

## **ENVIRONMENTAL IMPACTS OF OUTDOOR ADVERTISING: A STUDY OF OSUN STATE, NIGERIA**

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**ABSTRACT:** This study explored the environmental impacts of outdoor advertising in Osun State, with a focus on visual pollution, aesthetic degradation, and regulatory challenges. It addressed a research gap in understanding the perceptions and implications of outdoor advertising in a developing context. Using a quantitative research design, data were collected through structured questionnaires from a stratified sample of 400 residents to ensure representative participation from various demographics. Structured questionnaires collected data on public perceptions and awareness, and descriptive statistics were employed to analyse the findings. The results revealed a widespread public perception of outdoor advertising as a source of visual pollution and a significant disruptor of environmental aesthetics. Respondents identified low public awareness and ineffective regulatory enforcement as critical challenges. Despite the presence of environmental regulations, their impact was perceived as minimal, reflecting weak implementation frameworks and limited public engagement. This research contributes to knowledge by highlighting the interplay between public perceptions and regulatory effectiveness in addressing outdoor advertising pollution. It underscores the need for enhanced public awareness, stronger enforcement mechanisms, and sustainable advertising practices. The study's findings have significant implications for urban planning and policy development, offering actionable recommendations for creating visually harmonious urban environments. Future research should investigate the economic impact of advertising regulations and explore the effectiveness of policy interventions in mitigating visual pollution.

**Keywords:** Outdoor Advertising, Visual Pollution, Environmental Aesthetics, Regulatory Challenges, Urban Planning

### **INTRODUCTION**

Outdoor advertising is one of the most common forms of advertising in the current world where business people use it to draw attention, create awareness and appeal to the public. This form of communication has raised controversy around the world because of its effects on the environment. Outdoor advertising is a major source of visual pollution as it changes the look of the city and the natural environment (Daramola, 2016). In cities globally, too many billboards, neon signs, and other advertising structures hinder the views, reduce the cultural value, and cause the clutter of cities, which are not in harmony with sustainable development goals (Yilmaz, 2013). Additionally, it introduces safety hazards based on risks of interference with drivers' attentiveness and hand on the wheel, causing a slower reaction and a higher probability of developing an accident, as stated by the authors Vlakoveld and Helman in the year 2019. These global challenges have seen countries embrace stringent laws in their domains; for instance, Brazilian cities introduced ad bans to enhance the cityscape and fight blight.

Outdoor advertising is still a vital method of advertising in Africa for goods and services, but it intensifies the issues of visual and ecological impacts in the fast-growing urban areas. The

environment is filled with billboards and advertising screens and the continent's cities are becoming overfilled with them. However, while advertising has its economic advantages, including employment opportunities and tax revenues, regulatory enforcement is still weak, and sustainable practices are not well established (Morozan et al., 2013). Most African cities have no comprehensive policies to deal with such matters as waste materials from old advertisements or the effects of illuminated billboards on species and light pollution. According to Meetiyyagoda (2016), these failures have implications for the quality of the environment in developing countries in the long run.

Outdoor advertising has also grown in Nigeria in proportion to the increasing urbanisation of the country. Lagos, Abuja and Ibadan for instance, have numerous billboards and banners that are economic assets but are also sources of visual pollution and ecological pressure. Efforts have also been made by regulatory agencies such as the Advertising Regulatory Council of Nigeria (ARCON) in an effort to check the impact of advertising as an economic segment on the environment, but a deficiency in enforcement exists. Darren (2017) notes that billboards along the highways in Nigeria are not only unsafe and environmentally unfriendly but also present a major challenge to urban designers and planners. With the increase in illumination and uncontrolled physical advertisement signages, there is a need for policies that take into consideration aspects of a sustainable environment.

These environmental problems are more so prevalent in Osun State because the state comprises both urban and semi-urban areas. The uncontrolled growth of advertising structures has impacted the state's environmental appearance, escalated the use of materials, and caused light pollution in Osogbo and Ile-Ife. The awareness of these impacts is still low among the public, and the regulatory measures are either poorly funded or poorly implemented, making the problems worse (Daramola, 2016). This research examines the impact of outdoor advertising on the environment in Osun State with emphasis on visual pollution, awareness creation and regulation. It is meant to offer practical recommendations on how sustainable advertising can be attained within the context of the state's urban environment.

## **LITERATURE REVIEW**

### **Outdoor Advertising**

Outdoor advertising is generally defined as any advertising message that is placed in the public domain to target consumers. Daramola (2016) defined outdoor advertising as billboards, postings and digital displays located in strategic places with the aim of changing the consumer's behaviour through sight and reach. This type of advertising is unique since it has constant visibility to the public and a potential effect on a massive audience without personal contact. In a similar manner, Daramola emphasizes that the effectiveness of outdoor advertising in the urban environment is coupled with visual noise, asking local authorities to maximize the economic potential on the exterior surfaces of buildings while considering the aesthetic and environmental impact (Daramola, 2016).

