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HYBRID REALITY ADOPTION IN VISUAL ART EXHIBITIONS: CULTURAL AND INSTITUTIONAL READINESS IN MALAYSIA

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ABSTRACT

Immersive technologies are reshaping the world of contemporary visual art exhibitions, opening fresh avenues for both audience interaction and curatorial innovation. Hybrid Reality (HR) is a combination of physical exhibition spaces and digital enhancements such as augmented reality, virtual reality and projection-based media. It has emerged as a promising approach to improving the ways people experience exhibitions. However, the trend of immersive exhibition formats is growing globally but the implementation of Hybrid Reality in visual arts in Malaysia is inconsistent and lacks consensus among institutions. This study investigates the cultural and institutional readiness for the implementation of Hybrid Reality in Visual Art Exhibitions in Malaysia. A qualitative research methodology was employed to explore the perceptions of the key stakeholders in the exhibition ecosystem. Data collection was performed through semi-structured interviews with visual artists and gallery curators. These interviews were then analyzed using a three-stage thematic analysis: open coding, axial coding, and the development of interpretive themes. Triangulation across the different groups of participants was used to increase the reliability and richness of the findings. The research identified three critical domains influencing the implementation of Hybrid Reality; Intent and Authorship, Audience Experience and Narrative, and Implementation and Strategy. The findings demonstrate that successful implementation of Hybrid Reality is not just a technological leap, but a confluence of artistic vision, audience engagement and pragmatic institutional structures. While Hybrid Reality technologies promise to extend narrative experiences, improve visitor engagement and widen the interpretive perspective, their successful implementation depends on interdisciplinary collaboration, adequate infrastructural support and robust institutional commitment. This research contributes to the current discourse on digital transformation in the arts by proposing a Hybrid Reality User Experience (UX) Conceptual Framework. Hybrid Reality is a process that links artistic content and audience participation to the context of the display environment. The results emphasize the necessity of combining technology with a human-centred perspective. It also suggests the need for collaboration between cultural, institutional and technological development for the sustainable implementation of Hybrid Reality in Malaysian visual art exhibitions. Hybrid reality is upending visual art exhibitions by making immersive technology the focus of change. This shift is changing the way audiences interact with art.

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Keywords: Hybrid Reality, Visual Art Exhibitions, Immersive Technology, Audience Experience, Cultural Readiness, Malaysia.

INTRODUCTION

Digital technologies have rapidly transformed contemporary visual art exhibitions. Traditionally, art exhibitions were held in "white cube" galleries. These environments were meant to be neutral, with low lighting and few distractions so that the visual elements of the art would take precedence (O'doherty, 1986). The method, once standard, is transforming. Today's audiences crave cultural experiences that truly engage them, drawing them into the narrative. As a result, museums and galleries worldwide are gradually moving away from conventional, static displays. They're instead adopting more interactive methods, frequently using technology to breathe life into these new approaches.

This was once the norm, however times are changing. Audiences now expect cultural experiences that involve them in totality, immersing them in the story. Consequently, museums and galleries around the world are slowly moving away from the traditional, static display. Rather they are using more participatory methods, often aided by technology to enhance these novel methods. Recent developments in immersive media such as augmented reality (AR), virtual reality (VR) and interactive projection systems have led to new ways for artists to showcase their work and for audiences to engage with it. These technologies provide the opportunity to combine physical and digital elements in exhibition contexts, leading to multi-sensory experiences. This is a major change in the traditional role of spectators, from passive viewers to active participants (Tesoriero et al., 2014). In the rapidly evolving technological context, Hybrid Reality (HR) has been proposed as a potentially influential approach. This combines traditional exhibition spaces with digital elements. The fundamental aim is to gain a better understanding of the stories being told, to encourage a more active participation from visitors and to broaden the scope for artistic expression.

Hybrid reality environments combine physical and digital aspects of art in order to offer a new and unique experience. These aspects can be represented by augmented reality interfaces, immersive projection systems and interactive media platforms. The combination of art and technology provides the opportunity to change the way we experience exhibitions. This methodology enables the audiences to experience the artworks through different sensory experiences and interactive narratives (Tesoriero et al., 2014) It is important to note that the use of digital elements in exhibitions has been demonstrated to improve audience accessibility, extend interpretive frameworks and support innovative curatorial practices in the context of contemporary museums and galleries (Parry R, 2013).

Cultural institutions around the world are experimenting with immersive and hybrid models of exhibition. For example, projection mapping, motion tracking systems and interactive media have demonstrated the potential of large-scale digital exhibitions and immersive installations to generate participatory cultural environments within gallery spaces (Giannini & Bowen, 2019). Such developments are symptomatic of wider societal changes related to the emergence of digital culture and experience economies, in which audiences increasingly demand interactive and personalised cultural experiences.

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Despite the progress in the world, the integration of Hybrid Reality in the context of visual arts in Malaysia is still far away and is applied variably. Although some organizations have experimented with immersive designs for exhibitions, the use of technology in Malaysian galleries is still in its infancy. Factors such as lack of infrastructure, financial constraints, availability of technical expertise, and the readiness of the institution may determine the extent to which Hybrid Reality can be successfully used in local exhibitions. In addition, the cultural viewpoint of the artistic community could also influence the use of technology in the production of art and exhibition planning. Therefore, assessing how ready artists, curators, and cultural institutions are to use Hybrid Reality is crucial for predicting the future of visual art exhibitions in Malaysia.

