Modern Technologies and its Role in Promoting Ambient Advertising

Mai Mahmoud Radwan Sayoh

Associate professor, Department of Advertising, Faculty of Applied Arts, Damietta University, Egypt, maisayoh@du.edu.eg

Abstract

Ambient advertising is a creative and innovative form of out-of-home advertising that aims to clearly surprise consumers by placing unexpected ads in unusual locations and using unexpected means. ambient advertising is used to attract the recipient's attention in unconventional ways, to stand out from the clutter of traditional advertising, and to create memorable experiences and engage audiences in unexpected environments, ultimately leading to increased brand awareness. The world has recently witnessed technological developments in the field of advertising, where technology has provided new and complex techniques. Technological techniques, with the help of modern devices and computer technologies, have helped overcome advertising clutter and place it outside traditional media, so that the advertisement presents a kind of product benefit in a clear way. When done well, advertisements are visually and intellectually creative. Despite being seen by a relatively small audience compared to other advertisements, they are still attractive to the target audience. The research problem lies in how to utilize modern technologies in designing an innovative ambient advertisement that is integrated with the surrounding environment. Ambient advertising also aims to identify the modern technologies used in ambient advertising and to move away from familiar advertisements for the recipient, making them stick in the recipient's mind, which helps in delivering the message to a large number of recipients.

Introduction:

The advertising landscape is undergoing a rapid transformation driven by significant advancements in technology. Traditional advertising methods are no longer sufficient to keep pace with this accelerated evolution. Instead, the strategic utilization of technology has become the most effective approach to reach target audiences in engaging and impactful ways. Modern technologies encompass a broad spectrum of tools, devices, and software applications that find utility across diverse domains. Within the specific context of advertising, these technologies play a pivotal role in ambient advertising, offering a bold and innovative approach to captivate audiences. Through compelling campaigns that transform ordinary spaces into extraordinary experiences, ambient advertising has become a powerful tool for attracting and engaging consumers.

contemporary technologies empower advertisers to personalize advertisements, aligning them precisely with the interests and preferences of individual recipients. This level of customization enhances advertising efficacy while mitigating audience disengagement. Illustrative examples of modern technologies employed in ambient advertising encompass Bluetooth applications, projection mapping, virtual reality, augmented reality, and computer-generated imagery. Social media platforms have emerged as pivotal channels in the contemporary advertising landscape, facilitating the rapid dissemination of ambient advertising content. Modern technologies serve as the bedrock of ambient advertising, empowering organizations to achieve their marketing objectives with greater efficiency and efficacy. As these technologies continue to evolve, we can anticipate a wave of innovations that will redefine the contours of ambient advertising in the years to come.

Research problem:

The research seeks to address the challenge of developing innovative ambient advertising that effectively utilize modern technologies to enhance audience engagement and environmental impact.

Research Objective:

To identify and analyze innovative technologies employed in ambient advertising that deviate from

conventional advertising norms, thereby creating a lasting impression on the audience.

Research significance:

Utilizing modern technologies in ambient advertising to create a sense of wonder for the recipient

Research Methodology:

The study employs a descriptive-analytical methodology to examine a collection of advertisements that utilize innovative technologies

Theoretical Framework:

ambient Advertising

Ambient advertising is an unconventional out-of-home advertising medium where ads are placed in unusual and unexpected locations, often using unconventional execution methods. This non-traditional form of advertising relies on creativity and can convey direct messages by utilizing and transforming existing environmental elements in a way that surprises the target audience (Hutter, K., 2014). Environmental advertising aims to cut through advertising clutter to reach consumers, differentiate brands, and target consumers more effectively than traditional media. Ambient advertising is a form of institutional communication that uses environmental elements to stimulate consumer engagement. To engage consumers emotionally, give meaning, and symbolic value to their experiences. Ambient advertising is a multi-sensory and participatory communication channel that allows a brand to intertwine with the consumer's life and become a tool for meaning-making and value exchange between the brand and consumers. Stimulating consumer engagement may encourage more strategic actions towards the goal of building the consumer's brand experience (Yuen, 2017).

Key Characteristics of Ambient Advertising

1- Cost-Effective Advertising Solutions: Ambient advertising typically requires a smaller budget compared to traditional advertising formats such as television or print. With proper execution, ambient advertising can have a significant impact and generate a high return on investment.

2- Creativity: Ambient advertising allows brands to think outside the box and create unique and distinctive ideas. Designers can add exceptional value to advertised goods or services, thereby capturing the audience's attention in unprecedented ways (Sula, Tomas, 2018).