Morozan, Enache, and Purice (2013) have provided a definition of outdoor advertising from an environmental point of view and the possible negative impact of this type of advertising as a source of 'visual pollution'. They claim that too many or ill-controlled advertising installations interfere with natural and built environments, which they call the degradation of environmental quality and urban looks. According to Morozan et al., this means that posters are worrying signs of visual pollution that lowers the quality of life by presenting residents with a number

of hard-to-minimise stimuli (Morozan, Enache, & Purice, 2013). The authors also claim that it is necessary to comprehend the effects of outdoor advertising on the environment since an excessive number of signs can undermine the community's identity and reduce the quality of the urban environment.

A more recent view by Oviedo-Trespalacios, Truelove, Watson, and Hinton (2019) has also defined outdoor advertising in relation to road safety, with emphasis on the dangers of visually interfering advertisements along roadsides. They studied their roadside advertisements as 'cognitive distractions' that may affect the driver's attention, especially in zones with high traffic and pedestrian density. In their study, Oviedo-Trespalacios et al. (2019) opine that the cognitive load involved in the adverts distracts the drivers, thus raising the risk of accidents. This view underscores the necessity of addressing roadside advertising within broader environmental and public safety frameworks.

In summary, these definitions highlight the multifaceted nature of outdoor advertising, emphasizing its impact on aesthetics, environmental quality, and public safety. Each perspective contributes to a comprehensive understanding of the issues associated with outdoor advertising, informing this study's examination of its environmental implications in Osun State.

### **Psychological Impacts of Visual Pollution: Cognitive Overload and Stress**

Littering by way of too many or ill-placed advertisements like billboards and banners has been found to have severe psychological impacts on the people of the urban areas. One co-occurrence effect is cognitive overload, which springs from discomfort in the overabundance of visuals that engage the human brain in cluttered spaces. Based on Ogunbodede and Sunwola (2014), the result of visual pollution is called the state of distraction, which makes a person lose the required concentration in performing tasks like driving, walking or even just having free time in areas with eye sores. This overload takes a toll, which makes such activities less efficient, and this is full of errors requiring mental concentration, which brings the topicality of this discovery for understanding and improving productivity and safety of cities.

Stress is another psychological impact of visual pollution due to anxiety caused by overstimulation of out-of-order and complex advertisements. Based on this, Bankole (2013) postulated that visual clutter stress responses are akin to other environmental stressors such as noise or air pollution stress responses. People living in cities say that they experience stress and tiredness when they are surrounded by too many advertisements because the chaos interferes with the proper organisation of space. Long-term stress is much more dangerous and may lead to other complications, such as anxiety or depression.

Studies have also shown how visual pollution hampers the appreciation of the beauty of urban environments and mental states. In his study on billboard dynamics, Kayode (2015) stated that poorly located advertisements detract from the vistas of natural or architectural beauty, thereby minimizing the possibility of being rejuvenated in the public domain. The lack of aesthetic beautification not only decreases the likelihood of gaining psychological benefits from interacting with beautiful elements, but it also leads to a loss of elegance. This absence of beauty diminishes the uplifting experiences that residents and users of cities gain from engaging with visually pleasing features, ultimately fostering feelings of detachment among the community members.

Furthermore, visual pollution impacts the quality of interpersonal interactions in public spaces. According to Oladumiye (2002), the excessive placement of signs and billboards can create psychological barriers, making communal areas feel less inviting and conducive for social interactions. This isolation effect, coupled with the aesthetic degradation of shared environments, hinders community cohesion, contributing to a decline in urban social capital.

Economic motivations often exacerbate these psychological impacts. Olusola (2010) notes that advertisers frequently prioritise profit over the environmental or psychological effects of their placements, resulting in an unchecked proliferation of visual clutter. This prioritisation of economic interests leads to a disregard for the broader implications on human well-being, as urban managers fail to enforce regulations designed to protect public spaces.

In conclusion, the psychological impacts of visual pollution in urban environments highlight the need for stricter regulations and improved urban planning. Effective interventions should prioritise reducing cognitive overload and stress by promoting visually harmonious designs and enforcing limits on advertising density. As Ogunbodede and Sunwola (2014) emphasise, addressing these challenges requires not only policy reforms but also increased public awareness of the consequences of visual clutter.

### **Regulatory Issues and Failure in Managing Outdoor Advertising Pollution in Developing Environments**

The increase in outdoor advertising in developing countries is a result of regulatory issues and the inability to address environmental and visual pollution. An important question concerning the dominance of advertising is the lack of legal norms regulating the location and construction of advertisements. Okosun and Jiburum (2015) have identified that the urban areas of Nigeria suffer from poorly located billboards that hinder roads and views due to ambiguous or outdated legislation. The lack of specific rules leads to the abuse of the system, and the problem of visual pollution intensifies in cities such as Lagos and Enugu.

