"Tecoration" Using Digital Outdoor Advertising:

A Case Study of the Three Leading Global Smart Cities

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Abstract: Urban centers across the globe are striving to integrate information communication technology (ICT) into environmental improvement to facilitate the progress of smart cities. As a conceptual framework for smart city transformation, we introduced the term "Tecoration"—a combination of technology and decoration—to address the use of digital outdoor advertising in adding informational vitality to smart cities. This paper outlines conceptual and practical frameworks for tecoration through detailed case analyses of leading outdoor advertisement zones in New York, Las Vegas, and Shanghai. The results highlight two main insights for future smart cities, namely (1) the characteristics of Tecoration and (2) the factors leading to success of outdoor digital advertisements incorporating Tecoration. Finally, we discuss place marketing strategies focused on promoting local culture, placeness, and commercialization. **Keywords:** Tecoration, digital outdoor advertising, smart cities

1. Introduction

Urban centers around the world have been leading the digital transformation of smart cities. Innovative hardware and software are crafted to display the unique colors of each city. Hardware is the actual buildings or public facilities, while software comprises the cultural elements expressed by the city, its attractions, and its citizens' lifestyle. Due to the accelerated development and expansion of cities, their functions have changed significantly. An example is the increasing importance of casting a city in a positive and attractive light for both residents and visitors. In the past, the focus of cities was mostly residential; today, however, the city's social life contributes majorly to the overall quality of life. Thus, many major cities are conducting environmental, spatial, and software experiments.

On the one hand, residents and visitors alike should add value to a city by participating in the local economy, consuming goods and services from or investing in local businesses. This is called the "creative city" approach. The concept suggests that cities should have a "locality-based creative platform" facilitating citizens' creativity. Creative cities are making great efforts to increase their attractiveness.

On the other hand, adding informational vitality to cities by using digital outdoor advertisements is an approach that the authors have termed "Tecoration"—that is, the combination of technology and decoration. Specifically, it refers to the organic process of making a city more energetic and communicative through digital media, as if it were a living creature. For example, Korea's Ministry of Public Administration and Security has designated the area of COEX in Gangnam-gu, Seoul, as a free outdoor advertising zone as of December 2016, prompting district authorities and business operators to form a consortium and set up large digital signage infrastructure **(Hwang.T.2016).** The Gangnam Festival was held in September 2019 under the theme of "Gangnam, a place where dreams come true." New media art and creative performances were displayed in real time on a total of 16 digital signage screens in six locations within the free outdoor advertising area **(Kim.I.2019).** Another example is Shanghai, which has been dubbed "the future city of China," with its towering skyscrapers such as the Oriental Pearl Tower, Shanghai Tower, and Jin Mao Building. These contrast with the European-style buildings built during the Concession Era in the central district, The Bund. The area not only displays commercial advertisements but also holds various media art shows to portray the future of China.

Figure.1. Examples of Tecoration Using Outdoor Advertising in Seoul and Shanghai

Free Outdoor Advertising Zone in Seoul   Art Media Buildings in Shanghai

The outdoor advertising zones in the U.S. cities of New York (Times Square) and Las Vegas as well as in The Bund in Shanghai, China, are successful examples of Tecoration. Enhancing an area through installed advertisements creates a vivid impression of urban settings. Moreover, the idea of shaping a city into a more futuristic and attractive place by installing numerous state-of-the-art digital advertisements requires a creative mindset considering both software and hardware. Despite the recent massive increase in digital outdoor media's use of cutting-edge technology, optimal Tecoration is not exclusively a matter of the technology used; it is also important to consider the content's quality and the cultural value that the medium contains. Additionally, an advertising mindset is required for continuous profit creation and maintenance of digital media operations. Advertising plays a crucial role in contributing to public content and has commercial value through corporate sponsorship, revitalizing cities, and enabling sustainable operation of media infrastructure. Accordingly, the current research empirically examines the history and characteristics of the advertising display areas in Times Square, Las Vegas, and The Bund, a representative sample of successful Tecoration sites using digital media. Through this case analysis, we provide a conceptual and practical framework for cities and advertising corporations to invest in digital decoration in the future.