3- Increased Awareness and Engagement: Ambient advertising maintains people's attention and engagement, leading to their willingness to exert cognitive effort to process the message. When a product or message is presented in an innovative way, recipients are more likely to be interested in the brand and remember it when making a purchase. Ambient advertising relies on surprise and creativity to foster greater consumer engagement, making the recipient part of the marketing communication and more willing to participate by taking pictures, videos, or simply commenting. This participatory aspect is key to reinforcing the message.

4- Attention Grabbing: The element of surprise in ambient advertising attracts people's attention more effectively than traditional advertising.

5- Viral Communication: This type of communication refers to recipients voluntarily sharing advertisements through social media and networks. When a user sees a creative and engaging ad, they capture images or videos and share them on their social media profile. Consequently, other users can see the post and interact with it by liking, sharing, or commenting.

6- Creates Lasting Impressions: Because ambient advertisements are interesting and different, they make people remember the brand or message because it is unique and sticks in their minds (Nikola Vangelov, 2023).

Technologies Used in Environmental Advertising

Recent technological advancements have introduced innovative and effective solutions to environmental advertising, creating new channels of communication between the sender and the receiver. Bluetooth applications, projections, augmented reality, and virtual reality are some of the modern techniques that enable advertisers to reach their target audience more effectively, making their campaigns more distinctive, memorable, and impactful. These technologies attract a wider range of potential target audiences, increase brand awareness, and garner greater attention compared to traditional counterparts (Lukasz P. Wojciechowski, 2022).

Bluetooth Applications

Modern applications extensively utilize Bluetooth systems. Bluetooth technology has been employed in advertising to analyze and collect data about the target audience. These interactive applications are primarily used on standalone boards in streets, sidewalks, and shopping malls. In this way, different information is sent to mobile phones or tablets by targeting consumers, and customer information can be recorded under the customer's

name. Bluetooth technology has been used to analyze and collect data about the target audience in train stations, cities, and stores (Ayse Nesrin Akoren, 2015).

Projections

Projection technology in ambient advertising transforms any surface into a dynamic screen through projection mapping. This technique can turn bland building walls into captivating advertisements. It is an effective tool for creating perceptions that interact with the real world and is not necessarily flat. This technology has a powerful impact on the audience regardless of age. The use of multiple projections allows users to be immersed in a changing reality, and it enables advertisers to easily change advertisements on various buildings and surfaces. Three-dimensional projection mapping allows for the creation of frames specifically designed for specific surfaces by focusing the video image on the surface in line with the different surface characteristics of the facade. Forms of design closely related to each other include 3D projection mapping, multimedia media such as video art, and photography. Festivals and large events have helped develop the use of light on large panels such as architectural facades, buildings, and moving building lights with color, and interactive media facades. It is also possible to advertise in multiple locations, reach a diverse range of audiences, and reduce the cost and duration of the advertising campaign. Figure (1) shows an advertisement using projection on a building to display an advertisement for Dior. Figure (2) shows an advertisement for a coffee drink that relied on the projection of the product on one of the building facades (Al-Hamidi, 2022)

Figure 1:   Figure 2:

Figure 1: A Dior advertisement projected onto a building facade.
Figure 2: An advertisement for a coffee beverage, utilizing projection mapping on a building exterior.
https://www.promobikes.co.uk/ambient_media/light_projection/

Quick Response (QR) Code Technology:

The QR code is the most widely used two-dimensional barcode, easily readable by scanners to provide instant access to additional information, promotions, or online content. By scanning a QR code with a smartphone or QR code reader, scanners can decode the relevant code in mere seconds. In applications, URLs and information can be transferred to QR codes. A "URL" can help us send commands to specific services (www.) from internet browsers. QR codes can be sent to people through URLs and passwords in various forms, and once recorded, they will be retained in records. This code, presented in advertisements, is converted into a URL with the help of new mobile scanning software. QR codes are placed on ambient billboards, building facades, car windows, and natural parks. The transition from traditional media to this type of technological media satisfies consumers and gives them pleasure through the ease of gathering information. Audio, music, and images files can be added to QR codes. (Akoren, 2015)

Augmented Reality Technology:

The use of augmented reality in ambient advertising, events, and promotions is a new way to engage and interact with the audience. It immerses users in a three-dimensional virtual interactive environment—usually through devices with special lenses—to simulate a real-world experience. Numerous augmented reality experiences occur. Companies can use augmented reality to showcase and promote their products to potential customers. In fact, many industries have used virtual reality to transport people to places they might have to travel to or simply imagine. Augmented reality allows computer-generated images to overlap with the real world through a camera-equipped device to merge digital imagery with the surrounding environment. Brands can create interactive experiences. Augmented reality experiences are typically visual but can also include auditory or haptic features to create a multi-sensory experience. They are generally facilitated by the audience through a smartphone camera application (Arunchoknumlap, 2023). Augmented reality is used by brands for all sorts of purposes, from creating three-dimensional billboard advertisements to allowing people to see how a piece of furniture would look in their homes. The creative possibilities enabled by augmented reality technology make it suitable for ambient advertising. By merging augmented reality content with real-world advertising creativity, brands gain a larger advertising space to play with. The augmented reality part of the advertisement also offers much greater flexibility than the real-world part, opening up opportunities to incorporate movement or respond to the environmental context, for example. Augmented reality technology can be applied to all types of environmental advertising formats to create interactive experiences that blend the physical and digital worlds. The creativity of real-world billboards can be used to attract passersby and encourage them to activate the augmented reality content using their smartphones. The augmented reality content can then provide an impactful and memorable experience that the audience takes with them. One of the most common ways to integrate augmented reality into outdoor advertising is to overlay detailed 3D graphics on or around a billboard or screen. Users are directed to a nearby activation point in the real world, such as a store location. For example, in the fall of 2023, Coca-Cola launched a TakeATasteNow campaign, a large-scale digital experience for out-of-home and augmented reality. The campaign was rolled out across 13 major locations in the UK, including London, Glasgow, Manchester, Cardiff, and Bristol, as well as shopping centers, and ran from September 25th to October 15th. In the first out-of-home campaign, smartphone users could interact with and change the augmented reality visuals in real-time, and they could scan a QR code that rewarded them with a digital bottle of Coca-Cola Zero on their phones and a voucher to claim the real thing at a nearby Tesco. The free bottles drove product discovery and adoption, while the augmented reality campaign led to a more memorable experience than simply handing out a sample on the street. (El- Labban, 2024)

Figure 3: A Coca-Cola advertisement that utilizes augmented reality technology
https://econsultancy.com/14-examples-augmented-reality-brand-marketing-experiences/

Virtual Reality Technology:

Virtual reality is a form of interactive software and hardware that builds immersion for its users, generating a three-dimensional virtual environment that simulates and stimulates real-world experiences of an artificially created space. Ideally,

virtual reality can simulate a fully constructed environment in a 360-degree view for its users to experience. Naturally, the potential and attractiveness of the technology are utilized in many industries, including marketing communications. Users of these inventions are virtually transported to new places, offered new experiences, and replace the traditional requirement for physical travel. These technologies provide an experience in a way that mimics reality, allowing participants to have an engaging creative experience. Many companies use this technology to present their products, providing an immersive advertising experience through a virtual reality environment (P. Wojciechowski, 2022).

3D LED Screens:

Three-dimensional LED advertisements have proven their diverse magic in display. Advertisements are displayed on buildings by combining LED screen design with creative video material, bringing vitality and realism to environmental advertisements, making them appear three-dimensional. They consist of LED screens arranged side by side, which are flexible and resistant to various weather conditions. They provide high-quality images in terms of brightness and contrast, allowing them to be installed outdoors continuously. The three-dimensional effect creates an innovative and impactful visual experience that increases audience engagement. Luxury goods, fast-moving consumer goods, technology products, and other industries have stronger advertising needs and forms than traditional methods. For example, Figure 4 shows a Versace advertisement featuring an elegant lady carrying a black leather Versace bag, with the details of the bag displayed on a large screen.

Figure 4: A Versace advertisement utilizing 3D LED screen technology
https://www.youtube.com/watch?v=KBGznF3bl8Q

CGI Technology:

Computer-Generated Image These are images that are created or modified using a computer. They are divided into two types: the first type is a Computer-Generated Image (CGI), where images are built using computer programs. The second type is a Rendered Image, which means that images are converted from existing images. Both 2D and 3D images can be created. (Shaimaa Abdel-Ati, 2021) Designers initially create a series of computer-generated drawings. The next step is to bring them to life to make these drawings appear real. Creators pay special attention to details at this stage, such as color, lighting, and texture, as these details are what make the images look real. In advertising, these drawings are merged into a previously filmed scene, making lighting very important. The lighting on the drawings must match the lighting of the scene to appear realistic. In advertisement (Figure 5), a real building is used and a 3D product image is merged with it. (Puspasari, C., 2012).