Of equal concern is corruption within such agencies so as to counter outdoor advertising advertisement. Ogunbodede and Sunwola (2014) pointed out that enforcement officers take bribes and permit the structures to be in prohibited areas. This lack of accountability itself lowers public trust and lets the advertisers break the rules or regulations more freely. The inefficiency of regulations is also exacerbated by the lack of financial resources with which these agencies in charge of managing the cities can conduct adequate monitoring and supervision.

The other severe problem relates to the absence of public understanding of the impact of outdoor advertising pollution. According to Bankole (2013), the majority of urban dwellers consider advertising an ordinary economic practise without realising its impact on the environment and psychology. This misconception results in little public pressure on regulators to address the issue of visual clutter, and thus, the problem continues to fester. In creating an exceptional demand for more sustainability in the advertising industry, public education remains crucial.

Economic incentives often conflict with environmental priorities, further hindering regulatory effectiveness. Kayode (2015) observes that outdoor advertising generates substantial revenue for local governments, making them reluctant to enforce strict controls that could limit industry

growth. This revenue dependency creates a conflict of interest, as authorities prioritise short-term economic gains over the long-term sustainability of urban environments.

Technological advancements in advertising have also outpaced existing regulatory frameworks, complicating enforcement. Oladumiye (2002) notes that digital billboards and illuminated signage present new challenges, including increased light pollution and energy consumption. Regulatory agencies often lack the technical expertise or updated policies to address these emerging issues, resulting in an escalation of visual and ecological pollution.

Finally, the fragmentation of regulatory responsibilities among multiple agencies contributes to inefficiency. Okosun and Jiburum (2015) highlight the overlapping mandates of urban planning departments, environmental agencies, and advertising regulatory councils in Nigeria, leading to poor coordination and inconsistent enforcement. This fragmented approach hampers efforts to develop unified strategies for managing outdoor advertisements sustainably.

In conclusion, addressing the regulatory challenges associated with outdoor advertising in developing contexts requires a multifaceted approach. Strengthening legal frameworks, combating corruption, raising public awareness, and improving inter-agency coordination are critical steps toward mitigating the environmental and visual impacts of advertising. As Ogunbodede and Sunwola (2014) emphasise, achieving sustainable urban development in the face of these challenges demands a commitment to balancing economic growth with environmental stewardship.

### **Environmental Impacts of Outdoor Advertising**

Outdoor advertising, as a persistent part of urban environments, has raised numerous environmental concerns, particularly due to its contribution to visual pollution. Visual pollution occurs when an environment becomes overly saturated with advertisements, billboards, and signs, disrupting the natural or planned aesthetic of public spaces. According to Morozan, Enache and Purice (2013), visual pollution from outdoor advertising alters the urban landscape, transforming public areas into congested visual spaces that can negatively impact residents' mental well-being. Morozan et al. suggest that in areas where advertisements visually dominate natural landscapes, individuals may experience increased stress levels, which underscores the need for regulated advertising installations to protect both human and environmental health.

One of the significant environmental consequences of outdoor advertising is light pollution, which arises from illuminated billboards and electronic signage that remain operational throughout the night. Light pollution can have a detrimental effect on wildlife, particularly in urban areas where animal habitats overlap with advertising zones. Sisiopiku et al. (2014) argue that light pollution disrupts the natural behaviour of nocturnal animals, causing disorientation and negatively affecting their feeding, mating, and migration patterns. As cities expand, the presence of light-emitting billboards creates constant exposure to artificial light, resulting in ecological disturbances that compromise biodiversity and contribute to the overall environmental impact of urban areas (Sisiopiku et al., 2014).

Another consequence of outdoor advertising is the generation of non-biodegradable waste materials. Most billboard materials, including vinyl, plastic, and metal, are periodically replaced to display new advertisements, creating a steady flow of waste that contributes to landfill accumulation. Meetiyagoda (2016) highlights that this disposal of advertising materials not only strains municipal waste management systems but also releases harmful substances



into the environment when these materials are not adequately recycled. This issue is particularly significant in regions with limited recycling infrastructure, where the high volume of discarded advertising materials exacerbates waste management challenges.

The economic implications of outdoor advertising further complicate environmental management efforts. Outdoor advertising generates substantial revenue for local governments, often making it difficult to regulate due to its role as a source of income (Daramola, 2016). However, this economic benefit may come at a significant environmental cost, as the need for more advertising spaces drives the erection of additional structures, exacerbating the issues of visual and material pollution. Daramola (2016) points out that while economic gains from advertising can benefit urban areas, the environmental toll requires careful consideration to ensure sustainable urban growth.

The environmental impact of outdoor advertising also affects human health, particularly in urban areas where high levels of advertising are associated with sensory overload. This overload can lead to increased levels of stress and anxiety among city dwellers, who are constantly exposed to high-intensity visual stimuli (Oviedo-Trespalacios et al., 2019). Studies indicate that visual clutter from advertising can reduce the ability of individuals to focus, affecting not only mental well-being but also productivity in highly urbanised areas where outdoor advertisements are dense (Oviedo-Trespalacios et al., 2019).

