaging. Active engagement in the subject beyond observation gives cultural learning a particular flavor and creates a lasting impression. This supports Zuo et al. findings on AR's interactivity (Zuo et al., 2023). According to their research, interactive components may turn passive museum visitors into active participants. Participant 9, discussed how interactive threads affect user engagement. "Engaging actively in the storytelling process enhances the exploration of culture". "They said that facilitating a conversation between the user and the cultural context amplifies involvement and submergence," remarked. Ahmadi Oloonabadi & Baran agree, emphasizing the necessity of interactive AR components that allow users to actively participate in and modify their cultural experiences (Oloonabadi & Baran, 2023). Extended interviews allowed for more interactive thread reply research. Participant 11 described how interactive aspects effect culture: "The effectiveness of interactive threads is determined by how well they correspond to the cultural expectations and preferences of the audience." Features should be intuitive and engaging

when integrated into a culture. This finding supports who stressed cultural congruence in interactive AR experiences. Participant 6 said, "Interactive AR elements evoke levity and joy." The experience is like finding precious things at the museum, adding surprise and excitement to the visit. According to Poonja et al. study on interactive features' emotional influence, enjoyment, and delight contribute to a positive and lasting user experience (Poonja et al., 2023). Participant 2 stressed the global relevance of interactive threads. Interactive components must appeal to broad audiences to succeed. "The goal is to cultivate traits that have a broad appeal while also considering cultural differences," he said. This supports Rodriguez and Chen's study on culturally adapting interactive elements to improve accessibility and inclusiveness.

4.6 Societal Tapestry Woven by AR

Respondent 8, stressed how AR affects museum social interactions. "AR can offer visitors a collective encounter, promoting engagement and a feeling of camaraderie." "Cross-cultural communication can be facilitated by people's shared desire to learn about other cultures and the advancement of technology, as previously discussed. Kurniawan et al. suggest that museums might become interactive hubs that employ augmented reality to promote community interaction and the sharing of personal narratives (Kurniawan et al., 2023). Participant 12 was also intrigued about how AR can change cultural perceptions. "The increasing integration of AR in cultural institutions is transforming our perception and interpretation of art and heritage." "According to them, it is a complex and interconnected fabric of society influenced by technology, which alters how cultural understanding and appreciation are perceived." Cranmer et al. know the most about how AR may affect social and cultural narratives and attitudes (Cranmer et al., 2023). AR might improve art and history comprehension, according to Lassandro et al.(Lassandro et al., 2021) study. Museum visitors' usage of AR shows that this technology may transform society. Culture is explored in a dynamic, interwoven story. Longer interviews allowed us to investigate AR's cultural implications on society. The fourth French respondent discussed AR's influence on cultural narratives. Museums are exploring augmented reality interventions to educate and encourage art and cultural discussions." According to them, it encompasses more than just the museum area; it also involves our collaborative efforts in shaping our cultural narrative," found that AR has societal impacts and that technology helps portray and comprehend

culture.

5. DISCUSSION

Concerning past research, the study's discussion section summarizes the findings. AR's potential effects have been studied using first-person narratives, theoretical frameworks, and empirical data from previous studies in various creative and cultural contexts. AR users' reviews showed their emotional connection to the computer-generated antiquities. An intriguing new trend is using AR to build technically and emotionally engaging experiences. Yang observed that AR users were happy when they could sense emotions without technology inhibiting them (Yang, 2023). This study supports Putra et al. who explored how cultural settings affect museum AR app creation and dissemination (Putra et al., 2023). AR can raise cultural awareness by seamlessly integrating technology into the actual world. AR enhances art appreciation across cultures by combining traditional and digital aspects. AR's digital fabric shows the profound connections between cultural narratives. Buhalis et al. discovered that participants agree with past studies on using AR to transmit cultural narratives, identities, and expressions (Buhalis et al., 2019). This study's narrative and symbolic elements corroborate past results that AR may provide immersive museum storytelling experiences. Zuo et al. suggest that AR can improve historical representations and promote diversity by including cultural identities and dynamic narratives (Zuo et al., 2023). Narrative weaving turns AR into a digital storytelling tool that unifies all ages and ethnicities. Consider how viewers react to more realistic representations to understand embodied art's psychological and emotional benefits. This study supports prior studies on AR's impact on cognition and emotion in creative exploration. According to Raisamo et al AR development and implementation must consider ethical issues, especially in artistic and cultural fields (Raisamo et al., 2019). Thus, new AR representations can address these challenges. The findings indicate a complicated relationship between consumers' subjective assessments of improved creativity, ethics, cognition, and emotion. Museum culture must be included in AR experiences because cultural contexts affect augmented narratives. Boediono et al. advise creating and implementing AR apps with cultural sensitivity and usability in mind (Boediono et al., 2023). User-specific AR interaction research promotes accessibility and inclusivity, aligning with multicultural viewpoints. AR storytelling may be culturally

