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CHANGZHOU IMPRINT: EXPLORING HOW CULTURE ILLUMINATES CITY BRANDING

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Abstract:

Although research on metro advertising in first-tier cities has been extensive over the past decade, there is a noticeable lack of focus on second-tier tourist cities rich in cultural resources, such as Changzhou. Existing studies on such cities remain relatively scarce. Since 2020, Changzhou has increased its investment in tourism; however, the expected growth in tourist revenue has not materialized, highlighting a mismatch between input and return. This suggests that cities like Changzhou require further exploration and practice in cultural dissemination and brand building to optimize tourism benefits and enhance their urban image. In particular, while Changzhou's advertisements have recognized the importance of promoting urban culture, their actual impact has fallen short of expectations. Against this backdrop, this study adopts a case study approach, emphasizing the emotional connection between digital metro advertisements and passengers. The goal is to enhance urban identity and brand influence. Overall, this research investigates the relationship between metro advertising and cultural dissemination by examining several aspects: the emergence and evolution of digital metro advertising, its role in promoting urban culture, its emotional connection with passengers, factors influencing the representation of Changzhou's cultural elements, and strategies for city branding to convey Changzhou's unique charm. A key focus is on understanding the types and forms of cultural elements in Changzhou's metro advertisements, as these significantly affect the depth and breadth of urban cultural dissemination.

Introduction

In contemporary cities, subway systems are not only the backbone of modern urban transportation but also key platforms for cultural dissemination (Yujue & Samsudin, 2023; Zhu, Chen, & Yang, 2023). Currently, subway systems operate in 193 cities across 56 countries (Abdallah, 2023) , forming an essential part of urban transit (Ermagun, Tajik, Janatabadi, & Mahmassani, 2023). By 2019, global subway networks transported approximately 190 million passengers daily, with cities in the Asia-Pacific region leading in both scale and utilization(W. Zhang, Zhao, Zhao, Lin, & Zhou, 2019). In high-density cities such as London, Paris, Tokyo, and Seoul, subways handle significant passenger volumes, accounting for 25% to 50% of commuter travel (Gao, Cui, & Sun, 2024; Kwon, Oh, Choi, & Kim, 2023). As part of this system, subway advertising has transcended its traditional role as a channel for commercial information, becoming a distinctive medium for showcasing local culture and enhancing urban branding (Cudny, 2019; Sui & Yodmalee, 2023; Wan & Li, 2024).

Digital metro advertising is a product of modern societal development and a result of the integration of technology and culture(Wan & Li, 2024). Its evolution reflects advancements in technology and transformations in information dissemination. However, despite breakthroughs in form, digital metro advertising still falls short in fulfilling its cultural dissemination potential, aside from its roles in commercial promotion, public service announcements, and information guidance(Millard, 2023). Further optimization is necessary in this regard.

This study focuses on the following four research questions:
1. What are the common cultural symbols and forms of expression presented in the digital metro advertisements in Changzhou?
2. What are the factors that influence the forms of expression of cultural elements in Changzhou's metro advertisements?
3. How do metro advertisements influence passengers' sense of identity and cultural belonging?
4. How can the city brand of Changzhou be effectively shaped through the dissemination of its unique cultural characteristics?

As noted by Y. Wang, Pan, Dong, and Liang (2022), metro systems, as carriers of both physical information and human mobility, embody a city's collective perception and image. They systematize cultural information and enable its large-scale dissemination, thereby constructing an implicit yet systematic media environment essential for societal functioning (Y. Wang et al., 2022). Within this media environment, metro advertisements serve as critical mediums of communication, continuously evolving, innovating, and developing. Digital metro advertisements, in particular, have emerged as exemplary due to their efficient and flexible communication capabilities(Maier & Weinberger, 2024; Poon, 2021).

Defined as electronic billboards equipped with large LCD screens, digital metro advertisements deliver information such as news and weather alongside multimedia advertisements, and they are commonly referred to as digital signage (Davies, Clinch, & Alt, 2022). As technology

advances, metro advertisements are increasingly tasked with greater responsibilities in both their form and function.