The visual arts ecosystem in Malaysia offers a unique chance to study the implementation of Hybrid Reality (HR) under the influence of multicultural identity, cultural policies based on heritage and differential institutional digital capacity. Unlike larger international art centres, where the adoption of immersive technologies is often supported by stronger commercial markets and established technical infrastructures, Malaysian galleries and cultural institutions are faced with the challenge of navigating technology adoption in a more diverse cultural environment of Malay, Chinese, Indian, Indigenous and other local artistic traditions. In the meantime, Malaysia's national cultural development continues to highlight the preservation of arts, culture and history through the National Culture Policy (DAKEN) 2021(Ministry of Tourism, 2021). Institutions are encouraged to be digitally innovative, but also culturally genuine, resource-limited and responsive to different audience expectations. Therefore, the Malaysian

Understanding the perspectives of these stakeholders can provide important insights into the possibilities, challenges, and strategic factors involved in using immersive technologies in exhibition practices. This study aims to evaluate the cultural and institutional readiness for using Hybrid Reality in Malaysian visual art exhibitions. This research aims to explore the perceptions of stakeholders on the technological integration in the exhibition space and an analysis of the cultural influences in the adoption of Hybrid Reality technologies. This research contributes to the current discourse on digital transformation in the arts by gaining insights into the experiences and perspectives of artists and gallery professionals, and by providing insight into the influence of emerging technologies on contemporary exhibition practices.

On the other hand, despite the widespread implementation of immersive exhibitions across the world, the implementation of Human Resources (HR) practices in the visual arts industry in Malaysia is fragmented and inconsistent, which necessitates a critical investigation of technological readiness, institutional flexibility, artistic independence, and user engagement in the context of local exhibitions.

The evolution of visual art exhibitions has revealed several important challenges and observations. Therefore, this study will focus on the following objectives:

> RO1: To investigate the views of stakeholders on the use of technology in Malaysian Visual Art Exhibitions.

The aim of this study is to analyse the cultural factors that influence the adoption of Hybrid Reality technologies in Malaysia's art scene. This research aims to systematically investigate the changing

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dynamics of Visual Art Exhibitions in Malaysia in terms of readiness for the integration of Hybrid Reality. This research aims to answer the following main question:

RQ1: What are the main perspectives of visual artists and gallery curators on the challenges and opportunities of using Hybrid Reality (HR) technologies in Visual Art Exhibitions (VAE) in Malaysia?

RQ2: What is the effect of cultural factors and institutional readiness on the adoption and effective use of Hybrid Reality (HR) in Malaysia's visual arts?

LITERATURE REVIEW

Hybrid reality (HR) holds significant promise and is set to transform how artists showcase their visual creations, fundamentally changing the way users interact with them. Several small studies have shown that hybrid reality (HR) positively affects how people create and experience visual art. Art exhibitions have always been important for showing art, encouraging discussions about culture, and involving people in artistic expression. Historically, exhibitions have often used the "white cube" model.

DEFINING HYBRID REALITY (HR)

Neutral architecture, minimal distractions and controlled lighting are features of the design of this gallery, which highlight the independence of the artworks (O'doherty,1986). The model presents the artwork in an environment designed to minimize external interference. The aim is to create a focused viewing experience, allowing viewers to engage fully with the art itself.

The white cube, the dominant model for modern art institutions for the whole twentieth century, has had a considerable influence on curatorial strategies employed by galleries and museums across the globe. However, critics argue that the white cube's perceived neutrality is ideological, and reinforces specific aesthetic hierarchies and limitations in the scope of interpretive approaches (Eschenburg, 2014). This model privileges the visual observation over the physical engagement, and turns the visitors into passive spectators of the exhibition rather than active participants.

In view of these limitations, contemporary exhibition design has increasingly embraced experiential and participatory approaches. The curators and exhibition designers are experimenting with new forms of narrative environments, spatial storytelling and multisensory experiences. The aim is to transform the exhibition spaces from simple static displays of art to vibrant and engaging environments. This transformation allows the audiences to engage with artistic content in deeper and more impactful ways.

The advent of experiential exhibitions signifies a more general movement in cultural consumption. Contemporary audiences seek immersive, participatory experiences over passive observation, compelling cultural institutions to craft exhibition formats that focus on participation, emotional engagement, and interpretive involvement (Mehmetoglu & Engen, 2011). Consequently, museums and galleries are increasingly integrating interactive installations, participatory artworks, and digital media into their exhibition spaces, with a view to encouraging visitor involvement and

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opening up the interpretative possibilities of artistic presentation. This change in approach radically transforms our understanding of exhibitions, turning the visitor from a passive observer into an active participant. Rather, exhibitions are now regarded as dynamic spaces that influence our understanding and interpretation of the art on display.

THE DIGITAL TRANSFORMATION OF MUSEUMS AND ART EXHIBITIONS

Digital technologies have turned museums and art exhibitions upside down in the last few decades . As a result, cultural institutions have turned to digital tools to improve their interpretive methods, increase access to their collections and encourage greater visitor engagement. The digital transformation in museums mirrors broader societal changes, including the growth of digital culture, the rise of networked communication and technological progress (Parry R, 2013).

In the beginning, digital initiatives of museums were focused on multimedia exhibitions, digital archives, and online catalogues where additional context was provided for works of art and exhibitions. However, the role of digital technologies has changed, and they are playing an increasingly important role in the conception of exhibition experiences. Interactive touch screens, multimedia installations, and digital projections have been adopted by museums in order to present artistic content in more dynamic and engaging ways (Giannini & Bowen, 2019). The idea of exhibition spaces being neutral spaces is no longer valid.

