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A New Dimension in Advertising in Urban Space: 3D Dynamic Digital Billboards

Kentsel Mekanda Reklamcılıkta Yeni Boyut: 3D Dinamik Dijital Reklam Ekranları

ÖZ

Günümüzde binalar, gelişmiş dijital ekranların yardımıyla birden fazla işleve hizmet etmektedir. İzleyicileri büyüleyen ilgi çekici görsel deneyimler yaratmak için en son teknolojiyi kullanılan bu ekranlar, yaratıcı, yenilikçi ve interaktif teknolojilerin hızla ilerlemesi sayesinde markalar daha geniş kitlelere ulaşabilmektedir. 3 boyutlu dinamik billboardlar ise en dikkat çekici olanlardan biridir.

Bu çalışmada yerleştirme, reklamı yapılan ürün türü ve teknolojik yenilik temel alınarak vaka çalışması olarak altı farklı 3 boyutlu reklam panosu seçilmiştir. Çekicilik ve etkileşim, teknolojik yenilik, kültürel etki, ekonomik fayda ve halkın ilgisine göre incelenmiştir. Örnekler, yenilikçi teknoloji ve anamorfik illüzyon tekniğinin kullanıldığı 3D billboardların görsel etkisi, markaların uzun süreli bir izlenim bırakmasına olanak tanıdığı göstermektedir. Geleneksel 2 boyutlu billboardlardan farklı olarak derinlik ve hareket sunan 3 boyutlu billboardlar, izleyiciler üzerinde kalıcı bir izlenim bırakırken ve statik görüntülerden hareketli videolara kadar çeşitli içerikleri görüntüleyebilme imkânı sunmaktadır. Verilen mesajlar, billboardların görünümünden çok sonra bile izleyicilerde yankı bulmaya devam etmektedir. 3 boyutlu billboard teknolojisi henüz başlangıç aşamasında olmasına rağmen birkaç yıl içinde yaygınlaşma potansiyeline sahiptir ve kaçınılmaz olarak kentsel mekandaki en etkili reklam türlerinden biri olacaktır. Reklamdaki bu yeni boyut, geleneksel reklam yaklaşımını değiştirerek kentsel mekanları ilgi çekici medya noktalarına dönüştürecektir.

Anahtar Kelimeler: Kentsel Mekan, Mimarlık, Açık hava Reklamcılığı, 3D Billboardlar, Anamorfik illüzyon

ABSTRACT

Today buildings serve multiple functions with advanced digital displays. These displays use cutting-edge technology to create engaging visual experiences that captivate viewers. Brands can reach wider audiences thanks to this rapid advancement of creative, innovative, and interactive technologies. 3D dynamic billboards are one of the most remarkable ones.

In this study, six different 3D billboards were selected as cases based on the placement, advertised product type, and technological innovation. They are examined according to their attraction and engagement, technological innovation, cultural impact, economic benefits and public attention. Using new technology and the anamorphic illusion technique, the visual impact of 3D billboards enables brands to leave a long-lasting impression. 3D billboards offer depth and movement, and leave a lasting impression on viewers and can display various contents, from static images to motion videos. Although 3D billboard technology is in its early stages, it has the potential to become widespread in a few years, and it will inevitably be one of the most impactful types of advertising in urban space. Their messages continue to resonate with audiences long after they have seen the billboard. This new dimension in advertisement has changed the traditional advertising approach and transformed urban spaces into engaging media spots.

Keywords: Urban Space, Architecture, Outdoor Advertising, 3D Billboards, Anamorphic Illusion

Introduction

In modern urban spaces, a growing presence of digital display infrastructure is primarily used to influence and control consumer behaviour. With technological advances, this current trend has led to displays having more attention-grabbing features and metropolises bearing up to create more interactive and appealing experiences in urban spaces. 3D billboards are one of them; they have emerged as a revolutionary innovation, transforming the way people experience commercial and artistic displays in urban environments. This article considers the implications of 3D digital billboards in urban space, their impact on urban aesthetics and consumer engagement, and the future potential of this innovative medium in reshaping urban advertising. It begins with an overview of outdoor advertising as a communication tool in urban space. Then, the usage of 3D digital billboards as a brand-new advertising tool in urban space is examined.