An increasing number of scholars have begun to explore the role of metro advertisements in cultural dissemination, addressing various aspects of the issue. Early studies primarily focused on the commercial value of metro advertisements, the spatial characteristics of metro systems, and their practical functions. Comprehensive research by Jingyun Zhang (2024) and Ghosh, Roy, Putatunda, and Ray (2024) indicates that since 2000, metro advertisement dissemination has been on the rise, with significant regional disparities (Martin, 2011). The degree of regional cultural differences has been identified as a critical factor influencing these variations.

As research progressed, scholars began to concentrate on advertising creativity and influencing factors, often adopting a multi-national perspective(Simba, Ojong, & Kuk, 2021). Findings reveal that although metro advertisements in China have made substantial progress in cultural dissemination, there remains a pronounced imbalance between regions, primarily influenced by local cultural factors. In addition, many scholars have conducted in-depth analyses of topics such as new media, traditional culture, cross-cultural advertising dissemination, and city branding. However, despite the growing interest in urban metro cultural dissemination, most studies focus on areas such as urban cultural heritage, user perception, advertising strategies, and new media advertising. Research rarely delves into other dimensions(Yoo, Piscarac, & Truong, 2024). A review of the existing literature shows that studies on metro cultural advertising dissemination are primarily centered on major cities like Shanghai, New York, Beijing, Tokyo, and Hong Kong(Liang, Lu, & Martin, 2021). There is a notable lack of in-depth exploration of second-tier cities, such as Changzhou, in this context.

Integrating cultural elements into metro advertisements and the metro environment to promote city branding has become an urgent necessity(Liang et al., 2021). Cultural elements encompass both typical regional cultures and creative cultural products derived from traditional culture(Jun Zhang, 2021b). Although this has been a popular topic in recent years, there is still a lack of systematic and efficient design methodologies to guide practical applications (Hu et al., 2021).

Figure 1: Changzhou Digital Screen Display (Text Display: Help Others, Be Happy Yourself)

Source: The Photographs Were Captured by the Author During on-site Fieldwork.

To address this gap, this study focuses on the content and types of cultural elements in Changzhou's metro advertisements within the context of digitalization, as well as passengers' perceptions and attitudes toward these cultural advertisements. Emphasis is placed on shaping Changzhou's city brand. The historical artifacts preserved over centuries not only embody the wisdom of ancient civilizations but also serve as critical resources for the rapid development of the modern cultural and creative industries (Jun Zhang, 2021a). The rich connotations embedded in these artifacts provide diverse knowledge resources for creative design activities (Carriero et al., 2021). Advancing research on cultural elements has become an urgent priority.

Literature Review

Urban Branding has become an increasingly popular topic in recent years. In the context of global competition, cities aim to attract tourists, promote the dissemination and development of urban culture, and stimulate consumption. However, the concept of urban branding remains in a continuous process of development. Over the past few years, academic research on cities and urban branding has grown substantially.

Definition of Urban Branding

Urban branding refers to the marketing of a city or a specific region to encourage events and activities, while attracting significant numbers of people from various sectors such as investment, tourism, and education. Additionally, internal migration is often driven by the availability of services (Gower & Grodach, 2022). A city brand can be understood as a collection of images, details, events, or emotions associated with a city (Casais & Poço, 2023). One of the essential objectives of urban branding is to create a sense of uniqueness(Jiang et al., 2024).

It is noteworthy that city brands are dynamic and constantly evolving. As such, decision-makers and urban planners must continuously revise and update their target audiences at different stages of a city's development(Wei, Yuan, & Li, 2024). In some cases, cities may

initially attract people through agriculture, as agriculture has historically been a fundamental factor in human settlement, providing essential resources such as food and beverages for the local population. This stability fosters human attachment to a place(Sun, Chen, & Tian, 2024). However, with the passage of time and the influence of globalization, these resources may shift, transforming the city into a hub for tourism, education, or economic activities.

Brand Management

Effective urban brand management relies on clear direction and conceptual support from city leadership, policymakers, and community stakeholders. It requires the coordination of diverse interest groups and the development of a comprehensive and coherent urban vision, led by a network of leaders including municipal authorities, university presidents, corporate executives, and association directors. Moreover, officials and decision-makers must ensure the effective promotion of the city's brand(Sun et al., 2024).

