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## INFORMATION DISSEMINATION OF XI'AN'S CITY IMAGE THROUGH ARTIFICIAL INTELLIGENCE (AI)

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### Abstract:

This study explores the dissemination and reception of Xi'an's city image in Malaysia under the empowerment of artificial intelligence (AI). With Xi'an's rich cultural-historical identity, including its Silk Road heritage, UNESCO World Heritage sites, and Muslim-friendly food culture, the research examines how AI technologies reshape cross-cultural communication and audience engagement. Drawing on qualitative interviews with diverse Malaysian participants and NVivo-based three-stage coding analysis, three key themes emerged: Cultural-Historical Identity, Media Experience and Content Format, and Cultural Adaptation and Communication Barriers, converging in the core category of AI-enabled Cross-Cultural Dissemination of Xi'an's City Image. Findings reveal that AI-driven media formats—such as short videos, virtual reality tours, and personalized content recommendations—were perceived to enhance dissemination efficiency and audience participation. These approaches broaden access to Xi'an's cultural narratives and facilitated affective engagement and cultural affinity among participants, particularly through Muslim-friendly and localized content. However, participants expressed concerns over authenticity, algorithmic content homogenization, and insufficient cultural nuance, which may hinder long-term engagement and trust. AI serves as both an enabler and a challenge in cross-cultural city image communication. A human-AI collaborative approach is recommended, emphasizing cultural sensitivity, localization strategies, and diversified content formats. These findings advance research on AI-mediated city image communication by foregrounding audience reception in the Malaysian context and by highlighting the tension between algorithmic personalization and cultural authenticity.

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Audience Perception; Artificial Intelligence; Cross-Cultural Communication; Malaysia; Xi'an City Image



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## Introduction

The international dissemination of city images has been fundamentally reshaped by the rise of artificial intelligence (AI) and the rapid expansion of digital media. For historically and culturally significant cities such as Xi'an, these transformations create both new opportunities and new challenges for international communication. As the ancient capital of thirteen dynasties and the eastern starting point of the Silk Road, Xi'an is widely recognized as an important symbol of Chinese civilization (Zhang & Lai, 2025). In recent years, the city has increasingly participated in national cultural communication initiatives and has used digital platforms to expand its global visibility and cultural influence, particularly in culturally diverse overseas contexts such as Malaysia (Ngu & Ngeow, 2021).

Digital technologies and AI applications have also changed the ways in which city images are produced, circulated, and interpreted. On platforms such as Douyin (TikTok), YouTube, and Instagram, narratives of Xi'an that emphasize historical landmarks, cultural heritage, and tourism appeal can now reach audiences across linguistic and cultural boundaries more efficiently than before (Li & Bolong, 2024). At the same time, such communication is often constrained by content homogenization, insufficient localization, and limited cultural sensitivity in message design (Banerjee, Nair, & Yamamoto, 2024). In this context, AI tools—including generative systems such as ChatGPT for text production and Midjourney or DALL·E for image generation—offer new possibilities for creating culturally adaptive narratives, personalized recommendations, and immersive communication experiences that may enhance cross-cultural resonance (Arasil, Qadri, & Tahir, 2025). These technologies can improve production efficiency while supporting more targeted and context-aware representations of a city's identity (Sundar, 2020).

Malaysia provides a particularly relevant setting for examining the cross-cultural communication of Xi'an's city image. As a multi-ethnic and multilingual society with long-standing historical and cultural ties to China, Malaysia offers favorable conditions for cultural exchange while also presenting challenges of localization, cultural adaptation, and differentiated audience reception (Ngu & Ngeow, 2021). Previous research suggests that communication effectiveness in multicultural environments depends heavily on linguistic accessibility, cultural familiarity, and the affective relevance of mediated narratives (Banerjee et al., 2024). AI-powered tools appear to offer promising solutions in this regard, for example through dynamic localization and user-specific engagement strategies (Global Perspectives on

AI Bias, 2023). However, they also raise important concerns regarding authenticity, cultural sensitivity, and algorithmic bias (UrbAI, 2024).

Despite growing scholarship on city branding, digital media promotion, and AI-enabled communication, a clear scholarly gap remains at the intersection of these fields. Existing studies have largely focused on promotional strategies, technological affordances, or platform visibility, while paying comparatively limited attention to how AI-mediated city image content is interpreted and received by audiences in cross-cultural contexts. In particular, little is known about how Malaysian audiences engage with AI-generated or AI-enhanced representations of Chinese cities, or how cultural and technological factors jointly shape the effectiveness of such communication in Southeast Asian multicultural settings. This gap is especially significant in the case of Xi'an, whose international image has often been discussed in terms of heritage value and digital promotion, but less frequently in terms of audience reception under AI-enabled communication conditions. By focusing on the China–Malaysia context, this study addresses an underexplored dimension of city image dissemination: the audience-side reception of AI-mediated cultural representation in a multilingual and culturally diverse environment.

This study is grounded in cross-cultural communication theory. This theoretical perspective is particularly relevant because the dissemination of city images across national and cultural boundaries is not simply a matter of information transmission, but also a process of meaning negotiation, cultural interpretation, and audience adaptation. In the case of Xi'an's city image in Malaysia, cross-cultural communication theory provides a useful framework for examining how culturally embedded narratives are received, understood, and evaluated in a multilingual and multicultural environment. Within this framework, AI is treated as an enabling communication condition that influences how content is produced, localized, and circulated, while the central analytical focus remains on cross-cultural interpretation and audience reception.