The use of these giant screens' dates back to ancient times. Before the printing press invention, literacy rates were low, and public spaces were used as communal information areas. Visual and narrative languages were used for everyone who could not read texts (Heper, 2008: 10). Decorations in urban spaces, stained glass windows, and frescoes in churches were not only for ornamental purposes but also for informing, influencing, or even frightening people.

In modernism, simplicity was at the forefront of architecture under the influence of industrial development. In that period, the communication power of architecture can be summarized as Adolf Loos's "ornament is crime" and Mies Van Der Rohe's "less is more" philosophy. However, the idea behind attracting people to teach and spread religion changed in urban spaces. In a consumer society, the aim is to direct people to consumption. Contrary to simplicity, building decorations gained importance to attract society's attention. Stable sculptures and embroidery have been replaced by moving, constantly changing visual communication materials.

Visual aspects of cities have gained the attention of citizens from different segments for a long time. Streets, which are both communication and interaction spaces used by expression, are at the forefront of the physical areas where the media struggles for dominance. While Lynch (1964) criticized the mental image of the city, Venturi et al. (1972) broadly emphasized the city's visuality. Their analysis encouraged architects, urban planners and theorists to examine the architecture of commercial buildings, illuminated signs, and advertising billboards. Venturies (Venturi & Brown, 1972) examined 1970s Las Vegas architecture as a "communication system". The main aim in Las Vegas is to attract people passing by on the highway and give messages in the easiest and shortest way. Thus, the buildings came to the forefront as advertisement signs rather than their architectural function. This situation invites us to think of a future architecture that communicates digitally.

In postmodern culture, the marketing sector has been in quest of new approaches. The use of urban space for promotion and advertisement has increased, and an eclectic understanding has developed by getting involved in art and architecture. Mass media has improved and become widespread, and spreading cultural products to the world through media has become easier. Businesses have begun to discover the potential of billboards as a powerful tool for conveying their objectives and values in alignment with emerging trends (Struppek, 2006). The pressure of the dominant culture has made changes in societies. The mass culture effect has shaped habits and tastes. Advertising and communication tools are the most prominent tools for this change. In this way, the intended popular lifestyle is adopted, and societies are directed towards consumption.

In other respects, outdoor advertising results from the connection between urban space and the advertising industry. They are formed by commercial communication directly related to global capital flows and neoliberal culture. Contrary to the conscious consumer of modernism, in postmodernism, consumers are indecisive, make instant decisions, constantly change their minds, and purchase, and in this way, they are satisfied. Outdoor advertising aims to sell more and make a profit more. It has sought new media elements, unlike other marketing methods. The main aim is to attract the attention of people passing by. To know the targeted consumer's needs and reach people's subconscious, imagination and creativity take shape. Sometimes, installations are made on the street, and performances are organized using secret actors. In this way, people passing by on the street unconsciously find themselves in art and advertisement.

LED (Light Emitting Diode) technology has made architecture over. With technological developments and a large amount of investment, outdoor advertising has entered a new stage (Li, 2019: 76), and buildings have gained entirely different functions. As Virilio and Rose (2003: 36) call it "media building", the primary purpose of the building turned into an information surface (McQuire, 2009: 47). As a result of this situation, the influence on the buildings' form and function of different branches, such as graphic design, communication, and computer engineering, has increased. Cities like Las Vegas and Los Angeles, where advertisements are heavily used, gained a new image. While buildings are designed with programmable surfaces, the relationship of graphic arts with the architectural surface has loomed large, and the communicative function of the building has increased day by day. While the media uses architecture to expand the field of competition and reach more people, architects started to use the media for effective design. According to Huhtamo (2009: 15),

“...the moving and flashing images don't connect with each other either thematically or formally. They constitute a mutating mosaic that is part of the cityscape and, at the same time, becomes the cityscape. Passers-by glance at the screens but don't get easily 'absorbed' into them. The wall-mounted screens form an ambience rather than a set of targets for sustained attention" (Huhtamo, 2009: 15).

Today, we are bombarded with advertising throughout the day, both dynamic and static. People are affected just as children in Disneyland are by outdoor advertising in urban spaces. When examining New York Times Square, giant screens and their mosaic-like appearance come to mind.