From the perspective of tourism, a positive image of the city is essential(Ye & Jeon, 2023). Successful brand management should consistently strive to understand how the city is perceived by tourists in order to decide whether to maintain its reputation or adjust its branding strategy(Sokołowska, Pawlak, Hajduk, & Dziadkiewicz, 2022).

The Emergence and Development of Digital Advertising in Metro Systems

Cultural dissemination relies on the integration of numerous small media (Bloch, 2020). As McLuhan famously noted, any element that extends urban landscapes and constructs the functional spaces of a city can be considered a medium (Young, 2020). As a part of the urban symbol system, metro systems inherently possess attributes of a communication medium.

As an efficient and convenient urban transportation tool, metros serve millions of commuters daily. Their high foot traffic and dense spatial characteristics make metros a critical medium for advertising, particularly in conveying urban culture and commercial information. Initially designed for promotional purposes, digital signage in metro systems has now evolved into a new form of media. Combined with various IT technologies, these platforms facilitate not only advertising but also education, professional information, cultural promotion, and artistic applications within the metro environment (Kim & Kim, 2020).

Based on a review and analysis of relevant literature, urban cultural dissemination within metro spaces can be categorized into two major types: infrastructure and facilities, and entertainment activities (Freyermuth, 2016). Y. Wang et al. (2022) further elaborate that the infrastructure and facilities category includes onboard televisions, lightboxes, art corridors, installations, walls, reliefs, VR, AR, onboard cinemas, and tunnel posters. By employing multi-sensory interactive technologies, these mediums provide the public with immersive and interactive experiences, enriching the promotion of urban culture and enabling its dissemination from a human-centered perspective. Entertainment activities can be divided into four types: exhibitions, experiences, performances, and educational events (Y. Wang et al., 2022).

This study employs case study methodology as its primary research tool. As Bhaskar (2014) noted, qualitative case studies are ideal for realists, aiming to describe and explain phenomena while capturing their appropriate complexity (Bhaskar, 2014).

Case studies also reflect the researcher's desire to investigate a particular issue and uncover the truth (Stake, 1995). As a representative of second-tier tourist cities, Changzhou stands out due to its advanced digital technologies in China. Furthermore, the metro system, with its attributes of speed, efficiency, cost-effectiveness, environmental friendliness, and comfort, has become the preferred mode of transportation in modern cities (Xinxin & Hashim, 2024b; Xue, Zhang, Zhang, Yang, & Li, 2015) . Thus, Changzhou metro advertising was chosen as the field study site for this research. Observations of cultural advertisements in Changzhou's metro system were conducted, and an unstructured interview with a metro staff member was carried out to collect data.

Data collected through photographs and videos during this research facilitated a deeper understanding of the cultural dissemination of Changzhou's metro advertisements. The unstructured interview with a relevant practitioner was a critical component of this case study. The unstructured questions prepared for the interview focused on the following areas:

i) Gathering insights from metro staff about the characteristics of Changzhou metro advertisements.
ii) Understanding which aspects of Changzhou culture are represented by the cultural elements in metro advertisements and identifying the factors influencing their representation.
iii) Exploring passengers' reactions to the cultural elements in metro advertisements within the metro environment.
iv) Analyzing the current state of cultural dissemination through Changzhou metro advertisements and identifying successful strategies for promoting cultural advertisements in metro systems.

Digital Metro Advertising and Urban Cultural Communication
As McLuhan stated, media serve as extensions of human senses, transcending the constraints of time and space (McLuhan, 2017). Lefebvre posited that space is a site for the reproduction of all relational interactions (Lehtovuori & Koskela, 2013; Napoletano, Foster, & Clark, 2022). The expansive underground spaces of metro systems can function as platforms for urban cultural dissemination, where diverse and innovative forms attract tourists to engage and interact, highlighting the unique value of metro media.

Compared to other media, metro systems possess distinctive spatial characteristics, such as enclosed, semi-compulsive, and immersive environments (Taşkın, 2004; Y. Wang et al., 2022). In recent years, with the development of immersive intelligent media worldwide, major cities have begun integrating digital technologies into metro media. This integration addresses challenges such as limited visual diversity, constrained information capacity, and low user engagement in metro spaces. Furthermore, it enhances the adaptability, entertainment value, and interactivity of metro spaces, enriching the connotations of cultural dissemination.