Against this backdrop, this study examines how Xi'an's city image is constructed, disseminated, and received in Malaysia within an AI-enabled communication environment. It addresses three research questions: (1) How does AI technology influence the construction, representation, and dissemination of Xi'an's city image across cultural boundaries, particularly in Malaysia? (2) How do Malaysian audiences perceive, interpret, and engage with AI-generated or AI-enhanced representations of Xi'an's city image? (3) What cultural and technological factors affect the effectiveness of AI-driven city image communication, and how can these factors be optimized to improve cross-cultural resonance in Malaysia? Addressing these questions, the study advances research on AI-mediated city image communication by foregrounding audience reception in a Southeast Asian context and by highlighting the tension between algorithmic personalization and cultural authenticity in the cross-cultural dissemination of Xi'an's city image. To guide the empirical investigation, a semi-structured interview protocol consisting of ten questions was developed.

By examining AI across multiple stages of city image dissemination—from content creation and message adaptation to audience engagement and feedback—this study seeks to connect technological innovation with cross-cultural communication practice (Arasil et al., 2025; Sundar, 2020). In doing so, it provides insights for policymakers, communication practitioners, and urban branding strategists who aim to improve the cultural resonance, inclusiveness, and international impact of Chinese city image communication in the digital era.

## Literature Review

Urban image communication has long been a topic of interest within media and communication studies because city branding influences not only tourism and investment but also cultural diplomacy. With the growth of digital platforms, especially social media, the mechanisms through which cities represent themselves and interact with global audiences have dramatically evolved (Meikle, 2024). In recent years, the integration of artificial intelligence (AI) into media strategies has further transformed how city images are created, customized, and disseminated globally. This section reviews prior research related to new media and urban image communication, focusing on the case of Xi'an City within an international and cross-cultural communication context. The literature is organized into three thematic categories: city branding and media strategy, audience perception and cross-cultural reception, and AI-enabled city image dissemination. These themes capture the transition from traditional top-down messaging to participatory, technology-mediated, and personalized communication approaches.

### *City Branding And Media Strategy*

City branding has evolved significantly from traditional static promotional methods to dynamic, digital media strategies. City branding traditionally relied on static promotional materials, official tourism campaigns, and event-based marketing (van Dijck, Poell, & de Waal, 2018). However, the rise of Web 2.0 and social media platforms has shifted branding toward interactive, decentralized, and user-driven approaches (Meikle, 2024). Cities now compete for attention in a digital ecosystem where narratives are co-created with audiences, and brand identity is subject to constant public evaluation (You, Christofi, Tsappi, & Papageorgiou, 2024).

New media's affordances—such as speed, visual dominance, and community engagement—have led to the adoption of visual storytelling and influencer partnerships. Studies show that platforms like Instagram and TikTok play a pivotal role in enhancing destination appeal, as visual aesthetics and emotional tone significantly shape public perception (Huang & Zheng, 2024). Research on internet-famous urban sites demonstrates how curated images can drive rapid spikes in tourist arrivals and online engagement, although such popularity can risk oversimplified and short-lived representations (Huang, Lin, & Chen, 2024).

The digital transformation of city branding also integrates broader development agendas, linking cultural storytelling with tourism, economic growth, and governance. The digital transformation of city branding extends beyond visual content to include strategic integration with economic development, tourism, and governance (Wan & Li, 2024). Cities now design holistic strategies that combine big data analytics, interactive campaigns, and personalized marketing. Harbin's transition from a seasonal "online star city" to a long-term recognized urban brand illustrates the need to sustain engagement beyond viral content (Wang, 2024). The integration of culture-specific narratives and unique heritage elements, such as Harbin's ice festivals or Xi'an's Tang Dynasty heritage, enhances resonance and differentiates cities in a crowded digital space (Xu & Li, 2024). For Xi'an specifically, research highlights its unique positioning as a city symbolizing China's ancient civilization and Silk Road heritage (Zhang & Lai, 2025). The city has adopted multi-platform strategies emphasizing short video production, live streaming, and influencer collaboration, particularly on Douyin (TikTok), which has successfully attracted younger domestic and international audiences (Li & Bolong, 2024).

Social media further encourages participatory branding in which travelers, residents, and influencers collaboratively shape perceptions of cities. Participatory branding—where users actively contribute to city image creation—has emerged as a central theme in recent research (Anderson, Albinsson, & Ducarroz, 2024). Peer-to-peer (P2P) communities on social media enable travelers, residents, and influencers to co-create narratives, often yielding content perceived as more authentic than official campaigns (Huang et al., 2024). While user-generated content (UGC) democratizes city branding, it also poses challenges for managing brand consistency and preventing misinformation (You et al., 2024).

### ***Audience Perception And Cross-Cultural Reception***

Audience perception plays a crucial role in the success of city image communication. Understanding audience perception is essential for effective city image communication. Modern branding emphasizes co-creation and dialogical engagement rather than one-way promotion (Hall, 1997; McQuail, 2010). Audience reception studies focus on how cultural background, media literacy, and personal values influence interpretation of city narratives (Kim & Carpentier, 2025). Cross-cultural reception becomes particularly significant for cities engaging in international branding. While cultural heritage often attracts international interest, unfamiliar symbols or narratives may create distance if not adequately contextualized (Ngu & Ngeow, 2021).