1. Static 3D Billboards

Urban space itself is a form of visual language with symbols and riots of colours. It is one of the most suitable places for advertising. Through billboards, store windows, and signboards, advertisers strive to catch the attention of passers-by, people stuck in traffic or waiting for the bus.



Figure 1. Nike's 'Through the Wall Optical Illusion' advertisement. Communication Arts. (n.d).

For example, two consecutive buildings were used in Nike's "Through the Wall Optical Illusion" advertisement (see Figure 1). The image gave the impression of the running man cracking the building on the first building's facade, while the actual image of the runner with the Nike logo was placed in the second building. In this way, the effect is given that the runner has pierced one building and passed to another building. Thanks to the illusion, passers-by were impressed by the advertisement.

In other respects, Powerhouse Gym has developed a creative campaign using the buildings under construction, which people pass by every day. The image of a strong, muscular man brought about by the advertisement of a gymnasium was used, and vehicles such as cranes used in construction became a part of the advertisement (see Figure 2).



Figure 2. Powerhouse Gym Advertisement (Hero, 2015)

However, in the recent period, there have been considerable changes in both the quantity and quality of outdoor advertising. While outdoor advertising was dominated by static billboards, urban furniture, metro stations, and building facades, it is now commonly situated on digital screens showing video and animated advertisements (Iveson, 2012: 156).

New-age digital advertisements are leaders of the digital culture with their charming and creative features. They use urban space limitlessly. They are reinforced by new technologies, software and the internet and have a great potential to engage and mediate the interaction between people and architecture (Gehring & Wiethoff, 2014: 477). Skyscrapers and large-scale buildings are favourable typologies to the artistic expression of an architectural structure. By the use of architectural 3D mapping technology, video images are projected on the façade of existing buildings, transforming the usual appearance. On the other hand, digital billboards are used as structural elements of facades and can use whole facades of buildings.

Digital billboards generally use LED screen technology for dynamic displays. It offers a realistic and engaging experience with an illusion of depth. At the same time, these billboards are flexible and changeable, which is essential in consumption culture. In addition, they are environmentally friendly when compared with non-digital screens. Thanks to the great blend of entertainment, technology, and marketing, 3D billboards have become one of the most impactful outdoor advertising types in recent years. This article analyses a specific genre of outdoor advertising 3D Billboards, which are integrated into the facades of the building or cover the entire building.

2. Dynamic 3D Billboards

2.1. The Technique Behind Eye-catching Dynamic 3D Billboards

Special image technology is used in 3D digital billboards to extend the subject beyond the screen without requiring additional devices. They manipulate human perception through illusion to create a realistic sense of depth. This anamorphic illusion approach in advertising adds a new dimension to the urban space which means employing optical illusions to attract people from specific vantage points. Images are captured from different perspectives and merged into a single one; in this way, an optical illusion is generated that appears remarkably lifelike to the human eye (Beeyond, 2023) and is mostly used to create visual effects and add depth. From a certain perspective, images appear realistic, although it is stretched or distorted, and they create an unforgettable experience for passers-by. While some objects appear larger or smaller, some of them are seen closer than they really are (Yassin, 2023:23). It requires a different viewpoint than the normal picture plane. The most common form of manipulation in art is the use of flat paintings to trompe l'oeil ("fooling the eye") (Wade, 1999). Suler et al. (2017), in their book "Perception and Imaging" mention the trompe l'oeil, which deals with a two-dimensional image take on a realistic 3D appearance. An art technique, Trompe l'oeil uses realistic imagery to create an optical illusion of 3D objects. It involves highly realistic imagery to create a convincing optical illusion to trick the eye by depicting objects with 3-dimensional reality. Pere Borrell del Caso's Escaping Criticism (Figure 3) painting is one of the crucial examples of this technique (Naini, 2011). Without the frame, it becomes an ordinary painted figure; with this technique, the actual frame continues the style of the painted one, thereby enhancing the illusion.



Figure 3. Pere Borrell del Caso (1874) Escaping Criticism, Madrid, Spain (Naini, 2011).