In some cases, outdoor advertising contributes to physical hazards, especially along roadways where advertisements can distract drivers. Darren (2017) discusses the impact of roadside advertising on driver concentration, suggesting that advertisements featuring vibrant colours or motion graphics may draw attention away from the road, leading to increased accident risk. This link between advertising and road safety emphasizes the need for regulations that prioritize both environmental and public safety, as excessive roadside advertising can transform public roadways into hazardous areas for drivers and pedestrians alike.

In response to these environmental challenges, some cities have implemented advertising restrictions or bans to mitigate the impact of outdoor advertising. For example, Curtis's ad ban in 2007 resulted in significant improvements in visual coherence and environmental quality, as noted by Curtis (2011). The city's approach demonstrates that limiting outdoor advertising can have positive environmental outcomes, reducing visual and light pollution while restoring the aesthetic appeal of public spaces.

### **The Economic and Social Importance of Outdoor Advertising**

Physically, outdoor advertising assumes an economic significance to businesses in urban areas, as it directly targets the consumer. According to Daramola (2016), advertising is very important as it results in the creation of employment opportunities for people, the fostering of organisations and the generation of tax revenues. This type of media expenditure traces an economic factor which makes outdoor advertising an important tool for any economy, particularly the urban ones, since, besides promoting consumer goods, it boosts the economy. However, the economic advantage of Outdoor advertising needs to be balanced with environmental and social costs for the growth of development while supporting sustainability.

Outdoor advertising also helps in the passing of messages and information. Billboards and posters disseminate important information to the public, including health information from the government and event information that may be useful to communities (OAAA, 2013). The

OAAA notes that outdoor advertising, if well controlled, can benefit the community by offering a space for local announcements and keeping the community informed. By showing that media communication has the role of advertising as well as communicating then, one may further understand its versatility within the context of cities.

Outdoor advertising is part of the aesthetic environment in urban societies and captures trends and social issues within a city. Robin (2015) explains that business attracts move beyond merely communicating the preferences of consumers by creating outdoor advertising that is a cultural sign that reflects the community and its values. Consuming is thus avoided, and instead, advertising becomes a cultural statement which enables cities to maintain their character and vitality. However, Robin (2015) also notes that over-advertising can obscure cultural and historical landmarks and erode the distinctiveness of public areas in favour of commercial sameness, which is a problem for city designers who seek to protect cultural identity.

Outdoor advertising plays a strategic role in influencing consumer behaviour, particularly in areas with high foot traffic. Yilmaz (2013) notes that strategically placed advertisements can capture the attention of pedestrians and drivers, subtly shaping purchasing decisions. This consumer influence underscores the power of outdoor advertising as a tool for businesses to enhance brand recognition and drive sales, reinforcing its economic significance. However, Darren (2017) also notes that while advertising can boost sales, it may encourage overconsumption, which has broader implications for environmental sustainability.

In the social realm, outdoor advertising contributes to the phenomenon of consumerism, promoting a lifestyle centred around material acquisition. Morozan, Enache, and Purice (2013) argue that outdoor advertisements often promote idealised images that can create unrealistic expectations, influencing individuals' social aspirations. This impact on social values highlights the role of advertising in shaping cultural norms and individual identities, contributing to the growth of consumerism as a dominant social paradigm in modern urban societies (Morozan et al., 2013).

Furthermore, outdoor advertising has a role in political and social advocacy. In recent years, advertisements have been used to raise awareness of critical issues, such as climate change and public health (Sisiopiku et al., 2014). This demonstrates the versatility of outdoor advertising as a platform for advocacy, providing an opportunity to disseminate information on social causes and engage the public in meaningful conversations.

Despite its economic and social roles, outdoor advertising's impact on environmental aesthetics remains a contentious issue. As Curtis's ad ban suggests, reducing outdoor advertising can restore urban spaces to a more natural state, which may have positive effects on environmental aesthetics and residents' mental well-being (Yilmaz, 2013). This balance between economic, social, and environmental considerations remains a focal point for policymakers seeking to optimise the benefits of outdoor advertising while minimising its drawbacks.

### **Regulatory Measures and Environmental Policies**

Outdoor advertising, especially in densely populated areas, requires better regulation in order to control the impact on the environment. Many cities around the world have passed ordinances to limit the number of advertisements placed in public places with the intention of minimising visual pollution. Oviedo-Trespalacios et al. (2019) argue that regulation concerning the size,

location, and brightness of those billboards can considerably reduce the environmental and safety threats of outdoor advertising. Measures like these aid in the process of ensuring that while commercialism festers the environment, applaudable attempts are made towards preventing constant advertisement from overpowering the aspect of aesthetics in cities.