Chinese cities face unique challenges when communicating internationally. While their rich historical and cultural assets are appealing, differences in language, values, and information consumption habits can limit message effectiveness (Banerjee, Nair, & Yamamoto, 2024). Studies on Malaysia suggest that cultural resonance increases when communication integrates shared heritage (e.g., the historical role of the Silk Road) and contemporary relevance (e.g., student exchanges, halal food culture). For example, Malaysian audiences often respond positively to narratives about Xi'an's Muslim heritage and halal food offerings, which align with their cultural and religious experiences (Ngu & Ngeow, 2021).

Xi'an successfully balances its rich cultural heritage with modern elements. Research focusing specifically on Xi'an highlights that international audiences perceive the city as a cultural and historical hub symbolizing traditional Chinese civilization (Wang, 2023). Audience studies reveal that while historical depth is a strength, younger audiences often seek immersive and interactive experiences (Huang & Zheng, 2024). Short-form videos featuring local cuisine, modern architecture, and interactive festivals tend to receive higher engagement than traditional static images. These findings suggest that effective communication of Xi'an's city image must balance its ancient cultural identity with narratives of modernity and inclusiveness.

### ***AI-Enabled Communication In City Image Dissemination***

AI technologies play a pivotal role in revolutionizing media and communication. AI technologies have revolutionized content creation, audience segmentation, and media personalization (Sundar, 2020). In the context of city branding, AI enables automation of content production, multilingual translation, and targeted content delivery. Cities increasingly rely on AI to manage big data from social media platforms, conduct sentiment analysis, and optimize campaign strategies in real time (You et al., 2024). These tools can identify emerging audience trends, detect misinformation, and predict engagement patterns, making communication strategies more agile and evidence-based (Xu & Li, 2024).

AI-driven personalization and immersive experiences enhance city branding. AI-powered personalization enhances the relevance of city branding messages. Recommendation algorithms on platforms like TikTok suggest city-related content tailored to users' preferences, which increases engagement and conversion rates (Arasil, Qadri, & Tahir, 2025). Similarly, immersive experiences—such as virtual reality tours and AI-generated cultural avatars—enable audiences to experience cities remotely, broadening access and appeal (UrbAI, 2024).

AI raises ethical and cultural concerns. Despite its potential, AI-mediated city branding raises ethical concerns. Algorithmic bias may privilege certain narratives, leading to cultural asymmetry or stereotyping (Global Perspectives on AI Bias, 2023). Authenticity is another issue, as audiences may question whether AI-generated content accurately reflects a city's cultural essence (Reisach, 2021). Research warns that AI-driven automation should not replace human creativity and cultural sensitivity but rather complement them. Effective AI integration requires collaboration between technology experts, communication professionals, and cultural scholars to ensure inclusivity, accuracy, and respect for local traditions (Kim & Carpentier, 2025).

The literature demonstrates a clear evolution in city branding and image communication, driven by digital transformation and AI technologies. Xi'an, with its deep historical and cultural resources, is well-positioned to benefit from these trends. However, few studies examine how AI technologies influence the cross-cultural dissemination and perception of Xi'an's city image in multicultural contexts such as Malaysia, leaving a gap this research addresses. The gap lies in understanding how AI tools specifically influence cross-cultural audience perception and engagement in multicultural societies like Malaysia. This study seeks to fill that gap by exploring AI-empowered strategies for disseminating Xi'an's city image and examining how Malaysian audiences perceive and respond to these emerging communication approaches.

### **Research Methodology**

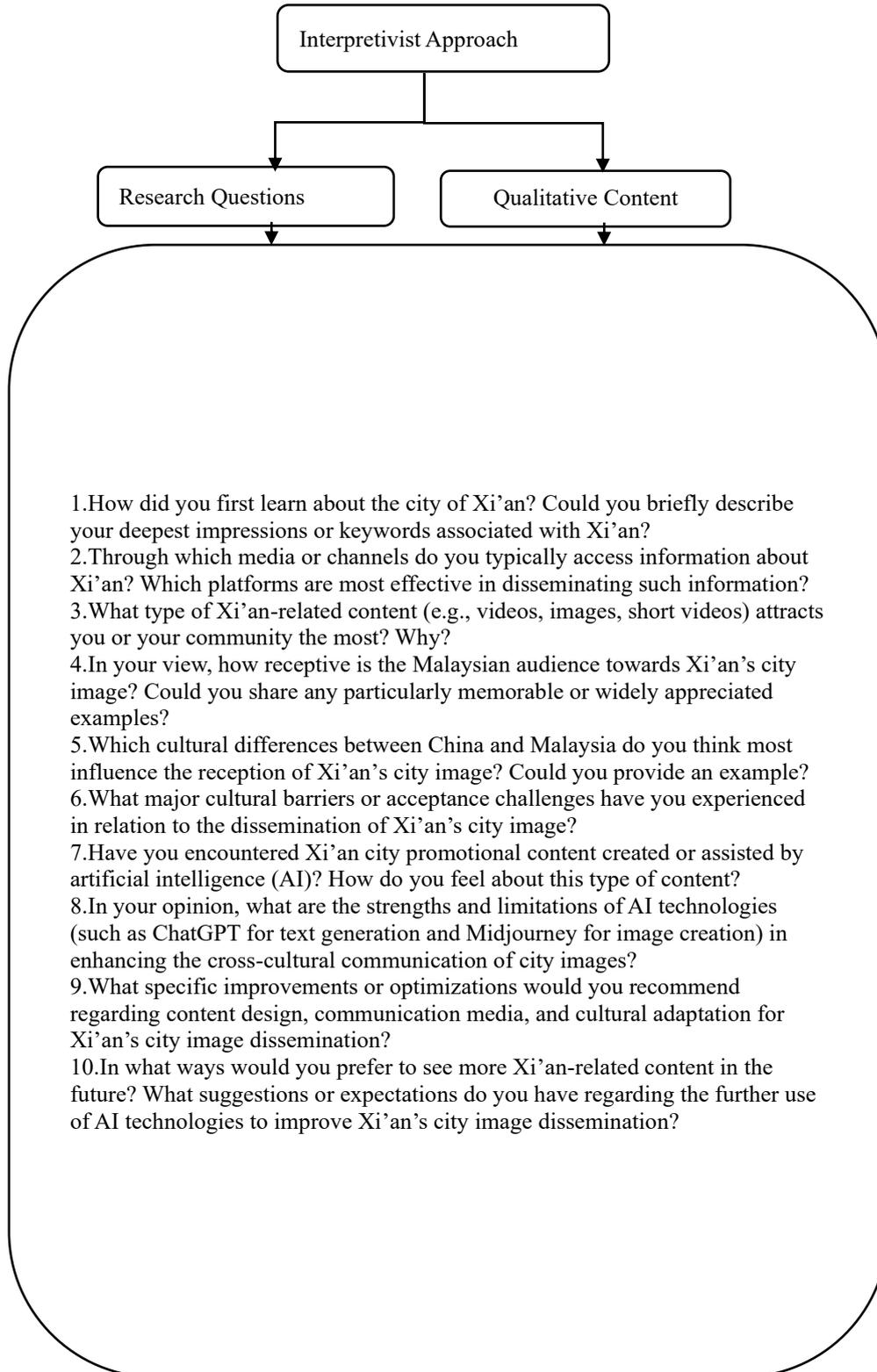
This study adopts a qualitative research design to examine how AI technologies mediate the dissemination of Xi'an's city image and how Malaysian audiences perceive and interpret such content. The research focuses on symbolic representation, cultural adaptation, and user experiences in AI-driven communication environments, which are particularly relevant given recent digital transformations (Kim & Carpentier, 2025).

