

The Double-Edged Sword: AI and its impact on the Future of Advertising

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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1- Introduction

Media refers to the pivotal channel of mass communication via platforms to store, transmit, and communicate information to a wide audience. This can include channels like radio, articles, television, and newspapers. The main purpose of the media is to communicate what is going on in the world, as many people are dependent on the media to know what is happening around them for various reasons. However, advertising, which is one use of media, has caused lots of controversy. False advertising is more dominant than trustworthy advertising, particularly with the increasing integration of Artificial Intelligence (AI) in everything and evolving wrong consumer practices and companies' misleading branding strategies.

This paper aims to provide the reader with information to answer this question: Has AI helped advertising, which is a form of media, or did it make it worse? The following sections will explore the evolution of media and its influence on society, the rise of advertising and its role in consumer behavior, the increasing issue of false advertising, and how AI has transformed advertising. Two case studies, focusing on L'Oréal's deceptive anti-aging advertising claim and Coca-Cola's advertisements, will be discussed. These cases will be studied using Actor-Network Theory (ANT), which is a sociological framework that explains how a network builder creates heterogeneous networks of human and non-human actors to solve a problem or achieve a goal. Developed by Michel Callon, Bruno Latour, and John Law, ANT emphasizes the central role of the network builder in bringing diverse actors together (Springer, 2011).

2-Background Evolution of Media

The history of the media is associated with the development of democracy and politics. The media have played an important role in helping people have a say in their government by spreading information and encouraging public discussions. This helped people feel seen and heard, as they now could express their opinion on serious matters. In the 1700s and 1800s, as newspapers became independent and cheaper to access, people were finally able to form their own opinions without government influence (Curran, 2002). Over time, radio and television also became free from strict government control, giving people more ways to access different ideas. As the media have evolved, they have continued to shape societies' growth and how people connect with and understand one another.

The media's influence wasn't limited to politics only; it also became an essential platform for social movements, which helped marginalized groups advocate for their rights. Female suffrage societies began forming as the first one opened in 1851, making the British women's movement start gaining momentum by the 1860s (Curran, 2002). Although the pace of the growth of the women press was gradual, it made a huge impact on how women were treated and empowered women to challenge traditional norms. An example of this was *The Lily*, a newspaper founded by Amelia Bloomer in 1848, after the Seneca Falls Convention. *The Lily* was the first newspaper edited and published by a woman alone (Tayllor, 2017) and not only amplified feminism but also influenced tangible societal changes. *The Lily* newspaper focused on a variety of issues related to women such as dress reform.

Actor-Network Theory (ANT) can be applied here: *The Lily* can be seen as the network builder that brought together different actors (editor, the readers, the printed newspaper, and the growing feminist movement) to push for social change. This illustrates how media, when supported by the right network of human and non-human actors, can play a powerful role in

challenging dominant systems and spreading new ideas. Over time, the media have been a force that gave people more freedom and helped them fight for their rights. However, in today's world, that same media is being used in more complex and sometimes harmful ways. While it once helped bring the truth to light, now it can also be used to spread misleading messages. This becomes even more concerning with the rise of AI. In the next sections, I will explore how advertising has changed over time, and how these changes can affect what people believe in.

3- The Power of Modern Media and Advertising

Today, the media continues to have a strong impact on society and shape people's perspectives and spread important information. For example, during the AIDS epidemic in the 1990s, many people wrongly believed that HIV could spread through casual contact, a myth fueled by early media coverage (Mehraj et al., 2014). Over time, the media also helped correct this misunderstanding through radio, television, and public campaigns. This example shows how the media has the power to create both fear and awareness. The media also connect people worldwide, making the world feel smaller and more united by instantly sharing news, cultures, and ideas through social media platforms.

Advertising is an essential use of media and perhaps one of the strongest advantages that media has created. Advertisement is defined as “a paid, mediated, form of communication from an identifiable source, designed to persuade the reader to take some action, now or in the future” (Advertising History, 2009). The first advertising agency was started by Volney Palmer in 1841 who realized the benefits of buying and reselling newspaper space. Over time, the advertising industry evolved with new media, shifting from radio program sponsorships in the 30s to television advertising in the 50s, and eventually to independent media buying operations in the

80s and 90s. Over time, ads started to target specific groups of people (market segmentation), which means creating ads that appeal to certain groups based on things like age or interests (Advertising History, 2009). A study found that advertisements influence consumer behavior formation worldwide. It also found that ads significantly motivate consumers to purchase durable products, especially when focusing on quality, price, product evaluation, and brand recognition (Rai, 2013). This shows the importance for brands to create effective advertisements even if the product is not needed much. Today, online ads represent the most widespread form of advertising. This shows that strong advertising can persuade people to buy products, even when the product may not be necessary.