Digital technologies have offered new means for cultural institutions to reach out to audiences through online exhibitions, virtual tours, and digital collections. These developments have extended the reach of museums, allowing them to engage with people far beyond their physical locations and enhance access to cultural resources. The use of digital platforms in museums has thus contributed to creating more inclusive experiences and higher levels of participation among a more diverse audience. The rise of digital technologies has also transformed the practices of curators, who now have access to new tools for storytelling and interpretation.

The curators have been given the tools to create rich narratives using video, audio, animation and interactive media which add to the experience for the visitor. This has seen museums move away from the traditional, static displays and towards more interactive and immersive exhibition strategies. Museums are changing, responding to public demand by incorporating digital technology. Audiences today, accustomed to the immediacy of interactive digital experiences have changed the way they engage with cultural institutions. Museums are using digital technologies, not only to help people understand things, but also as strategic tools to attract and engage their audiences (Giannini & Bowen, 2019).

The theme of digital transformation in museums and galleries has grown increasingly pertinent since the COVID-19 pandemic, which has pushed many cultural institutions to reassess how exhibitions could continue in conditions of limited physical access. Internationally, the closing of museums and galleries led to a quick rise in the use of digital platforms, virtual collections, online exhibitions and social media as alternative means to keep the public involved. As (Noehrer et al., 2021) point out, the pandemic has altered the digital practices of museums and digital access has become a necessity for the visibility of the institution and the interaction with the audience, rather than a choice extension of the physical exhibition. Recent studies show that the digital transformation of museum exhibitions is increasingly linked to additional technologies such as

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augmented reality, virtual reality, artificial intelligence, cloud-based systems, and interactive platforms for visitor engagement and exhibition management (Li et al., 2024). A similar movement may be noticed in the visual arts sector in Malaysia as well. (Sedon et al., 2021) observed that the pandemic affected exhibitions, art projects and gallery activities, but also prompted artists, galleries, museums, curators and collectors to explore internet channels as alternate forms of cultural participation. (Amin et al., 2021) also observed that the use of virtual tours to Malaysian art shows was a pragmatic response to pandemic limits and changing audience behavior. The results of these studies suggest that digital and hybrid exhibition models should not be viewed only as temporary solutions in times of crisis, but as part of a wider transformation of the cultural institutions' approach to the balance between physical exhibition experiences and digital accessibility, audience participation and institutional resilience.

IMMERSIVE TECHNOLOGIES IN CULTURAL AND EXHIBITION SPACES

Recent advancements in immersive technologies have greatly expanded the possibilities for interactive and experiential exhibitions. Exhibitions may use technologies such as augmented reality (AR), virtual reality (VR), projection mapping and motion tracking to create immersive environments (Damala, 2009). The study concluded that this method improved audience interaction and understanding of the material. Immersive technologies allow digital content to be combined with physical exhibition spaces, giving audiences the opportunity to interact with artworks in ways that go beyond traditional viewing. Augmented reality applications can overlay digital content on physical artworks, adding further layers of interpretation that enrich the viewer's experience. Virtual reality environments enable users to explore digital reproductions of cultural sites or artworks in simulated environments.

Research suggests that immersive technologies can enhance the visitor experience, engaging multiple senses and encouraging active participation (Sylaiou et al., 2010). For example, interactive digital installations enable visitors to influence the response of an artwork through gestures, movement or touch and thereby convert the exhibition experience into a participatory event.

Projection mapping is a technique to project digital images onto building or other physical environments. It can be used to turn exhibition spaces into dynamic and ever-changing visual environments that increases the narrative and emotional impact of the experience. Large scale projections are often used in immersive art exhibitions and cultural presentations to create visually captivating experiences that attract viewers in.

More and more, immersive technologies are being adopted. This is both a continuation and an acceleration of the broader trend within exhibition design towards audience-engaging experiences. Immersive exhibitions, unlike traditional art displays, invite visitors to engage with artistic works within spaces constructed to foster curiosity, exploration and emotional responses.

HYBRID REALITY IN THE FIELD OF VISUAL ART EXHIBITIONS

Hybrid Reality (HR) is a new paradigm of technology that combines physical and virtual worlds for an interactive experience, where real and virtual objects co-exist and interact in real-time. The term hybrid or mixed reality was first introduced (Milgram & Kishino, 1994). in the reality-virtuality continuum describing the range of environments between the completely physical and the completely virtual. Hybrid reality technologies are changing fundamentally the experience of visual art. Artists and curators are experimenting with the new ways of combining traditional art forms with digital media. Augmented reality enhancements, immersive projections and interactive media interfaces are turning exhibition spaces into hybrid environments, where physical art objects are combined with digital elements. This expands the ways in which people can engage with art, offering a more immersive experience for the audience.

The hybrid reality exhibitions combining digital media and physical art offer many benefits to exhibiting and experiencing art. Curators are enabled to create complex narratives helping audiences to grasp artistic concepts. Visitors can benefit from digital augmentation having access to contextual information, visual simulations and interactive storytelling tools helping them to understand themes (Reeves et al., 2005).

Hybrid reality technologies are also creating new horizons for artists to experiment with new forms of creative expression beyond the boundaries of traditional media. Artists are increasingly blending digital animation, immersive soundscapes and interactive elements to create hybrid artforms that blur the line between physical and digital worlds. This transformation is expanding the horizons of visual art, and offering viewers new, immersive ways to engage with and enjoy artistic creations.