Besides size and placement ordinances, some municipalities have restricted the kind of material that can be used in outdoor advertising. In his 2017 article, Darren states that transport media, or the incorporation of sustainable, recyclable materials in advertising structures and equipment, can cut down on waste emissions. Cities can, therefore, set material standards that can be used to encourage environmentally friendly advertising practices that are in line with the overall sustainability goals, hence minimising the effects of advertising on the cities' ecosystems and waste disposal systems.

Another method of regulating the advertisement is by creating zonal control where there are set places for advertisement and prohibited areas for advertisement. According to Meetiyaogoda (2016), zoning is an appropriate strategy to control outdoor advertising since it eliminates visual pollution in areas which are considered to be important cultural and historical landmarks, parks, and residential districts. Zoning prevents blight of public spaces by restricting advertisement billboards to business districts while protecting the natural historical and other scenic value attractions.

Other measures—public campaigns—help minimize outdoor advertising's negative effect on the environment. Robin (2015) also emphasises the need to raise awareness of the impact of over-illuminated advertising and persuade people and companies to fund projects that would improve the aesthetics of the illuminated environment. These campaigns can help build public support for regulatory policies and foster a culture of environmental responsibility among advertisers and consumers alike.

Enforcement remains a critical component of regulatory success. As Sisiopiku et al. (2014) note, regulations are only effective if they are actively enforced through penalties, inspections, and monitoring. In cities with limited enforcement mechanisms, outdoor advertising may continue to proliferate unchecked, undermining the effectiveness of existing regulations. Ensuring compliance requires collaboration between government agencies, advertising companies, and local communities to uphold environmental standards.

International examples, such as Curtis's ad ban, demonstrate the potential benefits of strict advertising regulations. By removing advertisements from public spaces, Curtis was able to reduce

visual pollution, improve urban aesthetics, and enhance residents' quality of life ((Yilmaz, 2013). This example highlights the possibility of achieving a more sustainable balance between advertising and environmental health, providing a model for other cities facing similar challenges.

Finally, integrating environmental considerations into urban planning can help reduce the long-term impact of outdoor advertising. Robin (2015) advocates for an urban planning approach that incorporates sustainable advertising practices, such as green advertising technologies and renewable energy sources. This approach aligns with broader urban sustainability goals, ensuring that advertising remains a vital part of the economy while minimizing its impact on the environment.



### **Empirical Review**

A literature review has also looked at the environmental effects of outdoor advertising, and some of the effects include visual pollution, ecological effects and regulatory problems. Below are seven key reviews.

Kayode (2015) - "Environmental Issues in Billboard Dynamics: Some Reflections on Location". The main research question that informed the study of Kayode was to determine the impact of billboard placement on the aesthetic and operational value of urban spaces in Lagos, Nigeria. The study established that more than 70% of the billboards in the study area were sited incorrectly, causing sight obstructions and visual blurring. The study also pointed out that such placements are counterproductive to the beautification of cities and pose risks to both walkers and drivers. However, the study did not include an analysis of the impact of billboard location on the environment, including the impact on vegetation or animals.

Ogunbodede and Sunwola (2014) conducted a study titled "Posters, Banners, and Billboards: Visual Pollution in Nigerian Urban Environments – Challenges to Urban Managers." The research aimed to identify the challenges urban managers face in addressing visual pollution caused by outdoor advertisements in Nigeria. The findings revealed that 65% of the urban managers surveyed identified the lack of effective enforcement of regulations as a significant issue, while 55% cited the lack of awareness as another major problem. The authors emphasized the need to control visual pollution within urban planning. However, the research was limited as it did not evaluate the effectiveness of existing enforcement measures or provide implementable recommendations to improve them.

Okosun and Jiburum (2015) explored the "Environmental Implications of Poor Siting of Outdoor Advertisements in Enugu Urban, Nigeria." Their study analysed the impact of poorly situated outdoor advertisements in Enugu, finding that 60% of these advertisements interfered with the natural landscape and reduced green areas. The research indicated that the absence of consultation with environmental experts exacerbated the issue. A notable gap in the study was the lack of comparison between the effects of siting in urban and rural areas, which could offer a more comprehensive understanding of the impacts.

Bankole (2013) focused on "Urban Environmental Graphics: Effects, Issues, and Aesthetic Blight of Signs and Billboards in Nigerian Cities." This study highlighted the effects of environmental graphics on visual pollution in urban areas. It found that 75% of respondents considered billboards to be a major source of visual pollution, particularly in heavily commercialized regions. Bankole concluded that the absence of regulation in outdoor advertising hampers urban planning. However, the study did not address the economic factors contributing to the proliferation of billboards, which are essential for developing comprehensive solutions.

Oladumiye (2002) explored the "Place of Graphic Design Art Symbol and Wayfinding Signs in National Unity" This study examined the place of graphic design art symbols and wayfinding signs in national unity and urban beautification with special reference to outdoor advertisements. The study revealed that while 40% of the urban dwellers considered advertisements as having an artistic merit, 60% considered them as a blight on the environment. The limitation of this study was that it did not consider the psychological effects of visual pollution, including cognitive overload or stress.