The study is based on semi-structured interviews with eight participants in Malaysia representing diverse cultural and professional backgrounds. A purposive sampling strategy was employed to ensure variation in perspectives, including Chinese Malaysian students and scholars in tourism and communication fields, social media influencers and travel content creators, Chinese international students studying in Malaysia, and Malay youth with limited prior exposure to Xi'an. Participants were between 26 and 36 years old and had varying levels of professional or academic experience. Data were collected between March and May 2025 through interviews lasting approximately 30 minutes each. The interviews were analysed using a grounded-theory-inspired three-stage coding process (open, axial, and selective coding) supported by NVivo 12.

### ***Research design***

An interpretivist approach was employed, as it emphasizes subjective meanings and context-specific interpretations (You, Christofi, Tsappi, & Papageorgiou, 2024). The research combined in-depth interviews with qualitative content analysis using NVivo 12, enabling the identification of cultural patterns and technological influences in audience perceptions.

Based on the above research design, the following figure (Figure 1) clearly presents the main components of the study, including the formulation of research questions.



**Figure 1 Research Design Framework on Xi'an City Image**

### *Data Collection And Coding Process*

A purposive sampling strategy was used to recruit eight participants representing four categories. The first group consisted of Chinese Malaysian students and scholars in tourism management and communication (n = 2), who contributed informed perspectives as both researchers and audience members. The second group included social media influencers and travel content creators (n = 2), who had experience with content localization, particularly on TikTok. The third group comprised Chinese international students in Malaysia (n = 2), who were familiar with both Xi'an-related narratives and local audience responses. The fourth group involved Malay youth with limited prior exposure to Xi'an (n = 2), who represented potential audiences and provided relatively fresh initial impressions. This diversity ensured coverage of different audience groups and content creators, supporting a broader understanding of cross-cultural reception in the Malaysian context (Anderson, Albinsson, & Ducarroz, 2024).

**Table 1 Informant Profile Information**

<b>Informant</b>	<b>Gender</b>	<b>Age</b>	<b>Working Experience</b>
<b>1</b>	Female	34	5 years
<b>2</b>	Male	33	10 years
<b>3</b>	Female	28	4 years
<b>4</b>	Male	36	10 years
<b>5</b>	Male	30	3 years
<b>6</b>	Male	33	10 years
<b>7</b>	Female	26	3 years
<b>8</b>	Male	30	7 years

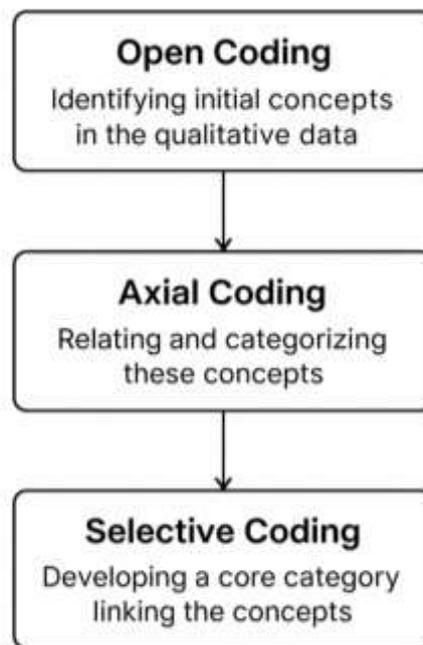
### *Interview Procedure And Ethics*

Semi-structured interviews were selected for their flexibility and depth. Each session lasted around 30 minutes, conducted in English or Mandarin with Malay translation when necessary. All interviews were recorded with participant consent and anonymized for confidentiality. Ethical clearance was secured under institutional guidelines.