CULTURAL AND INSTITUTIONAL READINESS FOR THE TECHNOLOGY ADOPTION IN THE ARTS

The demand for hybrid reality environments is also related to the demand for immersive cultural experiences. The trend of exhibitions based on interactive and attractive environments is growing due to the increasing use of digital media. Therefore, hybrid exhibitions have become an important tool for museums and galleries to stay relevant in a rapidly changing cultural landscape. However, the success of the implementation of hybrid reality exhibitions depends on the technological infrastructure, curatorial expertise and the inclusion of a diverse audience. Creating engaging and coherent experiences for visitors relies on the effective integration of the digital technologies employed in exhibitions with artistic vision and curatorial goals.

The potential of immersive and hybrid technologies to revolutionise exhibition presentation is considerable but the readiness of cultural institutions to incorporate technology into artistic practice is crucial. Such preparedness depends on the internal readiness of the institution and the support of all stakeholders. When adopting new technologies, museums and galleries must consider a series of issues such as budget allocations, technical infrastructures, staff expertise and the general institutional objectives.

Studies on digital transformation in cultural institutions stress that organizational readiness is vital for the successful adoption of technology (Marty, 2007). The availability of technological

infrastructure and talented personnel makes the institutions more willing to adopt digital innovations in the design of exhibitions and curatorial practices. In contrast, institutions with fewer resources may find it hard to adapt to cutting-edge technologies such as hybrid reality systems. The independent artistic views of the art community, free from institutional restrictions, also determine the use of digital technologies. While some artists and curators view the technological experiment as an opportunity to expand the boundaries of artistic expression, others voice concerns about the possible impact of technology on artistic authenticity and creative independence. Therefore, the deployment of hybrid reality technologies requires the collaboration of different stakeholders such as artists, curators, technologists, designers, and institutional leaders. Effective collaboration is critical to ensure the compatibility of technological capabilities with artistic goals, and to enhance the visitor experience instead of overshadowing the artwork itself.

Therefore, knowledge about the stakeholders' perspectives is critical for evaluating the real-world usefulness and success of hybrid reality applications in specific cultural circumstances. By exploring the views of artists and curators, researchers can identify possible beneficial opportunities, challenges, and considerations of the use of immersive technologies in exhibitions. Malaysia's visual arts scene is at the nascent stages of discovering the capabilities of hybrid reality technologies. While some institutions have begun to trial immersive exhibitions, the complete adoption of hybrid technologies in galleries and museums is still in progress. Hence, understanding the readiness of the culture and institutions for the use of hybrid reality is vital in forecasting the future of digital innovation in Malaysian visual art exhibitions.

METHODOLOGY

RESEARCH DESIGN

This research employed a qualitative design to investigate the cultural and institutional readiness towards the adoption of Hybrid Reality (HR) on Malaysian context of Visual Art Exhibitions (VAE). The qualitative approach was selected given the nature of the research which sought to understand the perspectives, lived experiences and interpretations of the key players in the visual arts field. Qualitative methods are well suited to explore complex social and cultural phenomena where an understanding of the context and in-depth insights are vital (Creswell, 2018).

This study uses qualitative methods to explore the perspectives of artists and gallery curators in the use of hybrid reality technologies in exhibitions. This study aims to identify the main factors influencing the use of these technologies through the analysis of user opinions. These factors include the goals of the artist, the interaction between the audience and the technology, and the limitations imposed by the institution presenting the work.

CONCEPTUAL FRAMEWORK

The analysis of this study is guided by a Hybrid Reality User Experience (UX) Conceptual Framework. This framework provides a means to understand the effects of hybrid reality technologies on the creation and experience of exhibitions. The framework conceptualizes Hybrid Reality as a mediating element, located between three interconnected dimensions: intent authorship,

audience experience, narrative, implementation, and strategy. The conceptual framework is not meant to be a predictive model, but rather a guiding structure for the interpretation of qualitative data. This approach thus allows researchers to explore how artistic, experiential, and institutional factors interact to shape the use of hybrid reality in visual art exhibitions.

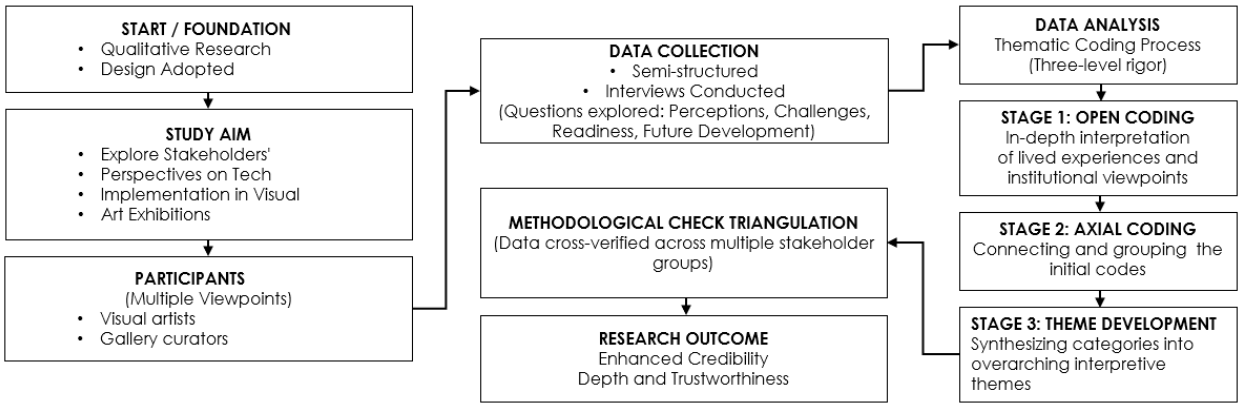


Figure 1: Conceptual Framework

PARTICIPANTS AND SAMPLING

The study's participants included visual artists and gallery curators. They were chosen because they were actively involved in organizing or participating in visual art exhibitions. These individuals were selected because of their key role in shaping exhibition design, curatorial practices, and technological experimentation in the visual arts.