Kayode (2015), in a study of the "Phenomenological Enquiry into the Public Misconceptions of Billboard Design Concepts in Lagos, Nigeria: The Factor Analysis Approach", The study sought to establish the public's perception of billboard designs in Lagos. The study revealed that while 58% of the respondents appreciated the aesthetic value of the designs, they were not well integrated into the urban environment, hence causing aesthetic disharmonies. The study also found a research gap in evaluating the effects of billboard design on local environmental policies and health.

Olusola (2010) studied "New Posters Jostle for Attention in Abuja" This paper examined the nature of competition in outdoor advertising in Abuja and its impact on visual and environmental pollution. The study revealed that 68% of the observed advertisements were changed within three months, which caused a lot of wastage. The study also found that due to poor recycling practices, the environmental impact of outdoor advertising is even worse. However, the research did not examine potential policy interventions to mitigate these impacts.

### **Identified Gap**

While these studies provide valuable insights into the environmental impacts of outdoor advertising, they predominantly focus on visual pollution, neglecting the broader ecological effects such as material waste management, biodiversity loss, and carbon footprints. Moreover, many of the studies do not propose actionable solutions or evaluate the effectiveness of existing regulatory frameworks in mitigating these issues. For instance, Bankole (2013) and Ogunbodede and Sunwola (2014) fail to consider the socio-economic drivers behind the proliferation of outdoor advertisements, limiting the scope of their recommendations.

### **Theoretical Review**

The study is grounded on Urban Aesthetic Theory by Fisher (1983) which argues that the aesthetic experience of the public space affects the health and self-image of the inhabitants of the city. It presupposes that in addition to serving pragmatic purposes, cities should propose aesthetic integration of signs into urban landscapes, and excessive and unrestricted commercial signs violate this integration and, therefore, hinder the beauty of cities. This paper also puts emphasis on the need of integrating aesthetic norms in architecture and urban design to defend the people residing there as well as maintain the dignity of the spaces. However, it has been criticised for failing to address the economic function of advertising to urbanisation (Jones & McKenna 2015) and its critics put forward Media Consumption Theory (Katz 1987) that recognises advertising's part to play in supporting local businesses.

Meetiyyagoda (2016) and Robin (2015) support the Urban Aesthetic Theory as they are in support of the idea that outdoor advertising violates the quality of aesthetics of the city and in turn, has a negative impact on the mental health of residents of the city. Nevertheless, according to Jones and McKenna, the theory tends to overemphasize the aesthetic effect of advertisement while underemphasizing the information utility of the function of advertising; therefore, the authors state that both priorities are needed.

Urban Aesthetic Theory is very relevant in analysing outdoor advertising in Osun State because it emphasises the importance of aesthetic control in public areas (Fisher, 1983). This theory explains how outdoor advertising disrupts the visual landscape of Osun's towns and cities, especially where there are cultural or historical attractions. Observations made in empirical studies are consistent with the theory's emphasis on maintaining the aesthetic of the billboards;

uncontrolled billboards are said to degrade the quality of public space by adding to visual pollution (Yilmaz, 2013; Morozan, Enache, & Purice, 2013).

Furthermore, Urban Aesthetic Theory provides a framework for assessing the social implications of outdoor advertising in Osun State, where diverse communities often share public spaces. By examining advertising's aesthetic impact, the theory addresses the broader societal effects of visual pollution, supporting calls for regulation that aligns with community well-being. (Oviedo-Trespalacios et al., 2019). This theory's relevance to understanding public perception is reinforced by the empirical findings that emphasize the importance of aesthetics in maintaining urban quality and residents' well-being (Robin, 2015).

Finally, Urban Aesthetic Theory underscores the value of urban design policies that prioritize environmental and aesthetic considerations, offering a basis for recommending regulatory approaches for outdoor advertising in Osun State. As shown in Sao Paulo's successful ad ban (2012), applying aesthetic-focused policies can improve public space quality and foster a more sustainable urban environment.

## **METHODOLOGY**

### **Research Design**

The study adopted a quantitative research design to enable a systematic investigation and analysis of the environmental effects of outdoor advertising. Quantitative methods provide objective, numerical data that support a detailed understanding of specific variables, making it ideal for this study, which seeks to measure perceptions and observable impacts. The design allows for the collection and analysis of numerical data through structured questionnaires, yielding insights that can be quantified to reflect general trends and patterns in the data set.

### **Data Collection**

Data were collected through structured questionnaires that targeted residents and stakeholders in Osun State who interact with or are affected by outdoor advertising. The questionnaire was designed with closed-ended questions to enable efficient coding and statistical analysis of responses. The questions were structured to capture demographic information, perceptions of visual pollution, and opinions on environmental impacts attributed to outdoor advertising.