Interview questions focused on media exposure, impressions of Xi'an, cross-cultural resonance, and attitudes toward AI-generated content. For example: "Which cultural differences between China and Malaysia do you think most influence the reception of Xi'an's city image?" and "Have you encountered Xi'an city promotional content created or assisted by artificial intelligence (AI)?" These questions were designed to capture both cultural perceptions and audience experiences with AI-mediated content, ensuring relevance to the study's focus on cross-cultural communication in the digital age.

### *Data Analysis*

Thematic Coding with NVivo. NVivo 12 was employed to manage and analyze qualitative data, following a three-stage coding process shown in Figure 2.



**Figure 2 Three-stage Qualitative Coding Process**

Source: Author's Own Data Analysis Using Nvivo 12 (2025)

Open coding serves as the foundational stage of qualitative data analysis, involving the line-by-line breakdown of raw transcripts to identify discrete meaning units without imposing predefined categories. Researchers stay closely aligned with the data, tagging segments with descriptive labels or codes that emerge inductively from participants' language (McLeod, 2024). For instance, segments discussing cultural understanding or communication difficulties may be coded as "cultural identity" or "language barrier." This process aids in capturing the diversity of lived experiences and assembling an initial pool of codes for further exploration.

Following open coding, axial coding aims to connect these initial codes through patterns, relationships, and clustering into higher-order themes (Punch, 2023). In this stage, researchers examine causal conditions, contexts, and resulting effects among codes, synthesizing them into coherent thematic groups such as "cross-cultural communication barriers" or "technological mediation." This structured clustering transforms fragmented observations into meaningful constructs that reflect participants' lived realities (ProjectGuru, 2023).

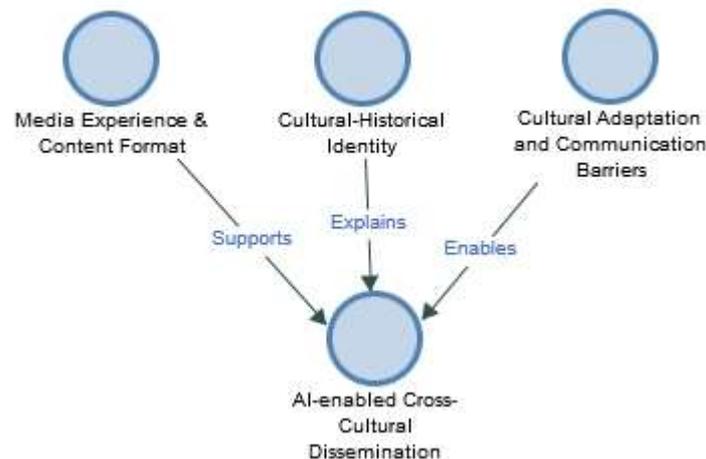
Selective coding represents the analytic culmination, where researchers identify a core category that unifies all emerging themes into a central narrative or conceptual framework. Integrating axial themes into a cohesive story, the result might be an explanatory model capturing how AI-enriched media influences cultural interpretation and audience perception. This final stage solidifies an inductively derived theory grounded in participants' discourses and aligns it with the study's research questions (Al-Eisawi, 2022 ; ProjectGuru, 2023). This process allowed for an inductive understanding of audience attitudes, ensuring that emergent findings were grounded in participant discourse.

Word frequency and visualization. The initial stage of open coding focused on identifying key concepts and frequently mentioned terms from interview transcripts and qualitative data. Using NVivo's word frequency analysis, a word cloud (see Figure 3) was generated to visually represent the most prominent words and phrases appearing in participants' responses. The



enhanced cultural recognition (Consequences). Similarly, “Media Experience and Content Format” focused on how platform algorithms and audience preferences shape content consumption, while “Cultural Adaptation & Communication Barriers” addressed how multilingual localization and cultural sensitivity enable greater audience acceptance.

The NVivo concept map (Figure 4) visually represents the relationships among these themes and the emerging core category: “AI-enabled Cross-Cultural Dissemination of Xi’an’s City Image.” In this map, Media Experience and Content Format is shown to support the dissemination process, Cultural-Historical Identity provides an explanatory foundation by linking Xi’an’s heritage to its modern image, and Cultural Adaptation & Communication Barriers enable inclusivity and broader audience engagement. By applying the Strauss & Corbin paradigm and explicitly recording conditions, actions/interactions, and consequences in memos, the causal logic underlying these themes was clarified, providing a foundation for identifying the core category and constructing an integrated theoretical model.



**Figure 4 The NVivo Concept Map**

Source: Author’s Own Data Analysis Using Nvivo 12 (2025)

Building on the open and axial coding results, selective coding was conducted to integrate the identified themes into a coherent interpretive framework. This step aimed to unify fragmented insights and reveal the core category that captures the essence of the phenomenon: AI-enabled Cross-Cultural Dissemination of Xi’an’s City Image. This core category reflects participants’ perceptions of the dual role of artificial intelligence (AI) in cross-cultural city image dissemination. On the one hand, AI was seen as an enabling tool that could personalize, localize, and broaden the dissemination of Xi’an’s cultural narratives for multicultural audiences. On the other hand, participants also expressed concerns that AI-mediated communication might reduce cultural nuance, weaken perceived authenticity, and encourage more standardized or homogenized representations of the city image. The three key themes identified during axial coding are not isolated but closely interlinked around this core idea.