The study involved a total of eight participants (N = 8), comprising five (5) visual artists and three (3) gallery curators. The visual artists group consisted of Ahmad Radzi bin Mohd Bedu-Radzi (more than 40 years of experience), Dr. Rosli bin Zakaria (more than 40 years of experience), Mohd Fairuz bin Paisan-Pooi (23 years of experience), Mohd Faizal Md Suhif (24 years of experience), and Aizat Amir Ahmad Sanusi (8 years of experience). The curator and gallery practitioner group consisted of Mohd Bakir bin Baharom from Gallery ASWARA (26 years of experience), Adina Quraisa Ibrahim, Senior Curator at Balai Seni Negara Malaysia (28 years of experience), and Siti Hawa Basriah binti Hassan Basery from Core Design Gallery (7 years of experience). The participants were purposively sampled due to their direct involvement and professional experience in visual art production, exhibition development, gallery management, curatorial practice and audience engagement in the Malaysian visual arts ecosystem. As artists and curators, they were positioned as expert informants that could provide relevant insights into the opportunities, challenges, and institutional conditions affecting the adoption of Hybrid Reality in visual art exhibitions.

The semi-structured interview was approximately 30 to 60 minutes depending on the availability of the participant and the length of the discussion. The content of the interview was based on the professional experience of the participants, perceptions of technology integration, institutional readiness, cultural issues, audience engagement and the future potential of Hybrid Reality in the Malaysian visual art exhibition.

The participants were selected using a purposive sampling technique based on their experience and expertise in exhibition practices especially those involving digital or hybrid media. This method

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is often used in qualitative research to identify participants who have rich information and who can provide valuable insights into the subject of the research (Patton, 2015).

The research included interviewing a number of artists and curators from Malaysian galleries. The opinions provided valuable insights on the opportunities and challenges of using hybrid reality in local exhibitions.

Although the sample size is relatively small, it is appropriate for a qualitative inquiry as the participants were selected as expert informants with direct knowledge of visual art exhibition practices in Malaysia. Their professional roles provided rich, field-based perspectives on artistic intention, curatorial decision making, institutional readiness, and practical feasibility of implementing Hybrid Reality technologies in exhibition settings.

DATA COLLECTION

The main method for data collection was semi-structured interviews. This method was selected to allow for the expression of the participants' experiences, perceptions, and knowledge about the use of hybrid reality technologies in visual art exhibitions. The semi-structured interview style gave the opportunity to the participants to provide more details about their own perspectives and at the same time to address the important themes related to the research aims (Kvale & Brinkmann, 1999). The interview questions were carefully designed to investigate different aspects of hybrid reality adoption, such as perceptions of technological integration in exhibitions, the role of technology in artistic expression, audience engagement strategies, considerations for experiential design, institutional readiness, operational challenges, and emerging trends in hybrid reality exhibitions. To record accurately the responses of the participants, each interview was conducted in a private space and audio-recorded with their permission.

DATA ANALYSIS

The interview data were thematically analyzed, a qualitative method of identifying recurring patterns and themes within the text. The analysis was conducted using a reflexive thematic analysis approach (Byrne, 2022). The analysis involved three stages of coding: open coding, axial coding, and theme development. The existing categories were then synthesized into broader themes. This served to clarify the relationships between artistic objectives, audience engagement, and the practical implementation of hybrid reality exhibitions within institutional contexts. The analysis yielded three overarching themes, all consistent with the existing theoretical framework: Intent and Authorship, Audience Experience and Narrative, and Implementation and Strategy.

The methodology section has been revised to include the exact sample size, participant distribution, professional roles, and interview duration. The study involved eight (8) expert participants, comprising four visual artists and three curators or gallery practitioners, all of whom have direct experience in visual art exhibitions and institutional/gallery practices in Malaysia.

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TRUSTWORTHINESS AND DATA VALIDATION

In order to increase the veracity and trustworthiness of the research results a number of qualitative validation techniques were used. At the beginning of the study data triangulation was used, which is the comparison of different perspectives from different groups such as artists and curators. The aim of this approach is to ensure that the results accurately capture the different perspectives that are present in the exhibition. After initial coding, the researcher honed the themes through repeated coding, which ensures that they accurately represent the perspectives of the participants. To increase transparency and methodological rigor, careful documentation of the analytical procedures was maintained (Walter D Fernández et al., 2002). These approaches ensure the study's results provide a dependable and meaningful understanding of stakeholders' perspectives on the use of hybrid reality in visual art exhibitions.

RESULTS AND DISCUSSION

The subsequent discussion elucidates the outcomes of the qualitative thematic analysis, which was based on interviews with visual artists and gallery curators. This study aimed to identify the key factors that influence the integration of Hybrid Reality (HR) into Visual Art Exhibitions (VAE) in Malaysia. After the coding process, the findings were categorized into three main thematic areas: Intent and Authorship, Audience Experience and Narrative, and Implementation and Strategy. These themes together explain how technology interacts with art, how visitors engage with it, and how prepared institutions are. Based on a re-examination across all participant transcripts (artists and curators), the core themes can be consolidated into three overarching categories: Intent, Experience, and Feasibility.

Table 1. Three Overarching Categories: Intent, Experience, and Feasibility.