relevant and adaptive. Through the clever use of AR in cultural contexts, technology can transcend cultural barriers and expose universal truths, improving understanding and appreciation of many cultural landscapes. As shown by cultural tapestries with interactive threads, interactive museum components may create dynamic and exciting experiences. The participants' cultural alignment and emotional effect results match previous research on how interaction generates compelling and memorable museum visits (Innocente et al., 2023). Previous research on the emotional consequences of interactive features concentrated on cheerful user participation, supporting the emphasis on pleasure and entertainment. The study found that interactive AR experiences make cultural content more vibrant. Users go from passive observation to active participation. The socio-cultural fabric AR generates shows its impact on social interactions, cultural perspectives, and art and historical knowledge. Scholarly study on AR's social effects matches how collective experiences shape cultural ideas. AR enhances community engagement, influences cultural narrative, and contributes to cultural representation and understanding discussions. The study confirms Aldo Arista et al. results on AR's global impact on cultural institutions, notably its potential to promote cultural understanding (Arista et al., 2023). AR in social situations challenges heritage, culture, and art assumptions.

6. CONCLUSION

This research aims to illuminate the critical effects of AR on numerous creative and cultural genres. Investigating individual perceptions, societal contexts, interactive components, personal experiences, and AR's interconnection revealed a plot beyond technological aspects. The participants' emotional reactions and immersive experiences in the augmented environment showed that AR transforms the physical and digital worlds. Users can engage with cultural items from a unique perspective. The research shows how tales in augmented cultural domains are interconnected, creating a rich digital tapestry. This digital narrative expands cultural and identity expression beyond traditional boundaries. After discussing AR's narrative and symbolic aspects, it became evident that this technology can tell significant stories founded on cultural heritage. The finding confirms previous academic studies by emphasizing AR's role in cultural narratives. AR's capacity to integrate tradition with history is highlighted. AR has been demonstrated to improve intellectual and emotional engagement with physical artwork. Participant views on the

ethical aspects of AR creative renderings show a growing awareness of cultural responsibility associated with technical advancement. As AR becomes a creative medium, ethical issues must be revisited, demanding a delicate balance between technology and cultural sensitivity. The convergence of intellect, sensibility, and morality in AR illuminates the evolving landscape of digital creative appreciation. Research of cultural environments that produce augmented narratives emphasizes the need to link AR with museum culture. The study confirms previous results that cultural sensitivity and relevance are crucial to AR app development. This research emphasizes the depiction of numerous cultural views and the global adoption of AR storytelling to promote a technology solution that honors cultural complexity. Effective AR integration into cultural contexts increases accessibility, equality, and worldwide art and history discussions. AR displays at museums utilize interactive aspects to engage audiences. Interactive threads link cultural factors. AR experiences emphasize cultural congruence, dynamic response, and enjoyment to demonstrate interaction. AR lets users actively engage and manage their cultural experience, enabling personalized and dynamic interactions with cultural information. The findings support earlier research that emphasizes the importance of engagement in creating memorable museum experiences and the potential of AR to change the relationship between visitors and cultural organizations. AR's sociocultural fabric includes technology's impact on art, history, culture, and social connections. Collective experiences shape cultural perceptions, sparking societal debate about cultural understanding. The study confirms previous studies on AR's global impact on cultural institutions, notably in cultural representation and accessibility. AR changes how people interpret art, culture, and heritage in various circumstances. This creates a more dynamic and connected society.