This study suggests profound implications for city development, as Tecoration can activate citizens' communication and participation in the urban landscape. We thus formulated the following research questions (RQ):

- RQ 1: What are the characteristics of and differences among the urban outdoor advertising Tecoration cases?
- RQ 2: What are the factors influencing the success of urban outdoor advertising Tecoration?
- RQ 3: What lessons for future smart city development can be learned from the urban outdoor advertising Tecoration cases?

2.Smart Cities and Tecoration

Smart cities are rapidly developing around the globe. Deloitte Analysis **(Eggers & Skowron, 2018)** forecasted that the global smart city market would rise from $781.9 billion in 2016 to approximately $1.69 trillion by 2021, with an average annual growth rate of 16.6%. In particular, the Chinese government actively fostered smart cities in publishing the provisional management method for the "National Pilot Smart City" in November 2012. By the end of 2017, China had 500 pilot smart cities under development, more than half of the world's total at that time **(Eggers & Skowron, 2018)**. The definition of smart city differs among scholars and across countries. In general, smart cities tend to use technical elements such as physical and hyperconnected networks and big data to enhance operational efficiency. For example, Korea's Ministry of Land, Infrastructure, and Transport has defined a smart city as "a sustainable city that provides various urban services based on urban infrastructure built by a fusion of construction information and communication technologies (ICT) to improve the competitiveness and life quality of the city" (Act No. 15309). In sum, the key objective of a smart city is for its citizens to derive "quality of life and happiness" from the smart city community. Advanced technology is a valuable and effective tool to achieve this goal **(Minister of Land).**

However, in the wake of the Fourth Industrial Revolution, it remains unclear whether emerging smart cities will enrich our lives or will lead to polarization of wealth due to monopolies of information and new technologies, thereby creating unprecedented social conflict **(Poletti & Michieli 2018).** The smart city's government does not simply expand the high-tech network and urban infrastructure as portrayed by science fiction movies but instead

aims to create "a livable city that guarantees the well-being and happiness of citizens." Therefore, to create a truly smart city, there must be communication with civil society, including communication between citizens as well as communication between citizens and government. According to the presentation materials of the Project for Public Spaces, communication and content are vital to make urban spaces meaningful by designating them as (1) social, (2) convenient, (3) stable, and (4) active. Although smart cities are built on technological foundations, citizens still *live* in these spaces **(Project for Public Spaces)**. Therefore, despite the trend of convergence between reality and virtual space, physical space is the foundation. Creating a sense of place attachment by augmenting cultural content in cities' physical spaces is the most realistic and efficient method to build a participatory community against the deindividualization of the city.

3.Tecoration and Sense of Placeness

In the dictionary, "space" is defined as an "empty place." Thus, it is possible for a material or object to exist and for something to happen within it (i.e., in that space). Space is a material object described by distance, direction, location, and width **(Graham.S.1998)**. In this respect, space is a one-dimensional, neutral, and geometrical form, which has no great significance in human experience **(Bale.J.1996)**. A "place," however, is a "humanized space" whose meaning is determined by the participant's experience. In other words, a place is shaped by interactions between people and the environment. Human geography emphasizes that places are necessary for human beings' physical and emotional existence. Canadian geographer Edward Relph asserted the importance of place for human beings based on an idea of German philosopher Martin Heidegger **(Relph.E.1976)**: "To be human is to live in a world that is filled with significant places: to be human is to have and know your place."