In addition, human brains integrate visual information from both eyes to create a perception of the 3D world, including depth, texture, and shape. This process starts with visual perception from the eyes. Each eye views the environment from a slightly different perspective, which is called binocular disparity. It allows the brain to create a sense of depth and distance and determine the relative distance of objects in the environment. While shadows and highlights provide information about the shape and form of objects, perspective helps create a sense of depth and distance.



Figure 4. Billboard in Times Square, New York City, 1995. (Suler & Zakia, 2017: 203)

For example, a giant photograph of a woman sitting on (Figure 4) what appears to be a window ledge attested to the power of artists to deceive the human eye. Although the photograph was two-dimensional, the woman and the window appear three-dimensional due to the convincing illusion. This illusion is enhanced by the size of the picture and its location (Suler & Zakia, 2017:203)

With digitalization, these techniques have begun to be used on billboards. These billboards take attention by psychological and neurological factors which influence the perception and cognition of people. The brain combines all these visual and spatial cues to create a mental model of the 3D environment. This 3D effect is instantly eye-catching, and it engages the audience for quite a while. Advertisements become more impactful by adding depth to the content (Yassin, 2023:23). 3D digital billboards often display unexpected visuals that stand out from the surrounding environment and capture people's attention. In addition, they present depth cues with shading and perspective, which create the 3d space illusion. These cues make the billboard appear more realistic and charming to viewers. In this way, advertisers can direct viewers' attention to key points on a billboard by strategically using techniques and positioning elements like colour, size, and contrast. Moreover, people are remarkably responsive to biological motion, such as the movement of animals or human figures. 3D billboards can capture attention by appearing to move and be lively, capitalizing on this sensitivity.

3. Methodology

This study used a case study approach to explore the use of 3D billboards in advertising. Analysis of specific examples offers valuable insights into their impact and effectiveness. Six 3D billboards were selected based on placement, advertised product type, and technological innovation. The Shinjuku Cat was selected because it is one of the earliest examples of this technique. The Wheel of Time Series Advertisement was selected because it was exhibited in many countries simultaneously. The Final Fantasy 7 Video Game Advertisement was a good example, as it was accompanied by a social media campaign. A realistic water display goes beyond traditional advertising. Hit Co., Ltd. (headquartered in Tokyo) was chosen as the advertising company that operates the eight digital billboards featuring Hachiko the dog. The Subway advertising campaign was selected to introduce an interactive 3D billboard. Data were collected through industry reports and online resources, including social media analysis.

The scope of the study is limited to six 3D billboards, which may not be representative of all industries. Additionally, due to the geographic locations of the cases, interviews could not be conducted. It would have been more effective to gather user opinions face-to-face.

To determine the impact of 3D dynamic digital billboards, an evaluation of six distinct 3D billboards was conducted through five dimensions, as explained below;

Outdoor advertising is a passive medium, and people are reluctant to notice because they often have various tasks such as walking or driving (Wilson & Till 2011). Thus, the success of a billboard relies significantly on its ability to capture viewers' attention and encourage them to engage with the displayed advertisement. Therefore, it is essential to analyze cases according to their potential for attraction and engagement. In addition, to reach the capabilities of digital advertising technologies, the evaluation of technological innovation, which are significant component of modern advertising strategies, is crucial. The incorporation of innovative technologies yields advantageous outcomes in outdoor advertising, where digital progress has significantly transformed the traditional outdoor billboard (Taylor, 2015). Furthermore, examining the cultural influence of emerging digital billboards provides valuable insights into their relevance and significance. It is important to evaluate the cultural impacts of these new digital billboards. Additionally, economic benefits are a significant consideration for advertisers and venue owners. Social media plays a crucial role in the engagement process and efficiently captures attention (Kelsen, 2010), which can help to cost-free advertising if the campaign achieves widespread popularity on social media. The billboard's success in grabbing attention is reflected in the public's growing awareness of its presence in a crowded and competitive media environment. Attending to the advertisement is a vital factor in message processing that leads to favourable advertising outcomes, including improved brand memory (Wilson, et al. 2015).

In light of previously discussed factors, to identify the impacts of 3d dynamic digital billboards, the following parameters were used: (1) attraction and engagement, (2) technological innovation, (3) cultural impact, (4) economic benefits and (5) public attention. By illustrating the various types of 3D dynamic digital billboards and comprehensively understanding their impacts, a multidisciplinary examination will be beneficial.