Against the backdrop of immersive intelligent media, metro systems, as cultural dissemination venues, require continuous innovation and transformation to meet the evolving demands of urban culture.

The digital era, succeeding the industrial and information ages, represents a new epoch characterized by advancements in technology, the proliferation of information, and the

widespread use of mobile internet, creating a vast media-driven society where everyone simultaneously acts as both a communicator and an audience (Borgman, 2010). In this era, individuals' lives are enriched with new information and content, providing an expansive platform for advertising dissemination.

Communication theorist McLuhan noted in *Understanding Media* that "the most significant aspect of media is not rooted in issues related to cultural content, but rather in the technology of dissemination" (McLuhan, 2017). Digital technologies have not only diversified communication methods and driven transformations within the advertising media industry but also fundamentally altered consumer behavior. Audiences are no longer satisfied with traditional one-way communication models; they actively utilize information provided by self-media for sharing, interaction, and discussion, creating a new trajectory for advertising development.

Metro systems, as the primary mode of transportation in major cities, attract massive foot traffic and resources, becoming a focal point for various industries. The enhancement of urban rail systems and the evolution of advertising strategies have positioned metro advertising as a burgeoning trend in the industry. Unlike traditional advertisements, metro ads fall under the category of unconventional media, achieving a level of communication impact that conventional media often cannot reach.

Green (2010) noted that the emergence of digital technologies has profoundly transformed people's lifestyles and modes of information dissemination, while also reshaping traditional methods of urban cultural transmission. The development of traditional media and the rise of new media collectively form the modern digital technology environment (Green, 2010).

The integration of digital technology into advertising represents a comprehensive penetration into the socio-cultural ecosystem. This process has significantly contributed to the transformation of contemporary Chinese culture, steering it towards openness, democracy, and diversity. More importantly, the very existence of culture is transitioning towards a state of "digital survival" (J. Li & Liang, 2021). Horst (2020) further observed that "new media in the internet era provide a vast space for the 'transformation' of traditional cultural forms."

These new media formats transcend the dual constraints of time and space, thereby enhancing the cultural dissemination capabilities of urban metro systems.

Digital Metro Advertising and Emotional Connection with Passengers
Urban metro systems integrate features such as safety, efficiency, punctuality, high capacity, and environmental sustainability. These characteristics have significantly contributed to urban modernization, improved traffic conditions, optimized spatial planning, and stimulated economic innovation, earning widespread recognition from both government authorities and the public (Wei et al., 2024; Yanık, Aktas, & Topcu, 2017).

The movement patterns of passengers within metro spaces vary, and their objectives differ across distinct areas of the metro system (Gu, Jiang, & Chen, 2022). Consequently, passenger behaviors in different metro spaces exhibit diverse patterns, influenced by numerous factors. With the increasing volume of metro traffic, the complexity of metro systems has escalated.

On one hand, the growing number of transfer stations and hubs, along with larger metro station spaces, has heightened spatial complexity. On the other hand, to alleviate peak-hour congestion and enhance service quality, additional metro cars have been introduced, extending platform lengths and increasing the number of escalators between security check areas and boarding zones, thereby complicating spatial layouts (Gan, Yang, Feng, & Timmermans, 2020).

These changes have rendered the entry and exit routes within metro stations more intricate, amplifying the complexity of passengers' cognitive activities in metro environments. Consequently, passengers' cognitive demands have evolved, and their emotional engagement with the metro environment has garnered heightened attention.

Changzhou Metro advertisements creatively integrate urban culture with artistic elements by adopting visually engaging designs rich in emotional elements and strategically utilizing culturally symbolic spatial layouts. These efforts aim to evoke emotional resonance among passengers. For instance, at Changzhou Metro's Culture Palace Station, the advertisements highlight local customs and traditional cultural symbols, fostering a sense of familiarity and connection for passengers.

As one of the most critical indicators of urban competitiveness, the importance of identifying and enhancing Changzhou's city image and aligning it with its urban brand has become increasingly evident.

Factors Influencing the Representation of Changzhou's Cultural Elements

Changzhou Metro advertisements influence cultural elements by showcasing local cultural symbols, which are primarily shaped by the following factors: historical and cultural dimensions, artistic and craftsmanship traditions, and natural and ecological culture.