"Placeness" is the essence of a place—specifically, its meaning—which is the human consciousness (perception) of the physical environment **(Relph.E.1976)**. Therefore, place is not immutable; rather, it is dynamic, changing throughout participants' lives. Place can be interpreted differently depending on participants' individual and social capital. Accordingly, the sense of place is acquired through perception of and emotional connection to a particular area that people directly or indirectly experience **(Relph.E.1976)**. Additionally, a "sense of place" refers to the feeling of the uniqueness and attachment to a place beyond its sensory attributes **(Jackson.J.B.1994).** This sense of place is the foundation for creating and developing a sustainable place (region). "Place belonging" refers to the attachment of functional and emotional values to a specific place and the creation of a detailed, subjective impression of that place **(Buttimer & Seamon 1980; Relph.E.1976; Tuan.Y.F.1980).**

Place-making is using "effective tools" to create the environment for a space to become a meaningful place for community members **(Tuan.Y.F.1980)**. In short, place-making means "the process of creating quality places that people want to live, work, play, and learn in" **(Wyckoff.M.A.2014)**. Changing the space at the physical level is the most traditional way for a space to be perceived as meaningful by residents and visitors and to distinguish it from other places, reinforcing placeness and enhancing the sense of belonging to the place. For example, governments have intensified efforts to build landmarks such as high-rise buildings, facilities, or sculptures, expanding accommodations and leisure in these locations.

Emotional bonding means having a subjective association with a specific place **(Kyle.M.A. et al.,2014)**. Human experience is a complex process founded on diverse emotional relationships with other humans and with things. Experience occurs in two dimensions: time and space. Thus, establishing and improving "place image" and "place identity" is fundamental to the perceived meaning of the place. Lawson and Baud-Bosy have defined an image as an individual's or a group's cognitive and emotional expression of a particular product or place **(Bund-Bovy & Lawson 1977)**. A specific space can be considered popular when it gains placeness and becomes an attraction for the crowd. Entertainment, sightseeing, and tourism are associated with popular places. To create a popular place, attractive elements must be arranged appropriately within the traffic flow of a space, encouraging citizens and visitors to form and interpret their own images of the place.

Relph posits that placeness is the combination of three elements—human activity, meaning, and physical environment—with the spatiotemporal context, resulting in distinct place-specific characteristics **(Champion.E.2018)**. One method for developing urban placeness is designating a special area for digital outdoor advertisements to change the physical environment, boost visitor participation, and create a unique character. In a city, the combination of digital advertising content and offline space is effective in developing the city's placeness. Establishing a recognizable physical environment and providing suitable content add lasting value to the city, contributing to placeness. This process fosters the transformation of a space into a place. For example, areas such as Times Square in New York and the Piccadilly Circus of London play pivotal roles as both high-tech marketing venues for corporations and as resources for urban tourism. In addition to the economic impact, elevating the city's status through the construction of digital outdoor advertising zones not only creates a positive city image but also increases the public's expectations and citizens' sense of community and loyalty **(Cronin.A.M.2008)**.

Installing digital outdoor advertisements at public and commercial facilities in heavily trafficked areas is beneficial for expressing cultural identity and promoting commercial activities **(Lichtenthal.J.D. et al., 2006)**. Moreover, it increases digital media activity and revisit rates **(Cronin.A.M.2008)**. For this reason, digital outdoor advertisements connecting diverse experiential elements are of the utmost importance in urban spaces. Next, we examine the characteristics of three specific free outdoor advertising zones and the factors influencing their success.