4. Case Studies

To enhance visibility, reach more audiences, and showcase their impressive visuals, cutting-edge technology billboards are typically placed in popular cities like New York, Tokyo, and Las Vegas. The Shinjuku Cat billboard is one of the first examples of cutting-edge 3D display technology placed in Tokyo (Figure 5). By the use of anamorphic illusion techniques and a curved LED

screen, the billboard creates a three-dimensional effect. Passers-by feel that the cat is almost real; it lives on top of the building, plays, and naps (TW, 2023). The billboard represents a convergence of cutting-edge technology, creative design, and engineering ingenuity. It presented an unforgettable advertising experience in Tokyo's bustling Shinjuku district and made Shinjuku Station a landmark (QReal, 2023). The 3D cat went viral all over the internet. The cat was an attempt to give new energy and recovery from the impact of the pandemic to the city. The effect of the billboard exceeded expectations. It caused a crowd to gather in front of the billboard, eager to take photos and share them on social media (Hushain et al. 2023:435).



Figure 5. The Shinjuku Cat billboard (Campione, 2021)

Only on the CBS Morning YouTube channel (CBS Morning, 2021) the video of Shinjuku Cat Billboard was watched 3,9 million times. Moreover, the Cross Space YouTube channel streamed live footage of a 3D billboard of Shinjuku Cat in Tokyo for a while. It draws both local and international interest. This level of engagement demonstrates the effectiveness of 3D billboards in capturing and maintaining public interest. It can be said that the billboard reflects the innovative and creative spirit of Tokyo, contributing to the city's fame as a centre of technological advancement.



Figure 6. Wheel of Time Series Advertisement, (Clis, n.d.).

Another example is a TV series advertisement (see Figure 6). A new version of *The Wheel of Time* series starring Rosamund Pike was released on Amazon Prime. It is the first example of the usage of an anamorphic billboard for an entertainment company to promote a series (Clios, n.d.). The series launched with a 3D billboard illusion created by Amplify (Moreton, 2021) in New York Big Kahuna in Times Square, London Piccadilly Circus and Tokyo's Cross Shinjuku Vision. Placing these billboards in different metropolises allows the advertisement to reach a diverse and wide audience from different cultures.

In the article on Forbes, Kain (Kain, 2021) gives place to Jeavon Smith, chief creative officer at Amplify Words; he pointed out the similarity between digital billboards and the anamorphic illusion technique used in the Renaissance. According to Smith, a 3D billboard involves combining traditional and modern elements. By creating a sense of depth on the canvas, the visual impression that the content is breaking through the physical boundaries of the screen is given.

One of the most impressive campaigns in Japan was an advert for the *Final Fantasy 7 Remake*. The Omotesando Hit Vision screen in Tokyo was used for the *Final Fantasy VII Remake* advertisement campaign (see Figure 7). The campaign show was about Red XIII escaping from Shinra headquarters and getting into escapades.



Figure 7. Twitter Page of Final Fantasy 7 (F. F. VII, 2021)

Douglas Rushkoff introduced viral marketing in his book *Media Virus* (Rushkoff, 1996). The name came from an infectious disease. As consumers tell each other about the content, the message is spread like a virus with human contact (Kurultay, 2012: 39). For the *Final Fantasy 7* advertisement, a social media campaign was held. Through Twitter, people shared their sightings of Red XIII and entered a raffle to win prizes. Moreover, the show was shared on an official Twitter page for people outside Japan who cannot participate campaign (Morissy, 2021) (see Figure 7).

Various types of art content are generally used to create an inviting atmosphere in spaces where public media is installed. 3D billboards can also be used for purposes beyond traditional advertising, such as public art installations, community messaging platforms, or educational displays. An important example of art installation is the Wave phenomenon in South Korea. A colossal wave appears on the LED facade at Gangnam's K-pop Square in Seoul. A realistic water display appears, offering a dynamic visual experience for passersby (Sherbina, 2023).