Overarching Theme (Refined)	Sub-Themes & Integrated Categories	Core Concept
1.Intent & Authorship	Primacy of Content and Artistic Intention / Resilient Artistic Identity in Hybrid Contexts (Primacy of Content; Artistic Identity; Human-Centred Technology)	Technology is a tool, not a creative source, and must always serve the narrative and human intent.
2. Audience Experience & Narrative	Core Elements of Audience User Experience / Hybrid Reality as a Narrative Amplifier (Embodied UX; Emotional Engagement; Narrative Amplification)	Effective UX requires emotional resonance, physical embodiment, and the use of hybrid media to deepen storytelling and accessibility. Hybrid reality deepens engagement and meaning making.

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3. Implementation & Strategy	Necessity of Collaboration and Ecosystems / Operational and Structural Constraints (Collaboration; Governance; Resources and Infrastructure)	The successful adoption of hybrid reality is a collaborative, strategic institutional effort highly dependent on funding, technical skills, and adherence to policy frameworks.

THEMATIC ANALYSIS AND THEMATIC MAPPING

Thematic analysis and thematic mapping are essential methods for understanding the data. Therefore, this finding highlights the importance of these methods. Generation, refinement, and visual organization of themes derived from the qualitative analysis of artists, curators, and gallery practitioners. Thematic development followed the thematic analysis process described by(Byrne, 2022b) which included creating, reviewing, and refining themes.

FINAL GENERATED THEMES

The five core interrelated themes surrounding the implementation and success of hybrid reality in art exhibitions that emerged from the Level 3 Coding as described in the next section are presented below: Final Theme Core Meaning Primacy of Content and Artistic Intention Technology should enhance artistic intent, narrative and authorship not override the artwork.

Table 2: Five Central Interconnected Themes: Adoption and Effectiveness of HR in VAE

Final Theme	Core Meaning
Primacy of Content and Artistic Intention	Technology must serve artistic intent, narrative, and authorship rather than dominate the work.
Core Elements of Audience User Experience (UX)	Meaningful UX is rooted in embodiment, emotional engagement, and interpretive mediation.
Hybrid Reality as a Narrative Amplifier	Hybrid tools extend storytelling, interpretation, and accessibility of artworks.
Necessity of Collaboration and Ecosystems	Hybrid exhibitions require multidisciplinary collaboration and institutional partnerships.
Operational and Structural Constraints	Cost, infrastructure, governance, and technical skills shape feasibility and scalability.

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THEMATIC MAP

The thematic map below illustrates the relationship between themes. Hybrid Reality in Art Exhibitions functions as the central phenomenon, supported by intent, experience, and feasibility dimensions.

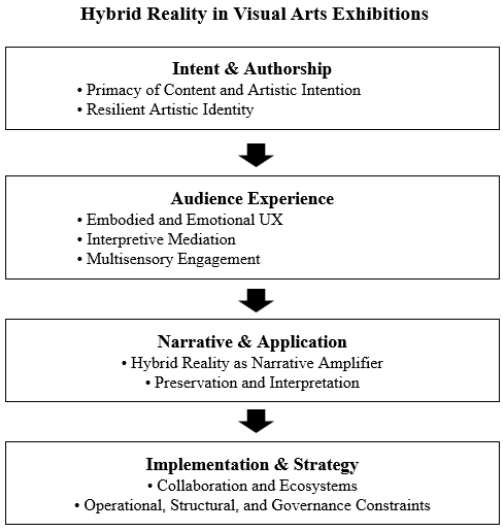


Figure 2. Central Phenomenon: Hybrid Reality in Visual Arts Exhibitions

Figure 2 presents the thematic map derived from the qualitative analysis of artists, curators, and gallery practitioners. Three interconnected main dimensions are simultaneously presented: Intent and artistic authorship, Audience experience, Narrative, Application and Implementation, and Strategy. These dimensions together explain how hybrid reality influences user experience and satisfaction in modern exhibition spaces. Thematic analysis showed that the effectiveness of hybrid reality in visual arts exhibitions is determined not only by the used technology. The impact of a work of art is determined by its ability to fulfill its artistic intentions, the perception of the audience and the specific context of presentation.

HYBRID REALITY USER EXPERIENCE (UX) CONCEPTUAL FRAMEWORK

Based on the refined themes, a Hybrid Reality User Experience (UX) Conceptual Framework is proposed to explain the relationships between artistic intent, experiential quality, and operational feasibility.

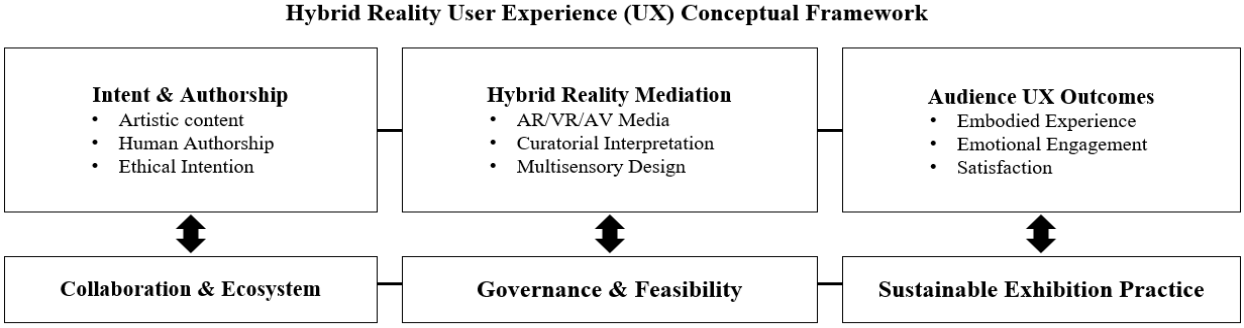


Figure 3. Central Phenomenon: Hybrid Reality in Visual Arts Exhibitions

Figure 3 shows that hybrid reality acts as a bridge, connecting artistic creation that focuses on content with the physical and emotional experiences of users. The connection is also influenced by collaboration, governance, and the availability of resources. This structure demonstrates that user satisfaction emerges through the balanced interaction of these dimensions rather than through technological novelty. A Hybrid Reality User Experience (UX) Conceptual Framework is proposed, based on the refined themes, to explain the relationships between artistic goals, the quality of the experience, and how practical it is to implement.