Table 1 Types and Forms of Cultural Elements in Changzhou Metro Digital Advertisements

Category	Cultural Symbols	Forms of Expression	Example Advertisement Content
Regional Cultural Elements	Dragon City, Grand Canal, Changzhou Comb	Patterns, text, animation, background video	"The Story of Changzhou, City of Canals" digital ad
Traditional Cultural Elements	Intangible heritage crafts, folk festivals, handicrafts	Animated short films, interactive ads, cultural video displays	"Changzhou Comb, Beauty of Intangible Heritage" interactive ad
Creative Cultural Products	Local IPs, cultural souvenirs, city mascots	Themed advertisements, character images, multimedia presentations	digital signage

Historical and Cultural Dimension

Novikova, Mityagina, Gureeva, and Makhortova (2018) argue that brand building, as a communication process, aims to define a region's identity and role in offering tourist attractions. The goal of urban branding is to showcase a region's uniqueness and competitiveness (Novikova et al., 2018). Nijkamp (2021) investigated the factors influencing the formation of urban images to achieve effective city branding. The study identified several components of Tehran's image, including economic and business dimensions, service provision, international city status, transportation and communication infrastructure, social issues, historical monument preservation, environment, architecture and urban attractions, citizens' self-analysis, culture, and education via universities.

Romão, Kourtit, Neuts, and Nijkamp (2018) recognized that contemporary cities are experiencing socioeconomic decline, reducing their appeal. Components such as creative and cultural industries, placemaking and creative cultural spaces, cultural tourism, event planning, and brand promotion are essential for maintaining urban competitiveness. These elements enhance a city's competitive advantage relative to others.

Boulding (1961) posited that an image is a product of experiences, memories, attitudes, and direct perceptions. Consequently, a city's cultural elements are not merely simple symbols; they represent the distinctive characteristics of urban branding(Szubert, Warcholik, & Żemła, 2021). They also serve as symbolic expressions and communication mediums for the city's culture. Changzhou Metro advertisements, by showcasing local cultural symbols, effectively highlight the city's intangible cultural heritage. For instance, at Wuyue Plaza Station, the advertisements feature representative cultural symbols of Changzhou, including the historic Tianning Temple, traditional crafts such as Liuqing bamboo carving, and local culinary specialties like Changzhou's famous Da Ma Gao cake. These elements not only emphasize Changzhou's rich cultural heritage but also offer passengers an immersive cultural experience.

Figure 2: The Abundant Cultural Heritage Elements Incorporated in the Changzhou Subway Offer Passengers an Immersive Cultural Experience
Source: Author's Own Photograph Taken during Field Research

Art and Craft

Research on public recognition of metro public art contributes to the integration of urban metro public art with city life, creating a pleasant riding experience ((Qian & Zhao, 2024). Metro

public art refers to art in public spaces within urban rail transit systems that primarily serve passengers and is often located underground to reflect the city's culture (Xiao, Liu, & Xu, 2023). Metro public art can be categorized into three types: the first type is permanent metro public art planned during metro construction; the second type includes temporary or phase-based metro public art, such as art exhibitions or activities held in public metro spaces; the third type consists of metro public art-related cultural products and souvenirs (Xinxin & Hashim, 2024a). Changzhou's metro advertisements, by showcasing a rich array of local cultural elements, vividly demonstrate the city's cultural charm (D. Wang, 2022; Yang, 2017). Traditional crafts such as Gong Shu combs, Liuqing bamboo carvings, and Changzhou's Luanzhen embroidery, showcase the exquisite craftsmanship and artistic pursuit of local artisans. Local operas such as Changzhou Pingtan and Xiju convey the rich history and unique charm of regional theatrical traditions. Meanwhile, literary works and calligraphy, such as those by Changzhou native Tang Jingchuan, along with folk stories that carry local flavors, further highlight Changzhou's profound literary and artistic heritage. Together, these elements form a vivid cultural portrait, offering passengers a distinctive cultural experience.