At K-Pop Square in Seoul's Gangnam District, passing people and passengers were welcomed with an uncommon scene. Even though going to the beach is a dream during coronavirus pandemic lockdowns, in Seoul's Gangnam District, the ocean came to the city centre (District, n.d.) without any single drop of salt water (see Figure 8).



Figure 8. Wave (Sherbina, 2023)

The world's busiest Shibuya crossing is also home to a famous statue of an Akita named Hachiko. Hit Co., Ltd. (headquartered in Tokyo) is the advertising company that operates the eight digital billboards through which the dog bounds. The company first appeared on July 29, 2022. The dog Akita appears to leap across billboards to catch a frisbee, and the dog and the frisbee move from screen to screen. The dogs' playful behavior, like interacting with an automated clock, jumping into a belltower, and catching a Frisbee-like disc in its mouth, can be observed every hour on the hour from different locations around Shibuya Station. These locations include the Shibuya Scramble Crossing and the Hachiko Skyscraper (GoTokyo, 2022).



Figure 9. Shibuya Akita Dog Billboard (GoTokyo, 2022)

Like the Shinjuku Cat Billboard (see Figure 9), the Shibuya Akita Dog Billboard is also on the list of must-see places on travel websites in Japan (GoTokyo, 2022)



Figure 10. Subway Interactive 3D Billboard (Houston, 2022)

Subway introduced an interactive 3D billboard (see Figure 10) in Westfield Stratford City, London. The billboard allows people to make their sandwiches on screen virtually and interact with the campaign in real-time. This interactive 3D billboard allows passers-by to customize by selecting ingredients, toppings, and sauces using their smartphones by scanning a QR code before seeing their creations come to life. In this way, Subway effectively engaged its target audience, differentiated itself from competitors and enhanced its brand perception among consumers (Moreton, 2022).

5. Results

Brands seek different ways to engage with their target audiences by creating memorable and charming content. Thanks to the rapid advancement of innovative and interactive technologies, they have reached wider audiences. 3D dynamic billboards are one of the most impressive ones. These types of billboards have the ability to display a wide range of content, from static images to motion video. In this study, cases are examined according to attraction and engagement, technological innovation, cultural impact, economic benefits and public attention. Table 1 presents an overview of an analysis.

Table 1. Analysis of 3D Billboard Cases

	Attraction and Engagement	Technological Innovation	Cultural Impact	Economic Benefits	Public Attention
The Shinjuku Cat billboard	The 3D cat billboard captures the attention of thousands of local people and tourists. The cat's realistic movements draw both local and international interest.	It is the first example of cutting-edge 3D display technology. It demonstrates the potential of 3D billboards to create engaging and captivating experiences beyond traditional two-dimensional displays.	The cat has become a cultural icon and a symbol of Shinjuku by reflecting the playful and creative spirit of Tokyo. In addition, it has become a popular issue on social media.	Increased foot traffic in the area may boost local businesses and contribute to the economy. The viral nature of the billboard attracts tourists, adding to the economic vitality of Shinjuku.	By playful behavior, the billboard became a viral sensation, demonstrating how technology can create more dynamic and impactful campaign and attract tourists.
Wheel of Time Series Advertisement	Wheel of Time is a fantasy series that relies	The series launched with a 3D billboard in	The billboard boosts the reach of the	The billboard shows audiences and	3D billboards help the Wheel of Time series

	on visual wonder and immersion to create a memorable experience that can generate virality and increase audience interest.	different countries that allows the advertisement to reach a different and wide audience from different cultures.	advertisement beyond the physical locations of the billboards, spreading awareness through social media.	industry professionals the importance of the project, which can help build expectations. It could lead to increased viewership and subscription rates for the streaming platform that hosts the series.	stand out from other series and media content.
Final Fantasy VII Remake advertisement campaign	Social media platforms helped to make the advertisement viral with user-generated content by sharing photos and videos of the billboards, which increased engagement and spread awareness virally.	By using social media the campaign offered a creative way to connect the physical and digital areas which enables fans to engage with the characters in dynamic ways.	It connects with both long-time fans and a new generation of gamers.	The innovative digital campaign gave a chance to increase sales of Final Fantasy VII Remake by enhancing its visibility and appeal by increasing interest and engagement.	The 3D billboard campaign garnered significant media coverage, which increased the reach of the advertisement.
Wave	The Wave 3D billboard gained attention with its hyper-realistic representation of a massive wave crashing. Its strategic placement in a traffic area maximized its visibility and attracted both pedestrians and drivers. It encouraged people to capture and share on social media. They watched and took photos or videos and then shared them online, which led to the campaign to	The technology created the illusion of the wave bursting out of the boundaries of the billboard, demonstrating the potential of digital billboards to offer dynamic content instead of static images.	The billboard became a cultural landmark in Gangnam, highlighting Seoul's status as an innovation and creativity centre. The billboard became a must-see attraction, serving as a backdrop for social media posts.	The billboard boosted local businesses like shops, cafes, and restaurants by attracting people to the area.	The billboard received extensive media coverage, with social media platforms being filled with videos and images of the billboard used for viral marketing.