Figure 3 shows the Hybrid Reality User Experience (UX) Conceptual Framework, which is based on a thematic analysis. This framework explains how artistic goals and the idea of authorship are shaped by hybrid reality tools, which then create meaningful experiences for the audience. The proposed framework views hybrid reality as a way to connect, rather than as a final goal. User experience outcomes are created when technology aligns with content, supported by curatorial interpretation, and institutional considerations.

INTENT AND AUTHORSHIP: TECHNOLOGY AS A SUPPORT FOR ARTISTIC VISION

Core Elements of Audience User Experience (UX) is successful in a rooted, authentic, human authorship and the physical, embodied experience. Curators are crucial in helping the audience understand the meaning of artworks. In addition, institutions use hybrid formats to increase attendance and attract a wider spectrum of people. The first thematic area considers the importance of artistic intent in the use of hybrid reality technologies in exhibitions. The participants repeatedly pointed out that technology should be used as a supporting tool and not the object of artistic creation. As a general rule, artists feel that digital technologies should be used to support the conceptual and artistic meaning of the work and not to replace the artwork itself. This position emphasizes the importance of artistic authorship in the practices of contemporary exhibitions. While hybrid reality technologies open new opportunities for storytelling and audience engagement, the participants emphasized that the core value of an exhibition is still based on the ideas behind the artwork. Thus, the participants perceived technology as a tool to support artistic expression rather than as a replacement of the existing artistic means. The participants emphasized that technology should be used as a means to support artistic expression, not as a substitution for the artwork itself. This is in line with previous research stating that digital technologies used in cultural exhibitions are best when used to support and amplify artistic narratives and not to replace the original artwork (Reeves et al., 2005).

The results suggest that the success in the use of hybrid reality is dependent on a balance between the technological development and the artistic intent. Hence, a judicious use of technology in the creative process may extend our understanding and audience engagement while maintaining the key artistic principles.

AUDIENCE EXPERIENCE AND STORYTELLING: ENGAGEMENT WITH HYBRID MEDIA

The second thematic dimension explores the role of hybrid reality technologies in the context of audience experience and story engagement. Participants indicated that hybrid reality represents a successful way to enhance visitor engagement through immersive, emotional experiences. Artists and curators recognized that digital technologies such as augmented reality overlays, projection mapping and interactive media platforms can be utilized to enhance the storytelling potential of exhibitions. These technologies allow the audience to engage with the artwork through multiple sensory channels, turning the traditional viewing process into an active and participatory experience.

Participants also mentioned that hybrid reality can improve accessibility for different audiences . Interactive digital elements may attract younger visitors who are familiar with digital media environments, thereby broadening audience engagement in contemporary art spaces . In this sense, hybrid reality exhibitions indicate a shift from passive observation to more experiential and interpretive modes of cultural participation .

However, participants highlighted that the quality of audience engagement depends not only on technological sophistication but also on curatorial mediation. Curators have a key role in developing narrative frameworks that guide visitors through hybrid exhibition spaces and interpret artistic concepts in technologically augmented spaces.

The results suggest that hybrid reality technologies can enhance the audience's engagement by providing immersive and interactive environments that promote participatory experiences in exhibition spaces. Similar findings have been reported in museum studies, where immersive digital environments have been reported to enhance visitor engagement and interpretive interaction with cultural content (Damala, 2009), (Sylaiou et al., 2010).

IMPLEMENTATION AND STRATEGY: INSTITUTIONAL AND OPERATIONAL CONSIDERATIONS

The third thematic area investigates the institutional and operational considerations about the feasibility of the integration of hybrid reality into visual art exhibitions. The participants discussed a range of practical challenges associated with the implementation of immersive technologies, including financial constraints, technological infrastructure and the requirement for technical expertise. Many galleries and cultural institutions work under budgetary constraints that may restrict their ability to adopt advanced digital technologies. Hybrid reality exhibitions often require the collaboration of heterogeneous teams of artists, curators, designers and technology specialists. Furthermore, participants highlighted the importance of institutional readiness for the successful integration of hybrid reality technologies into exhibition practices. Galleries with a strong technological infrastructure and organizational support are more likely to experiment with hybrid exhibition formats. The role of technology was perceived by participants as a facilitator of artistic expression rather than the core of the artwork. This view is consistent with prior research that suggests that the successful application of digital technologies in cultural exhibitions is most effective when digital technologies are used to support artistic narratives rather than replace the original artwork (Reeves et al., 2005).

However, the participants were optimistic about the future of hybrid reality in the Malaysian visual arts scene. Some of the interviewees suggested that future hybrid exhibition spaces could be created by encouraging more collaboration between cultural institutions, universities and creative technology professionals. Hybrid exhibition spaces often necessitate collaboration between different fields and institutional support. Likewise, previous studies have shown that the successful application of digital technologies in museums is dependent on the organization's preparedness, technical infrastructure, and the skills of curators (Giannini & Bowen, 2019).

The research findings indicate that the use of hybrid reality technologies in exhibitions of visual art is determined by the interaction of artistic goals, audience engagement, and institutional resources. These factors together influence how hybrid technologies are understood, used, and experienced in exhibitions.