As advertising became stronger in shaping what people buy, it also gave companies more chances to exaggerate or even mislead people. Instead of just giving information about products, some ads started to make false promises or present products as better than they actually were. This problem becomes even bigger today with the use of artificial intelligence, which makes it easier to create very realistic and persuasive ads. Before looking at how AI changed advertising, it is important to first look at a real example of false advertising: L'Oréal's anti-aging claims.

4: L'Oréal False Anti-Aging Claims

In 2014 when L'Oréal, a French multinational personal care company, launched new youth products (Lancôme Génifique and L'Oréal Paris) and claimed that these products are “clinically proven” to have anti-aging effects on consumer genes. L'Oréal further claimed that these products would cause visible younger skin within 7 days, attracting many hopeless people. The Federal Trade Commission announced that this claim is false (Federal Trade Commission,

2014). So what roles do consumers, advertising platforms, and regulatory agencies, as individual actors, play in supporting or challenging L'Oréal's claims about anti-aging products?

Existing perspectives on deceptive claims in anti-aging products focus on how L'Oréal created its campaign, especially in both the visual and the textual message. Steponaityte (2017) analyzes twenty-one L'Oréal campaigns throughout the years and states that all of them failed the test of ethical persuasion, including the “Anti-Aging” campaign in 2013. This failure is either due to the visual test, such as using models significantly younger than the targeted customers, or to exaggerated product descriptions, such as using “youthful radiance in just 7 days” phrases.

Some consumer advocates argue that the way companies use scientific words gives an impression of credibility to fall for dishonest claims. L'Oréal strategically uses these terms to attract buyers and build trust. A study from the University of California, San Diego with Radice Science proved that the phrase “Clinically proven” makes a product have a higher chance to be purchased (Bowen, 2023). While some perspectives offer insight into how different aspects of the company play a role in the L'Oréal incident, they often overlook how different aspects' interactions maintain misleading claims in the anti-aging industry. This problem continues because of companies' scientific-sounding words, people's societal beauty standards, and regulations failure. Additionally, this issue encourages other companies to copy these misleading tactics, making the problem even worse. Assawavichairoj and Taghian (2017) explore this issue and find two primary reasons why people buy anti-aging products: maintaining their self-image and enhancing their social acceptability. These motivations often make consumers purchase products and become vulnerable to deceptive advertising. This suggests the need for an integrated perspective, such as actor-network theory, to better understand the persistence of false

advertising and why consumers continue to fall for misleading claims. Most discussions consider only individual roles and overlook the networked dynamics.

By applying ANT here, we can analyze L'Oréal's anti-aging advertising claims through the lens of the network builder and the diverse actors involved. This approach offers a comprehensive view of how these actors interact to shape and sustain L'Oréal's claims. ANT approach highlights how changes in one aspect, such as raising the awareness of self-acceptance, could create changes across the entire network, which might reduce false ads in the L'Oréal case. This is valuable because it emphasizes the connected roles each actor plays, not only focusing on L'Oréal catchy advertisement phrases.

5- The Role of AI and Deepfakes in Advertising

In recent years, AI has started to change the way advertising works. Many companies now use AI to create ads more quickly and personalized, to the point where they may appear unreal. One example is using AI to create deepfakes which are fake but look very realistic images or videos. For example, a nonprofit group called RepresentUs made deepfake videos of famous dictators like Putin to send a strong message about the importance of voting (Campbell et al, 2022). These kinds of campaigns can catch people's attention very quickly, but simultaneously raise lots of concerns. This is because right now, companies can easily change the face, voice, or body of a person in an ad, which can save money and make the ad look more appealing to some people. But this also means it's getting harder to tell what is real and what is fake.

AI in advertising is not just about saving money or making better-looking ads, it unfortunately also has a big risk of false or misleading information. Deepfake technology can be

used by dishonest people to send a false message. Also, AI makes it easier for companies to create many different versions of the same ad, changing things like skin color or age, just to match what they think the consumer wants to see. This is a double-edged-sword that can be beneficial to some and harmful to others. This can be dangerous because some companies start using AI to steal other brand ideas or faces of celebrities without permission. As this technology grows, it becomes more important for advertising platforms to create rules to protect both consumers and ads rights.