Figure 3: The Case of the Plant Plum Orchid Bamboo Chrysanthemum in the Changzhou Subway Represents Moral Character
Source: Author's Own Photograph Taken during Field Research

Cultural Nature and Ecological Culture
Xinxin and Hashim (2024a) emphasize that in countries with relatively early design practices, metro public art is more developed, and the expression of urban cultural art is more diversified. Cities such as New York, Toronto, Stockholm, Munich, Oslo, and Beijing serve as examples of this trend (Xinxin & Hashim, 2024a). In these cities, metro public art integrates overall design with the metro environment, including advertisements, to present a variety of artistic installations. Metro public art is not limited to visual effects; it also considers the interaction of various sensory experiences, such as sight, touch, and sound. These multi-sensory experiences play a crucial role in the expression of urban cultural elements. In the process of urban cultural communication, the expression of the city's natural and ecological culture is emphasized. By creating a richer metro public art experience, passenger appreciation for artistic culture is better met.

C. Li and Liu (2024) highlights that the subway integrates operations, aesthetics, and ideology, acting as a "window" for urban cultural communication. Martínez (2023) emphasizes that the perception of urban natural and ecological cultural features, artworks, and exhibitions in

modern urban metro stations largely remains confined to the technical realm, without considering the cultural dimension as one of the multiple governance strategies (Martínez, 2023).

In metro advertising, the city's natural and ecological culture is embodied through the introduction of immovable and movable elements related to urban cultural expressions. This becomes a special form of beautification with deeper political significance.

In Changzhou, cultural landmarks such as the Dinosaur Park and Xixi Valley are represented through metro advertising, vividly showcasing the city's natural and cultural charm to attract tourists for a more immersive experience. Additionally, the integration of dinosaur-themed design elements, like dinosaur-themed metro train environments and traditional architectural silhouettes, cleverly conveys the idea of harmonious coexistence between humans and nature, highlighting the city's rich natural and ecological cultural flavor.

Shaping Urban Cultural Branding: Showcasing Changzhou's Unique Charm
Based on all the evidence presented in this paper, it can be concluded that Changzhou metro advertising not only emphasizes the cultural brand as a manifestation of the city's soft power but also serves as an important means of attracting tourists and enhancing the city's visibility. Passengers can learn from the cultural advertisements in Changzhou's metro system that the city possesses a rich cultural heritage and unique charm. The cultural brand-building of Changzhou hides vast potential. The city's cultural brand is a process of shaping a unique image through innovative communication methods, with local culture at its core.

Urban metro systems are not only an essential part of the city's transportation network but are also playing an increasingly significant role in the dissemination of urban culture. Today, metro systems have evolved from being mere tools for daily commuting to becoming a unique platform for showcasing city culture and conveying the city's image. As a public space with high foot traffic and frequent movement, the metro has become a key carrier of cultural communication.

In conclusion, through the integration of cultural elements in metro advertising, metro ads not only present local cultural features to both residents and tourists but also leverage digital technologies to blend traditional culture with modern technology. This combination enhances the effectiveness of cultural dissemination and enriches the audience's experience.

Conclusion
Overall, the research findings indicate that the cultural communication through Changzhou metro advertising is closely linked to the city's regional symbols. The use of dinosaur elements to create the dinosaur IP brand image, alongside the city's historical landmarks such as the ancient Tianning Temple, traditional crafts like Liqing bamboo carving, and unique local culinary culture, all serve as cultural elements to promote the city's identity. These strong regional symbols help establish a clear cultural identity and create a distinctive urban brand.

Changzhou's cultural symbols are deeply connected to its regional identity. The city, historically known as "Dragon City," uses the representative cultural symbol of the dinosaur to shape its urban brand image. The integration of metro advertising, public art, and other forms further strengthens the city's brand impression.

Metro staff members believe that, in the process of urban cultural communication, it is essential not only to focus on the application of cultural elements specific to the city but also on building an emotional connection with passengers. By observing passengers' understanding and perception of Changzhou metro ads, and considering various factors, a strong urban brand image can be shaped.

In conclusion, this paper emphasizes the need for greater attention to secondary cities like Changzhou through the analysis of cultural elements in metro advertising. It advocates for learning from the successful cultural communication strategies of first-tier cities. Urban cultural communication holds dual significance, both educational and transformative, for local residents, tourists, and especially the younger generation. It helps enhance their recognition and identification with local culture, accelerating the formation of the city's brand. By sparking creativity and cultural pride, it also nurtures innovative talents who are not only globally minded but also capable of preserving and passing on local traditions.

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