Cultural-Historical Identity provides the symbolic foundation for Xi’an’s city image, emphasizing its dynastic heritage, iconic landmarks, and cultural symbolism. Media Experience and Content Format demonstrate how AI-driven platforms (e.g., TikTok, immersive virtual tours, AI-generated storytelling) create interactive and personalized content experiences

that influence how audiences engage with the city image. Cultural Adaptation & Communication Barriers highlights the importance of language localization, religious inclusivity, and culturally sensitive narratives. At the same time, this theme also reveals participants' concerns that AI-assisted adaptation may oversimplify cultural meanings or overlook context-specific sensitivities if used without sufficient human judgment. Following the Strauss & Corbin (1998) paradigm of Conditions → Actions/Interactions → Consequences, the causal logic becomes clear. Conditions: Xi'an's strong historical-cultural identity and the linguistic and cultural diversity of Malaysian audiences; Actions/Interactions: The use of AI-assisted media strategies, adaptive content formats, and culturally sensitive adaptations; Consequences: Participants described enhanced cultural resonance, improved accessibility, and deeper engagement with Xi'an's city image across cultural boundaries; however, they also noted potential risks related to authenticity, cultural simplification, and the homogenization of AI-mediated content.

The resulting NVivo concept map (Figure 4) visually illustrates how these elements converge around the core category, forming an interpretive model of how AI technologies actively mediate cross-cultural communication. This integrated understanding moves beyond descriptive coding to reveal how technological mediation and cultural adaptation collectively shape the dissemination and reception of Xi'an's city image in Malaysia.

In summary, the coding process followed a progressive logic, beginning with open coding, which identified frequently mentioned concepts such as "cultural," "historical," "language," "food," "Muslim," and "interactive." These initial codes provided insights into how audiences framed and emotionally engaged with Xi'an's city image in a multicultural context. Axial coding then reorganized these codes into three interconnected themes—Cultural-Historical Identity, Media Experience and Content Format, and Cultural Adaptation & Communication Barriers—clarifying the relationships between cultural representation, media strategies, and audience reception. Selective coding further integrated these themes into a unifying core category: AI-enabled Cross-Cultural Dissemination of Xi'an's City Image, illustrating how participants perceived artificial intelligence as both an enabling tool and a potential source of tension in cross-cultural communication. While AI was associated with personalization, localization, and broader dissemination, it was also linked to concerns about authenticity, cultural flattening, and algorithmically standardized representation. Together, these three stages of coding provide a coherent analytical pathway from fragmented observations to an interpretive model that illuminates the processes and perceived outcomes of AI-mediated cross-cultural city image dissemination.

## Results and Discussion

This study conducted semi-structured in-depth interviews with eight participants from diverse backgrounds in Malaysia and employed NVivo 12 for coding analysis, aiming to explore the dissemination and reception of Xi'an's city image in a cross-cultural context within an AI-enabled communication environment. The qualitative analysis followed a three-stage coding approach—open coding, axial coding, and selective coding—supported by word frequency analysis and visualization tools. This approach enabled the identification of key themes and the construction of a theoretical framework explaining how AI technologies influence the cross-cultural dissemination and reception of Xi'an's city image. The findings focus on three major themes: Cultural-Historical Identity, Media Experience and Content Format, and Cultural

Adaptation & Communication Barriers, integrated through the core category of AI-enabled Cross-Cultural Dissemination.

### ***Cultural-Historical Identity***

Participants generally associated Xi'an with rich historical and cultural symbols such as the "ancient capital," the "starting point of the Silk Road," and the "Terracotta Warriors." These symbols were found to hold strong appeal among Malaysia's multicultural audiences. Muslim food culture and halal-friendly tourism emerged as critical emotional connection points, particularly resonating with the Malay-majority population. Informant 3 and 6 stated that:

Malaysian audiences, especially younger viewers, are highly receptive to Xi'an's city image. A memorable example includes the viral TikTok videos showcasing the street food at Xi'an's Muslim Quarter, which gained significant attention and sparked many viewers' interests (Informant 3).

The popularity of halal food videos from Xi'an's Muslim Quarter greatly appeals to Malaysia's significant Muslim community (Informant 6).

Some participants highlighted that AI-generated content can enhance the presentation of these historical-cultural identities through 3D virtual reconstructions or stylized visuals. However, concerns about authenticity were raised. Informant 8 states that:

Sometimes [AI visuals] lack cultural accuracy or emotional engagement (Informant 8).

These findings indicate that while Xi'an's strong historical and cultural identity provides fertile ground for cultural resonance, the emotional trustworthiness of AI-assisted content remains critical.

### ***Media Experience and Content Format***

Media usage preferences played a crucial role in the effectiveness of city image dissemination. Participants indicated TikTok, Instagram, and YouTube as their main sources of Xi'an-related content. These platforms leverage algorithmic recommendation systems to push short and interactive content precisely to target audiences, which participants perceived as enhancing message reach and user engagement. NVivo word frequency analysis revealed high frequencies of terms such as "interactive," "virtual," and "content," reflecting audience interest in immersive and participatory media experiences.

In terms of content format, short videos, virtual tourism experiences, and interactive filters were particularly popular among younger audiences. AI-driven personalization and instant translation technologies allowed audiences to access and understand content more easily, increasing viewing frequency and willingness to engage. Nonetheless, some participants raised concerns about "content homogenization" caused by algorithmic recommendations, indicating a risk of audience fatigue and reduced engagement depth. Informant 6 stated that:

The platform content looks too similar; after watching many, it feels repetitive (Informant 6).