Figure.2. Proposed Model of the Integration of Place, Economy and Culture in Smart City Development
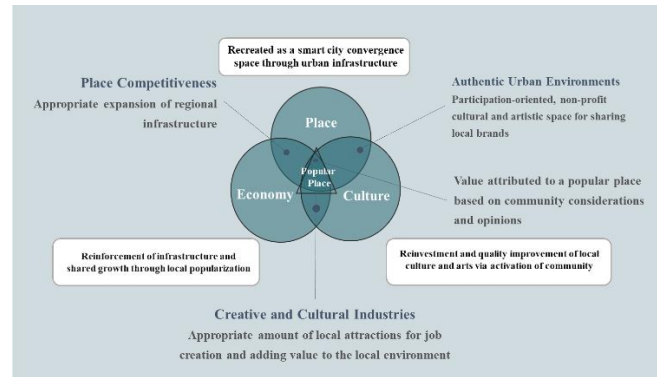
4.Times Square Free Outdoor Advertising Zone

After the New York Times headquarters moved to 42nd Street at Longacre Square in 1904, the area between One Times Tower and the triangle square north of 48th Street was named "Times Square" **(McDonald & Scott 2007)**. Times Square marked a major intersection on a central road surrounded by high-rise buildings, offering visitors a unique experience. Due to the high density of advertisements in the urban center, the surrounding buildings reduce the advertisements' visibility. Nevertheless, the overall arrangement of the advertisements and each one's creativity are redirected into an artistic dimension **(Silva.C.N.2015)**. Pedestrians are impressed by Times Square's digital artwork. Times Square outdoor advertisements have become a global landmark on which cultural and commercial values have an increasing effect.

Figure.3. Major Advertisements Installed in Times Square

Times Square is known as the most expensive advertising hotspot in the United States. Annually, more than 39 million tourists funnel through Times Square due to the extension of the space and the management of advertising content. Times Square's daily floating population is approximately 350,000 visitors. Approximately 85,000 pedestrians frequent the area each night. The annual $55 billion that Times Square contributes to New York City surpasses the combined economies Bolivia and Panama. Further, it is estimated that more than 100 million photos are taken every year in Times Square. These are distributed online via social media, e-mail, and blogs, which has resulted in global, automatic self-promotion **(Pedestrian Counts.2017)**.

The area of Times Square, which was reduced during the 1970s and 1980s, underwent redevelopment beginning in 1982. Architects such as Robert Venturi analyzed Times Square's landscape structure and proposed the theme of "Entertainment City = Times Square," which addressed commercial signboards as a vital element of the landscape (**NYCgo.com**). Since the 1980s, New York City has concentrated on installing a new class of advertisements in Times Square, including billboard displays utilizing new materials and colorful and unique designs (**Taylor.W.R.1996**).

Outdoor advertising agencies must obtain the landlord's permission before conducting any advertising activities in Times Square. Building owners share their design value, then outdoor advertising agencies persuade the owners of their plans. In this process, building owners seek advice from designers, selecting creative advertisements deemed suitable for their buildings. In Times Square, each advertisement's lighting parameters are defined in the lighting policy and in the terms of the building rental contract, which keep advertisements lit up at night, ensuring safety for pedestrians. Electronic technology has been installed since the 1990s, and connection of massive advertisements to online networks has become commonplace (**Taylor.W.R.1996**).

The Times Square Council and the New York City Economic Development Company collaborated with the New York City Urban Planning Department, the Department of Transportation, and the Department of Small Business Services to develop plans for tourist attractions and commerce in the area. The groups meticulously analyzed Times Square's finances, insurance conditions, and revenue sources to promote retail development. Times Square's official website provides contact information for all local media outlets and sales representatives, contributing to advertising revitalization efforts (**Timessquarenyc.org**).

The Times Square Council is striving to revitalize the area by publicizing various events. For example, Times Square hosts numerous cultural and art events (e.g., food festivals and concerts) as well as the New Year's Eve celebration every year. It also serves as an exhibition space for media artists. The Municipal Art Society (MAS) of Times Square promotes the architectural and cultural preservation of registered theaters by designating landmarks and modifying zoning parameters (**The Municipal Art Society of New York**). Table 1 summarizes Times Square's characteristics and success factors, focusing on place, economy, and culture.