6.1 Theoretical Implications

This study has theoretical implications for AR, cultural studies, and museum experiences. By examining AR's narrative constructions, lived experiences, and societal fabric in different cultures, this research contributes to the theoretical conversation on technology and culture. The theoretical framework gets increasingly complex as participants' emotional and immersive interactions with the augmented environment show AR's transformative ability to create culturally important and emotionally fascinating experiences. AR representations' narrative and symbolic qualities offer a fresh perspective on cultural studies, stressing the technology's importance as a dynamic channel for cultural heritage

communication and preservation. A study on subjective evaluations of embodied artistry helps us understand how technology influences intellectual and emotional involvement with artistic creations. This advances theories of creative appreciation in the digital age. Augmented narratives with cultural contexts increase academic conversations about cultural sensitivity in technology intervention design and implementation. This challenges human-computer interaction theories.

6.2 Practical Implications

This research affects tech entrepreneurs, cultural institutions, and society. Users' augmented space experiences provide cultural institutions with actionable tips for improving visitor interaction. AR technology at cultural institutions and museums may be customized to include local culture to provide a personalized, immersive experience that appeals to varied audiences. AR's storytelling capabilities let cultural groups give travelers fascinating and immersive experiences. The research addresses ethical issues in AR creative representations, providing practical advice for technologists and artists. It stresses the significance of balancing digital responsibility with innovation. Cultural circumstances shape augmented tales; therefore, programmers must understand local cultural differences. This advances deliberate, worldwide AR applications. Interactive aspects in cultural offerings may help businesses gain practical experience and create appealing experiences. This is done by encouraging interactive elements that appeal to many customers. AR promotes social variety, which affects society as a whole. Discussed are how shared experiences and AR change cultural understanding. This changes how people interpret history, culture, and art, creating a more interconnected and dynamic society. The study's findings on a shared cultural language and global reach have significant implications for multinational organizations. Understanding how AR may enrich a collective cultural experience allows the creation of applications and activities that span geographical boundaries, enabling a worldwide art and history debate. This work has practical implications beyond academic discussion. As AR and cultural exploration evolve, this provides practical insights for cultural professionals, technology developers, and society.

7. LIMITATIONS AND FUTURE DIRECTION

7.1 Limitations

Many constraints must be addressed; however, this work has provided valuable insights. Qualitative research gives deep perspectives, but it limits

its applicability. The sample size is large, yet it may not fully reflect all cultural experiences. Cultural complexities inside and beyond the examined locations may not be adequately reflected, stressing the need for caution when generalizing the findings. Self-reported data may have introduced social desirability bias, as individuals were incentivized to review their experiences well. The rapidly increasing area of AR may render results obsolete as technology advances, stressing their . ephemeral nature. The study's issue analysis is extensive yet subjective. Despite coder consistency attempts, researchers may interpret themes differently. Due to bias in the coding method, future research should use multiple coders and thorough cross-validation to increase theme analysis reliability. Although helpful for obtaining comprehensive opinions, the study's use of semi-structured interviews may limit its capacity to include quantitative data for statistical robustness. Additional research on mixed-methods approaches is needed to confirm findings and further understand this study's linkages.

7.2 Future Research

This analysis suggests various research fields. Comparing AR experiences across cultures may be a future research topic. Research on cross-cultural dynamics may reveal how museums employ AR, improving our knowledge of cultural differences. Longitudinal studies may also track user interaction, perceptions, and technical advances in AR experiences. Further research might examine AR in the teaching contexts of cultural institutions. Investigating how AR increases learning, knowledge retention, and cultural heritage understanding may help curriculum developers and teachers. AR may affect cultural organizations' capacity to retain and attract visitors. More research is needed. Continuous assessments of visitor engagement and revisits may help cultural organizations improve AR project efficiency. Future technological development may improve AR apps for different cultures. This includes overcoming language barriers, culturally appropriate visuals, and accessibility features to expand the audience. The ethical implications of augmented reality must be considered as it evolves. Augmented reality ethics study may address data privacy, cultural representation, and unintended consequences. By listening to artists, cultural heritage experts, and tech developers, we may better comprehend augmented reality's potential uses and moral issues in cultural studies. Cultural organizations can test the viability and scalability of augmented reality interventions. By considering AR's long-term implications, planners and decision-makers can better comprehend

institutional goals, visitor engagement, and cultural sensitivity. Augmented reality technology should be considered financially, scalable, and cost-effectively in varied cultural contexts by cultural organizations of all sizes.

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