IMPLICATIONS FOR STUDY

THEORETICAL IMPLICATIONS

Theoretically, the work contributes to the concept of Hybrid Reality (HR) by moving beyond a solely technological view. The study frames HR not only as a digital tool or exhibition enhancement, but as an integrated framework linking artistic aim, audience experience and institutional preparation. The proposed Hybrid Reality User Experience (UX) Conceptual Framework gives an understanding of the working of HR as a mediating element between creative content and visitor interaction in visual art exhibitions.

The approach is particularly useful as it demonstrates that HR's success does not strictly depend on technology. It is rather a question of how technology mediates authorship, reinforces narrative interpretation, and works under realistic institutional constraints. This relates to current conversations on digital transformation in cultural institutions by revealing that HR adoption should be viewed through cultural, experiential and organisational dimensions. In the Malaysian context, this theoretical approach is significant in that it emphasises that digital exhibition practices need to be read in conjunction with local artistic ideals, cultural identity and institutional capacity.

Hence the research contributes to knowledge by providing a context-sensitive framework to understand HR adoption in visual art exhibitions. It also sets the stage for future study that might further investigate the relationship between immersive technology, audience happiness, curatorial decision-making, and cultural preparedness in Malaysia and other similar cultural settings.

PRACTICAL IMPLICATION

Practically, the findings offer useful insights for artists, curators, galleries, cultural institutions, and policy makers interested in the future development of hybrid exhibition formats in Malaysia. HR allows artists to enrich their tale with digital layers, projection, sound, interaction and immersive spatial experiences. Nevertheless, the results indicate that these technologies should be utilised to enhance the meaning of the artwork rather than to replace the original aim of the artist.

For curators and gallery practitioners the study points to the necessity of preparing HR shows with clear curatorial direction. Hybrid exhibitions are not just about putting digital technology into a gallery space, they are about carefully considering narrative flow, visitor movement, accessibility,

technical assistance and audience interpretation. This means that curators have to engage with artists, designers, technicians and institutions to make the digital elements meaningful and durable.

It concludes that the future of HR in Malaysian cultural institutions is promising but requires more preparatory effort at the institutional level. Galleries and museums should invest in digital infrastructure, staff training, technology partnerships and long-term funding strategies. Collaboration with universities, creative technology practitioners and government cultural organisations could assist overcome technical constraints and stimulate the development of more accessible hybrid display models.

On a macro level, HR can help support Malaysia's visual arts industry by recruiting younger audiences, enhancing public participation and making exhibitions more accessible outside the walls of traditional galleries. Its success, however, relies on a balanced approach that respects cultural identity, creative authenticity and institutional competency. HR should thus be viewed not as a mere technological breakthrough but as a strategic opportunity to enhance the expansion of the Malaysian contemporary visual arts ecosystem.

CONCLUSION

This investigation examined the cultural and institutional preparedness for the integration of Hybrid Reality (HR) within Visual Art Exhibitions (VAE) in the Malaysian visual arts context. The research examines the views of artists and gallery curators to shed light on the relationship between technological development and artistic practice, audience engagement and institutional capacity. The results show that three interconnected factors shape the use of hybrid reality technologies in visual art exhibitions: Intent and Authorship; Audience Experience and Narrative; and Implementation and Strategy. These factors highlight that the successful use of hybrid reality technologies needs more than technical skills, but rather the confluence of artistic vision with immersive visitor experience and institutional preparedness. The Intent and Authorship dimension highlights the importance of maintaining artistic integrity in the integration of digital technologies within exhibition contexts. Participants stressed the role of technology as a tool for enhancing the artistic narrative, and not that of dominating the creative process itself. Furthermore, the dimension Audience Experience and Narrative emphasises the potential of hybrid reality technologies to fundamentally change the visitor's interaction during the exhibition experience. Hybrid exhibitions have the potential to generate emotionally compelling, participatory experiences that broaden the audience's modes of understanding and engaging with the through immersive environments and interactive storytelling. artworks on display . Finally, the Implementation and Strategy dimension points to the importance of institutional frameworks, technological know-how and collaborative networks in enabling hybrid exhibition formats. The successful deployment of hybrid reality technologies requires collaboration among artists, curators, technologists and cultural institutions. Drawing from these findings, this research proposes a Hybrid Reality User Experience (UX) Conceptual Framework. The framework depicts the interaction between artistic goals, audience engagement, and institutional sustainability in hybrid exhibition spaces. It envisions hybrid reality as an intermediary layer, bridging creative content with experiential interaction, while being concurrently influenced by organizational and technological factors. The findings of this study indicate that the adoption of hybrid reality

technologies in visual art exhibitions is depending on the intersection between the artist's intentions, the audience, and the museum's resources. These points add to ongoing conversations in the fields of museum studies and digital culture. These conversations demonstrate the potential of immersive technologies to enhance visitor experiences when used with care in curatorial practices (Giannini & Bowen, 2019).

This research adds to the emerging discussion of digital transformation in cultural institutions by providing an in-depth exploration of the use of hybrid reality in the Malaysian visual arts scene. Based on different stakeholders' perspectives, this research underscores the impact of cultural factors and an institution's flexibility on the use of technology in art exhibitions. Future research could extend this research by studying how audiences make sense of hybrid exhibitions or by comparing such exhibitions in different cultural contexts. Further research in this area would help us understand how immersive technologies are changing the current landscape of visual art exhibitions.

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CONFLICT OF INTEREST

The authors declared that there is no conflict of interest regarding the publication of this study.

CONTRIBUTION OF AUTHORS

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