Traditional promotional forms such as print advertisements, descriptive texts, and one-way long-form materials were perceived as significantly less appealing. Participants preferred “fast-paced” and “light-interactive” ways of obtaining city information. This suggests that future dissemination strategies should further capitalize on the interactive features of social platforms, combined with AI technology, to optimize content format and enrich audience experiences. Informants expressed enthusiasm for further development like:

I’d love to see more immersive virtual tours and interactive content, perhaps using virtual reality supported by AI.” “More interactive, localized, and influencer-driven content would be great, and AI could really help with personalization (Informant 1).

### ***Cultural Adaptation and Communication Barriers***

Cross-cultural dissemination inevitably involves language and cultural differences. Participants generally agreed that multilingual subtitles and localized content—especially halal labels and cultural explanations—were perceived to enhance communication effectiveness.

Language remains the largest barrier, alongside cultural misunderstandings..... historical significance of certain sites is not fully understood due to limited contextual explanations provided in English or Malay (Informant 1).

The main barrier is language and the need for clearer context and explanations regarding historical and cultural significance for non-Chinese speakers (Informant 5).

While AI translation tools and auto-generated subtitles have improved accessibility, several respondents pointed out limitations. Informants 2 and 6 argue that:

AI-assisted translation content for cultural promotions is helpful, but the accuracy needs improvement (Informant 2).

They are helpful and visually engaging, although they sometimes lack cultural nuance or emotional connection (Informant 6).

Several respondents emphasized that Xi’an’s deep historical narratives—such as its Silk Road heritage and Buddhist cultural landmarks—often require additional contextualization for Malaysian viewers unfamiliar with Chinese history.

Historical narratives about the Silk Road require additional context for Malaysian audiences unfamiliar with this aspect of Chinese history (Informant 4).

Cultural events tied to Buddhism or Confucian traditions might need more contextual explanation for Malaysian audiences with diverse religious backgrounds (Informant 5).

Without sufficient explanation, content risks becoming aesthetic but shallow, reducing emotional resonance.

The biggest barrier is the language gap and the lack of localized context in the content. This makes deeper cultural understanding challenging for non-Chinese speaking Malaysians (Informant 7).

### ***Roles and Limitations of AI***

Participants perceived AI technologies as offering several advantages in the dissemination of Xi'an's city image. Automated content generation and rapid iteration enable the production of diverse materials on a large scale, while personalized recommendation systems enhance audience reach and engagement. Moreover, virtual tourism and interactive experiences create immersive ways for audiences to explore the city, fostering deeper participation. In addition, multilingual translation and subtitle generation help bridge language gaps, making cross-cultural communication more accessible and inclusive. Nevertheless, the study also revealed several limitations associated with AI-based dissemination of Xi'an's city image.

First, algorithmic bias often results in content homogenization. Personalized recommendation systems tend to repeatedly push similar types of short, visually appealing content, which may increase initial visibility but fails to meet audiences' demand for deeper, more diverse information about Xi'an's history and culture. This can lead to viewer fatigue and limit meaningful engagement. Second, AI-generated content frequently exhibits insufficient cultural contextual understanding. Automated translation or image generation may overlook subtle cultural nuances or historical contexts, potentially cause misinterpretations or even reinforcing cultural stereotypes. For instance, food-related content without proper cultural framing might unintentionally alienate Muslim audiences who value halal practices. Finally, participants expressed concerns about authenticity and cultural respect in AI-driven outputs. Overreliance on automated content creation can sometimes result in material perceived as "synthetic" or emotionally detached, thereby affecting audience trust, brand credibility, and the depth of emotional resonance needed for successful cultural communication.

### ***Theoretical Model and Core Findings***

Through open, axial, and selective coding, the study identified a core category: AI-enabled Cross-Cultural Dissemination of Xi'an's City Image. This model illustrates how AI influences the communication of city image in cross-cultural settings.

**Conditions:** The dissemination process is shaped by Xi'an's rich historical and cultural foundation combined with Malaysia's multicultural and multilingual environment, creating both opportunities and complexity for cross-cultural messaging.

**Actions/Interactions:** AI-assisted processes were described as facilitating automated content creation, personalized recommendation of cultural materials, and localized dissemination strategies tailored to different audience groups. These actions enhance communication efficiency and audience targeting.

**Consequences:** AI-enabled dissemination was perceived to improve cultural resonance and accelerate information flow, while also raising concerns about authenticity, cultural sensitivity, and audience trust.

The findings suggest that AI-enabled dissemination approaches have expanded the reach, interactivity, and efficiency of Xi'an's city image communication in Malaysia. However, long-

term effectiveness depends on striking a balance: leveraging AI's technical advantages while addressing cultural differences with sensitivity and ensuring that the content remains authentic, respectful, and emotionally engaging. This integrated approach will allow AI-enabled city image communication to achieve both technological innovation and cultural depth.

The coding analysis produced a core category: AI-enabled Cross-Cultural Dissemination of Xi'an's City Image, which integrates the historical-cultural foundation of Xi'an, AI-driven communication processes, and their cross-cultural consequences. This model illustrates how emerging technologies interact with deep-rooted cultural symbols to shape international perceptions of a historical city.

At the theoretical level, this study contributes to cross-cultural communication research by showing how AI-enabled content production, localization, and circulation shape audience reception in a multicultural context. While traditional communication frameworks emphasized sender-receiver cultural differences, this research demonstrates that AI changes the dynamics: it personalizes content delivery and translates languages in real time, partially mitigating cultural distance. However, it also creates new risks—such as algorithmic homogenization and insufficient contextual nuance—which are not fully addressed in classical models.