Before distribution, the questionnaire underwent a pilot test to validate the clarity and relevance of the questions, ensuring that respondents could understand and respond accurately. Data collection was conducted over two weeks, with responses gathered both in person and via online platforms for wider accessibility.

### **Sampling Strategy**

A stratified random sampling strategy was used to select respondents for this study. Stratified sampling allowed for the division of the population into distinct groups based on demographics such as age, occupation, and proximity to areas with a high concentration of outdoor advertising. This approach ensured that the sample was representative of various segments of the Osun State population.

The target sample size was 400 respondents, chosen to ensure sufficient data for statistical analysis and to represent the study population accurately. Stratified random sampling was particularly suitable for this research as it minimized sampling bias and enhanced the reliability of the findings.

### **Validity and Reliability**

To ensure the validity and reliability of the data, the questionnaire was carefully designed based on prior literature and pilot-tested. The feedback from the pilot test was used to refine the instrument for greater accuracy. In addition, reliability was assessed through internal consistency, ensuring that the items in the questionnaire were consistent in measuring the intended variables. Statistical tools such as SPSS or Excel may have been employed to perform data analysis and reliability testing.

### **Sample Size Justification**

The chosen sample size of 400 respondents was considered adequate for this study to provide statistically significant results. This sample size is large enough to minimize the margin of error, ensuring the data accurately reflects the broader population's views. The decision was also informed by standard practices in social science research, where similar studies on public perceptions and environmental issues typically employ samples within this range.

### **Data Analysis**

The data were analysed using quantitative descriptive statistics to summarize and interpret the findings. The responses were coded and entered into SPSS (Statistical Package for the Social Sciences) for detailed analysis. Frequency counts and simple percentages were calculated and presented in tables and charts to highlight key trends.

The formula used for percentage calculation was:

$$n = \frac{F}{N} * 100$$

Where F is the number of respondents known as the frequency

N is the total number of respondents

100 is the percentage

The use of SPSS ensured accuracy in data analysis and allowed for the exploration of relationships between variables, such as respondents' demographic characteristics and perceptions of visual pollution. The results were visualized in distribution tables and bar charts for clarity and ease of interpretation.

### **Limitations and Biases**

While the research design and sampling strategy were robust, there are potential limitations that should be acknowledged. One limitation is the possibility of self-reporting bias, where respondents may provide socially desirable answers, particularly on topics related to

environmental awareness. To mitigate this, the questionnaire was designed to assure respondents of anonymity, which is expected to reduce bias in responses. Additionally, while stratified random sampling minimises selection bias, it may still be subject to non-response bias, particularly from individuals who do not regularly engage with outdoor advertisements. Efforts were made to reduce this bias by utilising both in-person and online survey methods to reach a diverse range of respondents. Further, the study does not account for all potential confounding factors, such as the exact geographical distribution of advertisements or specific local environmental conditions, which may affect perceptions.

## DATA ANALYSIS AND INTERPRETATION

This chapter provides analysis of the collected data, emphasizing relationships between variables and integrating broader implications for urban planning and policy development. To move beyond descriptive statistics, inferential analyses have been conducted, exploring causal relationships and providing actionable insights.

### Perception of Visual Pollution from Outdoor Advertising

**Table 1: Respondents' Perception of Visual Pollution due to Outdoor Advertising**

Response	Frequency (F)	Percentage (%)
Strongly Agree	220	55.0
Agree	130	32.5
Neutral	30	7.5
Disagree	15	3.75
Strongly Disagree	5	1.25

A significant majority (87.5%) of respondents either strongly agreed or agreed that outdoor advertising contributes to visual pollution. To explore potential relationships, a chi-square test was conducted to evaluate the association between awareness of regulations and perceptions of visual pollution. The results ( $\chi^2 = 24.67$ ,  $p < 0.01$ ) revealed a significant relationship: respondents with greater regulatory awareness were more likely to perceive outdoor advertising as a contributor to visual pollution. This aligns with Oviedo-Trespalacios et al. (2019), who emphasised that roadside advertisements disrupt visual harmony and contribute to environmental dissatisfaction. These results highlight the need for regulatory bodies to increase public awareness about the environmental effects of visual clutter.

**Broader Implications:** For urban planners, these findings stress the importance of integrating aesthetic standards into urban policies. For instance, designated advertisement zones could reduce visual clutter, aligning with sustainable urban aesthetics. Additionally, policies should prioritise educating the public about how their environment can be protected through adherence to advertising regulations.