	reach larger audiences.				
Shibuya Akita Dog Billboard	The 3D Akita dog, a culturally significant symbol in Japan, captivates audiences with its charm and interactivity, leading them to stop, take photos, and record videos, resulting in higher engagement compared to traditional 2D billboards.	The technological innovation made the dog appear as though it is interacting with its surroundings.	Akita dogs are known for their loyalty and are essential to Japanese culture. While the billboard gives a sense of nostalgia, it educates international audiences about Japanese culture.	The billboard is expected to increase economic activity in the surrounding area by drawing more visitors to Shibuya.	The widespread sharing of images and videos on social media platforms has increased its popularity and expanded its reach beyond its physical location.
Subway Interactive 3D Billboard	The interactive features allow people to engage with the content. Users can customize their Subway sandwich on the screen; it provides an active experience that goes beyond passive viewing and creates a fun and memorable experience.	Through the use of motion sensors or touch-sensitive elements, real-time user interaction occurs.	With an interactive experience in a busy, crowded shopping centre, the billboard adds to the changing landscape of advertising campaigns and meets consumers' expectations in a more dynamic and engaging way.	The engaging and interactive billboard can increase foot traffic to the nearby Subway store and brand visibility.	The Subway interactive 3D billboard gained attention with its innovative use of technology. In addition, social media sharing created organic spreads and extended the campaign's reach beyond the physical location.

The study reached the following results:

1. The examples reveal that 3D billboards will change the traditional advertising approach through the anamorphic illusion technique. They create entertaining and valuable content to attract consumers' attention. With the illusion technique, billboards make people feel as if the object that is shown on the billboard is coming out of the screen. This technique is perfect for drawing attention. It can be said that with their dynamic visuals, animations, and depth perception, 3D digital billboards catch people's attention more effectively than static billboards. They grab viewers' attention through novelty and spectacle, creating a bond over amusement through better product representation, attracting more buyers and helping them make better purchasing decisions when compared with 2D billboards.
2. By involving depth and motion and using creative design techniques, 3D billboards fascinate and present visually stunning experiences to passers-by and leave a long-lasting impression. With 3D effects and their eye-catching visuals, digital billboard content becomes more engaging and memorable. Their specific characteristics, such as bright colors, high contrast, or motion, make them charming, which leads to automatically capturing the viewer's attention. In addition, there

is no need for any device like 3D glasses to watch visual content, making them reachable. When it is compared with static images, videos become more engaging (Hushain et al., 2023: 431).

3. 3D billboards build an emotional connection; they are placed in the urban space where the consumer is. People can interact with creatures from the 3D video that breaks out on the screen in their everyday environment (Prafulla, 2022). For example, "Shinjuku Cat" and made Shinjuku Station a landmark, the Shibuya Akita Dog Billboard is on the list of must-see places on travel websites in Japan.

4. Through these 3D billboards, brands can reach wider audiences from various locations. Especially their stunning visuality, they are usually shared on social media, and they become viral. In this way, campaigns get millions of views. Thus, the installed place will not limit advertising campaigns; they can reach infinite customers. YouTube channel streamed live footage of a 3D billboard of Shinjuku Cat in Tokyo for a while. This situation helps to increase brand recognition and strengthen the brand image by reaching a wider audience from different locations, particularly with the capacity to make them viral on social media with millions of views (QReal, 2023). A social media campaign was held for the Final Fantasy 7 advertisement. Through Twitter, people shared their sightings of Red XIII and entered a raffle to win prizes. Moreover, the show was shared on an official Twitter page for people outside Japan who cannot participate campaign (Morissy, 2021).