Figure 5: A Noon advertisement utilizing CGI to visualize the shape of its packages, thus captivating the audience and encouraging them to follow the advertising concept
https://www.facebook.com/reel/1925744334520898

The Effectiveness of ambientAdvertising as a Powerful Communication Tool

Ambient advertising is particularly suitable for targeting a younger demographic, typically aged between 16 and 35, who spend more time outdoors and are therefore harder to reach through traditional advertising channels. The aim of Ambient advertising is to engage these young consumers through innovative and unconventional campaigns placed in locations they frequently visit, such as clubs, shopping malls, cinemas, universities, airports, transportation hubs, parks, and sports centers. At the same time, environmental advertising utilizes non-traditional outdoor spaces and transforms them into creative advertising mediums. Examples include waste bins, mailboxes, manhole covers, lamps, public lighting, pedestrian crossings, benches, sidewalks, parking lots, building facades, fountains, public transport, various modes of transportation, elevators, and escalators. It is difficult to overlook the role of technology in providing a unique visual experience for the recipient, leading them to stop and interact with these ambient advertisements. This captures and maintains the recipient's attention for a longer period, facilitating better brand recognition. (Tomas, 2018)

Secondly: The Applied Framework

Analytical Aspect: The following is an analysis of some examples that utilize modern technologies:

1st advertisement:

Figure 6: Demonstrates how Maybelline used CGI to create a captivating outdoor advertisement showcasing the benefits of their Lash Sensational mascara
https://www.beautypackaging.com/contents/view_breaking-news/2023-08-17/maybellines-cgi-mascara-video--why-its-going-viral-again/42013

Company Name	Maybelline
Technology Used	CGI (Computer-Generated Imagery)
Advertising Concept	The ad concept involved filming real locations in the London Underground and using computer-generated images in its Lash Sensational campaign, which depicts a subway train with eyelashes passing over a mascara brush, increasing their density.
Advertising Location	The London Underground was filmed, and an advertisement was created using computer-generated imagery.
Advertising Effectiveness	Maybelline created a buzz on social media when it used computer-generated images, even people who had never used makeup before were talking about the mascara campaign. The fact that these were computer-generated images demonstrates how CGI technology has changed the way people interact with brands, from attractive product advertisements to engaging brand marketing.

Figure 7 IWC advertisement featuring a watch displayed on a 3D LED screen
https://www.avinteractive.com/news/digital-signage-and-dooh/forced-perspective-3d-led-advertising-comes-london-15-07-2021/

Company Name	IWC
Technology Used	3D LED screen
Advertising Concept	A giant watch which appears to rotate in front of the Piccadilly Lights screen is attracting attention as quasi-3D content moves from Asia to Europe.
Advertising Location	3D advertising on the landmark Piccadilly Lights screen in central London.
Advertising Effectiveness	Eye-catching forced perspective content illusions on giant LED screens have now spread from Asia to Europe, Swiss watchmaker IWC Schaffhausen, which is owned by the Richemont luxury brands group, has unveiled a creative treatment on the Piccadilly Lights which has been attracting attention on social media. The DOOH ad shows The Big Pilot watch, appearing to break free of the screen and rotate horizontally and vertically in a space in front of the Piccadilly Lights. The forced perspective illusions are a feature of creative content, rather than the LED displays itself, as they are best viewed from a particular vantage point, in this case a paved public space by the statue of Eros in Piccadilly Circus, London.

Figure 8: Pepsi advertisement utilizing projection mapping technology
https://doubletakeprojections.com/services/projection-advertising/

Company Name	Pepsi
Technology Used	Light projection
Advertising Concept	The ad concept is based on projecting a static image of the Pepsi brand logo using light projection technology.
Advertising Location	A building in Dublin, Ireland.
Advertising Effectiveness	The use of light projection technology amazed passersby at night, engaging the audience with the ad and adding a creative touch to the building.

Results:

- The technological advancement of modern technologies has transformed the traditional form of ambient advertising, leading to increased audience engagement with the advertisement for a longer period, ensuring that the message reaches the target audience
- The effective use of modern technologies in designing ambient advertisements has resulted in the production of visual content that captivates the audience and encourages interaction
- The integration of advertising with building architecture has transformed the environment surrounding the advertisement into advertising spaces and added aesthetic value to buildings
- Modern technologies enable the use of digital platforms to deliver ambient advertisements, allowing for real-time updates to ad elements and interaction through digital platforms
- Leveraging modern technologies in out-of-home advertising allows for more targeted

- messaging to viewers based on their preferences, demographics, location, and interests
- Modern technologies are the cornerstone of ambient advertising, helping organizations achieve their marketing goals more effectively and efficiently. As these technologies continue to evolve, we can expect further innovations that will reshape the advertising industry in the future

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