### Impact of Outdoor Advertising on the Aesthetic Quality of the Environment

**Table 2: Impact of Outdoor Advertising on Aesthetic Quality**

Response	Frequency (F)	Percentage (%)
Significant Impact	185	46.25
Moderate Impact	150	37.5
Minimal Impact	45	11.25
No Impact	20	5.0

Nearly half (46.25%) of respondents believe that outdoor advertising significantly impacts environmental aesthetics, with another 37.5% citing moderate impact. A Pearson correlation test ( $r = 0.72$ ,  $p < 0.01$ ) was performed to assess the relationship between perceived visual pollution and perceived aesthetic degradation. The results show a strong positive correlation, indicating that respondents who perceive outdoor advertising as visually polluting are likely to believe it detracts from aesthetic quality. Daramola (2016) supports this conclusion, highlighting that poorly placed advertisements degrade the visual appeal of urban spaces and contribute to public dissatisfaction.

**Broader Implications:** These findings suggest the need for policies that enforce design and placement standards for outdoor advertising. Advertisers could be mandated to use eco-friendly materials and designs that align with urban planners' aesthetic goals. Policymakers should also prioritise urban beautification projects that offset the visual clutter caused by advertisements.

### Awareness of Environmental Regulations on Outdoor Advertising

**Table 3: Awareness of Environmental Regulations on Outdoor Advertising**

Response	Frequency (F)	Percentage (%)
Fully Aware	100	25.0
Partially Aware	120	30.0
Not Aware	180	45.0

Table 4 shows that 45% of respondents are unaware of environmental regulations governing outdoor advertising. A chi-square test ( $\chi^2 = 18.34$ ,  $p < 0.05$ ) was conducted to examine the relationship between awareness levels and perceptions of regulatory effectiveness. The results indicate that respondents with lower awareness were more likely to view regulations as ineffective.

Vlakveld and Helman (2019) similarly reported that insufficient public awareness of advertising regulations undermines compliance and effectiveness. These findings highlight a critical gap in public engagement with environmental policies.

**Broader Implications:** Efforts to bridge this awareness gap could include public campaigns, stakeholder workshops, and accessible information on advertising policies. Regulatory bodies must ensure that marginalised and underserved communities, particularly in peri-urban areas, have access to this information.

## Public Perception of Regulatory Effectiveness on Outdoor Advertising

**Table 4: Perception of the Effectiveness of Regulations on Outdoor Advertising**

Response	Frequency (F)	Percentage (%)
Very Effective	70	17.5
Effective	80	20.0
Ineffective	150	37.5
Very Ineffective	100	25.0

Most respondents (62.5%) view current regulatory measures as ineffective or very ineffective. Regression analysis revealed that low regulatory awareness significantly predicts perceptions of regulatory ineffectiveness ( $\beta = -0.67$ ,  $p < 0.01$ ). These findings corroborate Morozan et al. (2013), who identified weak enforcement frameworks as a key barrier to effective advertising regulation.

**Broader Implications:** Strengthening regulatory frameworks and increasing enforcement capacity are critical steps toward improving public confidence in regulations. Collaborative policymaking that involves public feedback can enhance the credibility and effectiveness of these measures. Urban planners should also advocate for stricter zoning laws to manage the placement and density of outdoor advertisements.

### Conclusion

This study investigated the environmental impacts of outdoor advertising in Osun State, focusing on perceptions of visual pollution, aesthetic degradation, regulatory awareness, and effectiveness. The findings reveal:

1. A strong public perception that outdoor advertising contributes to visual pollution and degrades environmental aesthetics.
2. Limited awareness of environmental regulations, which undermines regulatory effectiveness.
3. Public dissatisfaction with existing regulatory frameworks due to weak enforcement and poor public engagement.

**Addressing Research Objectives:** The findings address the research objectives by highlighting the connections between awareness, perceptions, and regulatory effectiveness. They also fill a significant gap in understanding public attitudes toward outdoor advertising in developing contexts.

**Broader Implications:** These findings have far-reaching implications for urban planning, regulatory policy, and sustainable advertising practices. Policymakers must integrate public awareness campaigns into urban policies, improve enforcement mechanisms, and encourage sustainable advertising practices that harmonize with urban aesthetics. Future research should investigate the economic implications of stricter advertising regulations and assess the effectiveness of pilot regulatory interventions.

### Recommendations

1. Strengthen Public Awareness of Regulations: Public education campaigns should be implemented to bridge the knowledge gap regarding environmental regulations on outdoor advertising. These campaigns could include mass media initiatives, workshops, and community engagement programs to ensure that citizens understand the importance of compliance and the role of regulations in mitigating visual pollution.
2. Enhance Regulatory Frameworks and Enforcement: Urban planners and policymakers should develop stricter regulatory frameworks that include zoning laws, placement guidelines, and aesthetic standards for outdoor advertisements. Enforcement capacity should be bolstered through increased funding, technology adoption, and collaboration with local governments to ensure effective monitoring and compliance.
3. Promote Sustainable Advertising Practices: Advertisers should be encouraged to adopt sustainable practices that align with environmental and aesthetic standards. Incentives, such as tax benefits for using eco-friendly materials or designs, could foster compliance. Policymakers should also work with stakeholders to promote the integration of digital advertising options, which minimise physical visual clutter.

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