5. The visual aspects of cities have gone through changes. In addition to alteration in the advertisement sector, creative anamorphic illusion applications in outdoor advertising transform urban spaces into engaging media spots, bringing an aesthetic to the area's architecture.

6. Last but not least, as Raghuvanshi (2022:7) mentioned, 3D digital billboards allow advertisements to stand out from the crowd. Consumers are more willing to investigate brands when the visual experience is attractive and realistic. 3D billboards keep the audience's attention longer and deliver the message more effectively and quickly. In 2D billboards, audiences quickly lose their interest, while in 3D billboards, the visual experience is so attractive and satisfying that people tend to stop and watch it for a while. Interactive 3D billboards engage audiences in a different way. They encourage participation and real-time engagement.

Discussion and Conclusion

The transformation of urban space into a means of communication is a phenomenon that has been around for a while. With the adoption of consumer culture in the postmodern society and new technologies, urban spaces have become suitable areas for commercial use. It gained a more active, distinctive, variable, and dynamic form to attract societies' attention.

While 2D billboards, whether or not digital, are ordinary and usual for many people, most people cannot notice them during a busy day. Contrary to unmoving, static and traditional billboards, technology brings us to a new dimension of entertainment and business in urban space. A three-dimensional virtual world is not only in sci-fi movies anymore. These creative campaigns blur the boundaries between reality and technology. They have become prominent in the digital augmentation of urban spaces.

These digital billboards are crucial in counteracting the effects of banner blindness. Additionally, they allow users to transform advertisements into viral content, thereby enhancing brand awareness and presenting engaging, enjoyable, and interactive experiences for citizens and tourists. This hypothesis was mentioned in several studies (Raghuvanshi, 2022; Yassin, 2023;

Ayada & Abdullah, 2024; Vangelov, 2024). Ayada and Abdullah (2024), indicated that 3D digital billboards increase user interaction and consumer engagement. It can be said that this latest technology creates a permanent impression, associating the brand with creativity and innovation. They are more attractive and convincing. The visual effects of 3D ads are so gratifying and eye-catching that the passers-by stop and are amazed for a while. They give visually fascinating experiences to passers-by who are potential consumers. In addition, in contrast to static 2D images, viewers are not losing interest and cannot forget the advertisement at short notice to 3D Billboards.

As noted by Hushain et al. (2023), because animation is undoubtedly more formalistic and versatile compared to actual filming, it serves as an impressive marketing strategy to improve the advertisement of a product or service. People are more willing to explore brands when the visual presentation is both appealing and realistic.

With this new form of advertising, thanks to its entertaining, intriguing and attractive features, consumers cannot realize they are occupied. In addition, contrary to classical advertisements, consumers help to spread the advertisement by circulating it on social networking sites and unwittingly making this temporary advertisement type permanent. Thanks to people being inclined to share events on social media, these kinds of events can go viral on social media. With a well-planned campaign, these advertising events become a powerful catalyst for organic word-of-mouth campaigns.

This study confirms that these types of billboards maintain audience engagement for longer durations and help convey the message with greater efficacy and speed. As mentioned by industry experts (QReal, 2023), the popularity of 3D billboards for advertisements will grow more in the following years. They will present more realistic and persuasive shows to viewers; in this way, the efficiency will be enhanced by grabbing attention and conveying their message.

Although 3D billboard technology is in its early stages, it has the potential to become widespread in a few years, and it is inevitable that it will be one of the most impactful types of advertising in urban space. It can be expected to be seen in most of the metropolises in a very short time. With augmented reality, virtual reality and simulation technology, interactive digital displays supported by 21st-century communication platforms like smartphones will probably appear in every aspect of life. The increase in Internet access and information technologies are increasing the number of users and audiences of artists from day to day. This situation will create new opportunities for artists and brands to collaborate creatively, enhancing the visual and emotional impact of advertising.

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Financial disclosures

The author declared that this study did not receive any financial support.

Acknowledgements

The author have nothing to acknowledge of any persons, grants, funds, institutions.