Table.1. Characteristics and Success Factors of Times Square Free Outdoor Advertising Zone

| Category	Category	Content
Place	Space	· Creating pedestrian-centered space through traffic control and square operation. · Efforts to innovate public design led by private organizations.
Place	Media	**Coordination of advertisement functions by size and type** · Large advertisements: landmark space and media events. · Small and medium-sized advertisements: attracting small and medium-sized business participants, diversification of scenery. · Analog advertisements: performance promotion, diversification of scenery. · Encouraging installation of new materials and advertisements with novel designs.
Economy	Economy	· Non-profit organizations benefit from promotion via the official website. · Ripple effect expands business participation around the business area. · Promoting advertising industry by providing contact information for all media agencies and sales representatives in the area on official website.
Economy	Governance	· Private organizations exercise influence in fields such as urban planning, tourism, and business promotion through consultation with New York City government. · Collaboration with fields such as advertisement, space, art, design, economy, etc. · Council of building owners share design value for installing outdoor advertisements, contributing to organization of connected urban landscape.

Culture	Content	· Creating image of Times Square as experiential space where diverse visitors continually discover and participate in art and culture. · Using area as cultural and artistic space that strengthens cultural self-sustainability.
	Visitor	· Presenting guidelines for installing ads from pedestrian viewpoint ensures visitors' safety, even at night. This is accomplished by addressing the brightness and lighting time of the advertisements in the lighting policy and building rental contract terms.

5.Las Vegas Free Outdoor Advertising Zone

When the first large casinos opened in 1946, Las Vegas became one of the largest tourist cities in the United States by developing gambling and entertainment into major industries. The strategy to discard its reputation for gambling and hedonism and transform Las Vegas into a tourist and resort city has been lucrative, as the city hosted 42 million tourists in 2016 **(Huber & Stern 2009)**.

The Las Vegas Strip is home to a diverse array of attractive hotels, creating a spectacular and unique landscape **(Huber & Stern 2009).** Each hotel has its own unique concept. For example, the Cosmopolitan Hotel, established in the 2010s, has an open space that follows the theme of the famous *Cosmopolitan* fashion magazine. These flagship hotels have come to symbolize Las Vegas due to their extravagant exteriors and colorful outdoor advertisements, characterized as themed spaces **(Horridge.K.2017)**. Specifically, the Fremont Street Experience has been renewed remarkably, serving as a contemporary model for digital outdoor advertisements. Viva Vision is the world's largest LED display, providing a customized content experience with high resolution (16.4 million pixels). Based on scale expansion and content innovation, it has emerged as a globally distinctive attraction in downtown Las Vegas **(Fremont Street Experience)**.

Figure.4. Las Vegas Strip Advertisements and Fremont Viva Vision Lightshow
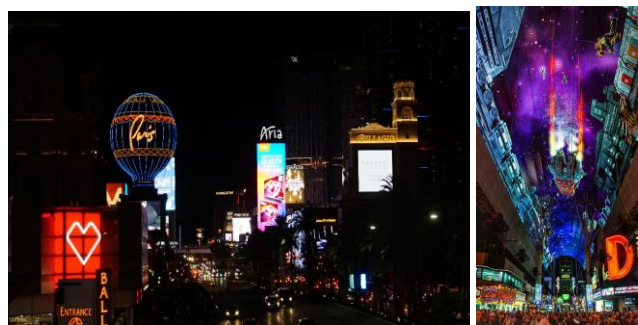
Las Vegas is a unique city that has expanded systematically, following a completely artificial development plan generated in the 1930s. The plan for the downtown area focused on developing an entertainment city for citizens and visitors by creating tourist attractions where people could explore the 150-year transformational history and local diversity. Moreover, despite the advent of light-emitting diode technology, LED outdoor advertisements were not installed indiscriminately. Instead, classic neon design maintenance, traditional advertising bill reproduction, and genuine creativity brought together old and new advertising displays **(Fremont Street Experience)**.