At the practical level, the findings indicate that AI excels in automating repetitive tasks (translation, content scaling) but lacks the subtle understanding of cultural and historical nuance. Institutions in Xi'an should use AI primarily as a supportive tool while maintaining human oversight for contextual accuracy and emotional depth. Malaysian audiences respond positively to culturally inclusive content, especially highlighting halal food and Muslim heritage. Content with Malay and English subtitles could be produced, using culturally sensitive examples, and collaborating with Malaysian influencers or community leaders can improve resonance and trust. The dominance of short-form video and algorithm-driven recommendations risks content fatigue. By introducing long-form cultural documentaries, interactive VR tours, and participatory campaigns (e.g., live Q&A with local experts), Xi'an's branding efforts can cater to different audience needs and maintain long-term interest.

For technology developers and AI practitioners, AI recommendation systems and translation engines should integrate cultural preference parameters (e.g., dietary restrictions, religious sensitivities) to reduce misinterpretation risks. As audiences expressed concerns about "synthetic" or emotionally detached AI-generated content, adding explicit disclosures of AI involvement and emphasizing human editorial oversight can improve trust.

### ***Limitations and Future Research***

This research was limited by its small qualitative sample (eight interviews) and single-country focus (Malaysia). While rich insights were generated, they may not represent all audience segments. Future studies could incorporate surveys or social media analytics to validate these qualitative findings.

Furthermore, AI technologies evolve rapidly, meaning specific findings (e.g., translation accuracy, personalization strategies) may change quickly. Future research should track longitudinal developments to assess how improvements in AI models alter cultural communication dynamics. Comparative studies across different countries, especially within the

Belt and Road region, could reveal how different cultural and technological environments affect AI-enabled communication.

Finally, audience perceptions of authenticity and trust merit deeper examination. As AI-generated content becomes more prevalent, understanding how audiences distinguish between “authentic” and “automated” storytelling will be critical for sustainable cross-cultural branding strategies.

The expanded discussion underscores that AI offers transformative opportunities for cross-cultural dissemination but also creates novel risks. Its success depends on balancing automation with human cultural expertise and aligning algorithmic outputs with audience expectations for authenticity, inclusivity, and contextual sensitivity. These findings deepen theoretical understanding, provide actionable strategies for practitioners, and identify clear directions for future research.

## Conclusion

This study examined the dissemination and reception of Xi’an’s city image in Malaysia in an AI-enabled communication environment, employing qualitative interviews and a three-stage NVivo coding analysis to construct an interpretive framework. The findings demonstrate that Xi’an’s cultural-historical identity—rooted in its Silk Road heritage, UNESCO World Heritage sites, Muslim-friendly food culture, and distinctive urban atmosphere—resonates strongly with Malaysian audiences. At the same time, AI-driven media formats, including short videos, interactive virtual tourism, and personalized content recommendations, were perceived to increase dissemination efficiency and audience engagement. Platforms such as TikTok and Instagram, leveraging algorithmic recommendation systems and immersive experiences, expanded the visibility of Xi’an’s cultural narratives and lowered access barriers for linguistically and culturally diverse audiences. However, participants also expressed concerns regarding the authenticity, cultural subtlety, and algorithmic homogenization of AI-mediated content. Automated content creation often generated a sense of “emotional detachment” or occasional cultural inaccuracies, which undermined trust and reduced emotional resonance. Moreover, algorithmic tendencies toward repetitive content risked diminishing long-term audience interest and deeper cultural engagement.

Through coding analysis, three key themes were identified—Cultural-Historical Identity, Media Experience and Content Format, and Cultural Adaptation and Communication Barriers—which converge in the core category of AI-enabled Cross-Cultural Dissemination. This conceptual framework highlights AI as both an enabling force and a potential risk factor in cross-cultural communication. While AI reduces language and cultural barriers and facilitates personalized, scalable communication, it also introduces new challenges related to authenticity, cultural nuance, and trust.

From a practical perspective, city image communication should regard AI as an assistive tool rather than a full substitute for human expertise. A human–AI collaborative approach is required to balance technological efficiency with cultural depth. Specific recommendations include strengthening localization strategies (e.g., multilingual subtitles and explicit inclusion of halal cultural elements), increasing audience participation (e.g., partnerships with local influencers and interactive campaigns), and diversifying content formats (combining the viral

potential of short videos with the narrative depth of long-form storytelling). These approaches can build stronger audience trust and foster long-term cultural identification.

Future research should expand sample sizes, diversify audience groups, and extend the geographic scope beyond Malaysia to capture broader cross-cultural dynamics. Longitudinal studies are also needed to track how evolving AI technologies affect communication effectiveness and audience perceptions over time. In addition, further investigation into audience attitudes toward authenticity and emotional connection in AI-generated content will be critical for developing sustainable strategies for AI-assisted cross-cultural city branding.

Overall, this study underscores that AI offers transformative opportunities for cross-cultural dissemination but also introduces novel risks. The success of AI-enabled communication depends on striking a balance between technological innovation and cultural sensitivity, ensuring that algorithmic efficiency does not compromise authenticity, emotional resonance, or inclusivity. These insights contribute to the theoretical understanding of AI-mediated cross-cultural communication and provide actionable strategies for policymakers, communication practitioners, and city branding authorities seeking to enhance cultural resonance and international image-building strategies in the digital age.

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