Enacted by the City of Las Vegas Government in 2004, Ordinance No. 5694 stipulates the detailed plans for the management of outdoor advertising in the city. The free outdoor advertising zone is designated as the "Las Vegas Boulevard Scenic Byway Overlay District," a zone that specifically "protects and enhances the nighttime scenic intrinsic qualities of the byway" **(Las Vegas Nevada Government)**.

Interestingly, hotels' on-premise advertisements dominate this zone, while other companies' off-premise advertisements are prohibited. Despite this exclusivity, hotels are complex spaces that run various advertisements simultaneously within their own facilities (e.g., brand stores and restaurants). As a result, it is difficult to distinguish between the actual hotels' advertisements and advertisements that happen to be placed on hotel premises. Ultimately, while other local regulations restrict light-emitting advertisements due to light pollution concerns, Las

Vegas has adopted a countermeasure stating that more than 75% of the entire surface of advertisements can use neon, digital, or combined lighting elements to create urban night landscapes **(Shhuangpu.gov, 2019).**

Unlike other leading tourist cities, Las Vegas is positioned as a mecca of worldwide tourism, featuring the world's largest hotels, casinos, and convention centers despite unfavorable conditions for historical sites and beautiful natural scenery. The entire city is a theme park, providing entertainment to visitors through a complex space including casinos as well as spectacular shows, shopping malls (from luxury brand stores to outlets), premium restaurants, attractions, and sports facilities. Notably, outdoor advertisements and super-large digital signage not only create a lively urban atmosphere but also provide an effective communication environment for opinion leaders (e.g., businesspeople). Table 2 summarizes the characteristics and success factors of Las Vegas's free outdoor advertising zone.

Table.2. Characteristics and Success Factors of Las Vegas Free Outdoor Advertising Zone

Category	Category	Content
Place	**Space**	· City government-led space creation, landscape maintenance, and advertisement management. · Sustaining space and infrastructure expansion along axis of Las Vegas Boulevard.
	Media	· Establishing local identity using outdoor advertisements with neon signs and other design elements. · Enhanced old city center with media shows and neon sculptures using media canopy. · Attempting innovative design, such as replacing old facilities, as well as collating design elements and media advertisements.
Economy	**Economy**	· While off-premise outdoor advertising is banned, on-premise advertisements of hotels and casinos and transmitted internal facilities' advertisements promote local commerce.
	Governance	· Downtown Design Review Committee (DDRC) appoints experts in design, advertisement, media, landscape, etc. for three-year term to approve new regulations and renew sign designs. · Local government officers operate urban landscape council (Las Vegas Boulevard Scenic Byway).
Culture	**Content**	· Promoting voluntary cultural events in hotel marketing without intervention. · Promoting media-based cultural events such as New Year's Countdown using large billboards.
	Visitor	· Adopting countermeasures to use neon, digital, or combined illuminated signage in more than 75% of advertising surface to create night landscape promoting pedestrian safety. · Reinforcing convenience for pedestrians by connecting monorails and overpasses.

6. The Bund's Free Outdoor Advertising Zone

In 1844, The Bund (also known as Waitan) was incorporated into the British Concession, and it is the focal point of the entire modern city of Shanghai. After Shanghai became an international commercial city attracting foreign banking and newspaper offices, The Bund grew into the representative urban center of China and of the Far East in general. The Bund is a historical and cultural representation of China located in the Huangpu District of Shanghai. The area centers on an intersection of Yan'an Road in the south, Waibaidu (Garden) Bridge crossing the Suzhou River in the north, the Huangpu River in the east, and Shanghai trade and financial organizations in the west. Located around the Bund River, Shanghai's iconic buildings such as the Oriental Pearl Tower, the Jinmu Building, the Shanghai Central Building, and the Shanghai Universal Financial Center are symbols of Chinese economic reform and openness as well as a microcosm of Shanghai's modernized urban landscape.

Figure.5. The Bund Free Advertising Zone and Citigroup Tower Screen

Every evening, The Bund's massive outdoor digital billboards broadcast the latest Shanghai news and information. Corporate brand advertising and projects related to travel, art, and public interests reinforce Shanghai's urban brand. For example, Citigroup Tower's LED screen (installed and operated by Bundstar Media since 2009) has been nicknamed "Shanghai's window" and displays over 1,000 unique videos. The Aurora building's LED screen won the Guinness World Record for the largest screen of its kind in December 2019. The Bund's free advertising zone has transformed into a "big brand" stage. Consequently, the standard price of advertisements in this area is higher than that of the average urban outdoor advertisement **(Shhuangpu.gov, 2019).**

The Chinese government regulates and manages the beautification of the urban environment, especially digital billboards. According to the "Measures of Shanghai Municipality for the Administration of Outdoor Advertising Facilities," regulations concerning environmental protection, public disturbances, and customer deception are strictly enforced [30]. The Bund hosts diverse cultural and art events—including government events such as "Chinese envoys," "Teachers' Day," and "The 70th Anniversary of the Founding of the People's Republic of China"—promoting them on large terminal outdoor screens (徐 轶汝.2014). Additionally, Citigroup's electronic billboard has displayed congratulations and celebratory remarks for Shanghai University students leading up to their graduation **(baijiahao.baidu.com)**.

Regardless of their being tightly controlled, the buildings' sizeable outdoor advertising screens create a dramatic landscape. It is not merely commercial advertisements but also cultural phenomena such as theater and film festivals that demonstrate the diversity of Shanghai. Table 3 summarizes The Bund's characteristics and success factors.

Table.3. Characteristics and Success Factors of The Bund Free Outdoor Advertising Zone (Shanghai)

Category	Category	Content
Place	**Space**	· Government strictly regulates and manages beautification of urban environment and digital displays. · Space divided into prohibited and exhibition areas, allowing installation of outdoor advertisements while ensuring security and public order.
	Media	· Impose regulations such as Measures of Shanghai Municipality for the Administration of Outdoor Advertising Facilities and Shanghai Environmental Lighting Technical Standards · Manage demand for outdoor advertisement space, etc.
Economy	**Economy**	· Deliver updated information on Shanghai · Operate corporate brand advertising and projects related to travel, art, and public interests to reinforce Shanghai's urban brand.
	Governance	· Cooperation of media advertisement operators and Shanghai Charity Foundation facilitates public service advertisements at no cost.
Culture	**Content**	· Government and broadcasters hold media-based events and promote them on large digital billboards (e.g., graduation congratulatory messages).

	Citizen	· Industry and Commerce Administration Department prohibits using outdoor advertising content that could have negative effects on citizens.

7.Lessons Learned from the Case Analysis

Castells.M (1983) argues that a city is a unit of "collective consumption" **(Castells.M.1983)**. With the advent of global consumer society, urban spaces are used as a kind of consumer goods, and urban landmarks such as Times Square have created new economic value. Landmark outdoor advertisements function to improve citizens' quality of life and visitors' experience beyond their primary function of stimulating consumption and regardless of their physical characteristics (e.g., size and materials) **(Lorentzen.A.2009)**. Before establishing management standards for advertisement installation, problems such as urban landscape damage and light pollution as well as spatial characteristics of place use, floating population, road structure, visibility distance, and so on must be taken into account. However, based on the cases of Times Square in New York, Las Vegas, and The Bund in Shanghai, the primary goal of Tecoration appears to be creating experiences for citizens and visitors in popular places.

Among the success factors of global Tecoration cases, a remarkable aspect is that pedestrian-centered spaces and outdoor advertising media have shaped a dynamic and unified urban landscape. The indiscriminate installation of outdoor advertisements raises intractable problems such as harming the city's aesthetics and negatively affecting citizens' urban experience. Therefore, establishing urban development plans such as initial landscape creation and regulation, advertisement installation guidelines, and systematic management of media installation is fundamental for designing an attractive and distinctive urban landscape.

Furthermore, to strengthen placeness in the vicinity of the free outdoor advertising zone, it is necessary to increase freedom of expression and exercise quality control through a special council of the local government, scholars, and citizens. In the three cases that we analyzed, due to the participation of the surrounding business area, the expansion of the space contributed to the promotion of regional commerce, creating a ripple effect. In terms of the uniqueness of the free outdoor advertising zone, we should consider stimulating creativity through advertisements and facilitating content-oriented communication with pedestrians in addition to noting the impacts of traffic, operations, open space, and walking distance.

The aforementioned Tecoration areas are rendered attractive through cultural and artistic events, starting with public events such as the New Year's Countdown. Moreover, after being directly involved in the local events, participants upload their experience on social media platforms, which fosters improvement of public communication. The joint effort of industry, government, scholars, and citizens is paramount in transforming advertisements into cultural contents through sensible regulations and enrichment strategies. Converting a specific area into an urban attraction through Tecoration requires sustained commitment.

Table.4. Comparison of the Three Free Outdoor Advertising Zone

Country	Place	Economy	Culture
Times Square, USA	· Creation of pedestrian-centered space through traffic control and square operation · Harmony of diverse forms of media	· Expansion of space through business participation around commerce areas · Regional ripple effect · Independent activities of private organizations	· Providing an experiential space through cultural and artistic events · Providing guidelines for advertisement installation in consideration of pedestrians' viewpoint
Las Vegas, USA	· City government-led space creation · Developing plans for landscape organization and advertisement management · Establishing unique city identity through	· Regional business promotion through on-premises advertising and ads inside facilities · Operating civil government entity to monitor and facilitate	· Voluntary cultural events promoted by hotels, casinos, etc. · Using illuminated advertisements to create night landscape and ensure pedestrian safety

	coexistence of neon signs and other design elements	consultation for urban landscape designs	· Reinforcing convenience for pedestrians by connecting monorails and overpasses
The Bund, Shanghai, China	· Government has implemented regulations for urban environment beautification management, digital signage, and zone classification for outdoor advertisement installation	· Reinforcing city branding by presenting free public service advertisements and latest news and information on Shanghai	· Government-led events using media · Strict content regulation by government

8.Conclusion

For future smart cities, it is fundamental to start the place marketing strategy by discovering, interpreting, planning, and creating the city's identity. Next, the marketing strategy should aim to promote local culture, placeness, and commercialization as well as branding. The core of place marketing strategy is to create an urban community that enhances the quality of life and creates economic ripple effects through cultural industry and tourism **(Iqbal & Pierson 2017)**.

According to **Ercan.Z.M.A (2007)**, urban public spaces perform varied roles—physical, ecological, psychological, social, political, economic, symbolic, and aesthetic **(Ecran.Z.M.A.2007)**. Following urbanization, citizens' expectations for public spaces also change because the spirit of one citizen is increasing in complex cultural spaces. For example, expectations for public spaces' social function increase, even in shopping places over and above their original shopping function. Adapting to these growing expectations takes constant effort, such as installing landmark advertising media for shopping places. This phenomenon is increasingly common in the distribution field, particularly for entertainment-based retail shops that combine cultural activities with the original commercial functions of shopping malls **(Ecran.Z.M.A.2007; Zukin.S.1995)**.

In Times Square, Las Vegas, and The Bund, outdoor advertisements play a vital role for urban tourism resources as a high-tech marketing platform and advanced communication tool for corporations. Creating a unique space of public design and the city-representative image can transform a place into a tourist attraction and contribute to local economic development. Moreover, a city's elevated status improves the living standard of its citizens and can therefore be expected to heighten expectations for the public sector, present a positive city image, and cultivate citizens' sense of community and intimacy. Outdoor advertisements play a pivotal role in this virtuous cycle.

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