While some uses of AI in advertising are creative and artistic, like Coca-Cola's campaign, other uses of AI raise more serious concerns. In the next section, I will explore the rise of false advertising and how AI and digital platforms have made this issue more widespread and difficult to control.

6- The Rise of False Advertising

According to the County of Los Angeles Department of Consumer and Business Affairs (2011), false advertisement is defined as “untrue or misleading information given to you to get you to buy something, or to come visit their store.” Although the Wheeler-Lea Amendment of 1938 added a section to the Federal Trade Commission (FTC) stating that any misleading promise or claim intended to deceive a purchaser is unlawful (Millstein, 1964, p. 444), 70% of consumers have encountered misleading advertisement at least once. (World Metrics, 2020).

6.1: Fake Ads Impact

Fake advertising not only impacts the everyday consumers who buy products like clothes and food, but it also has significant political implications, especially due to the lack of effective regulation for political ads. The current regulatory framework for online political advertising in

the United States is weak and outdated, failing to handle the rise of digital ads, especially leading up to the 2016 election. Unlike traditional ads, online political ads are cheaper, harder to trace, often contain disinformation, and can be disguised as regular content. While public communications like TV ads require disclaimers about who paid for them, many online ads, especially those not directly paid for or posted personally (like tweets or blog posts), are not held to the same standard. This loophole makes it difficult to track the sources of online political messages, allowing foreign influence and disinformation to spread without proper oversight (Wood et al., 2017-2018).

6.2: Fake Ads Categories

Ad fraud can be categorized into three main types when it comes to online advertising: click and impression fraud, domain and location fraud, and malware and user manipulation (Agrawal, S., & Nadakuditi, S., 2023). Click and impression fraud involves generating fake clicks or ad impressions through bots, click farms, or techniques like click injection and ad stacking to inflate metrics and mislead advertisers. Domain and location fraud deceives advertisers by misrepresenting the quality of ad placements, using methods like custom browsers. Malware and user manipulation exploits user data through tactics like cookie stuffing, which redirect users without consent, steal their info, and generate fraudulent ad revenue.

6.3: Preventing Misleading Ads and Their limitations

Most online suggestions for avoiding false ads involve taking precautions and being attentive to details (Sharma, 2023). Nevertheless, many naive individuals fall victim to deceptive claims, causing lasting trouble. False advertising is a complex issue that cannot be solved solely by a technical approach as it requires changing how people approach consumer information. Customer trust is significantly damaged by experiences with misleading advertisements, making

people less likely to trust word-of-mouth recommendations (Boush, Friestad, & Wright, 2009). Therefore, there should be a platform where people can share and report false advertising, discouraging companies from making misleading claims. Such a reporting platform could address the issue from a technical perspective, while also addressing the social and cultural factors that affect false advertising.

A key challenge in false advertising reporting systems is accurately identifying true deceptive claims, and advertisers often complicate this process. To convey their product's effectiveness, companies often rely on carefully crafted language. Phrases like “clinically proven” have been proven to stick in people's minds more than other phrases (Roehm & Tybout, 2006). This highlights the power of wording on consumer memory; however, current systems mostly rely on consumers to catch whether these phrases are legitimate, which is not a reliable solution. While there are AI tools, such as Anura and Netcraft, to detect misleading claims, they often overlook these subtle tricks because they focus on simple cues. This shows the need for a system that blends human judgment with AI to create a reliable solution that can catch misleading claims.

Nowadays, consumers often read online reviews to verify the legitimacy of products or services before making a purchase. CapitalOne Shopping research (2024) reports that online reviews impact 93% of all consumers' decisions of whether to buy a product, regardless of whether the reviews are positive or negative. Yelp, for example, is a major platform for sharing customer experiences and it has been reported that 92% of users agreed that negative reviews in Yelp helped them with their purchase decisions (Elad, 2024).

Unfortunately, while there are various ways to detect and report dishonest ads, they still have many limitations. Google Reviews, for example, is one of the biggest sources for hosting

fake reviews. According to Birdeye, a digital platform that assists businesses in managing their digital reputation, recent studies show that 92% of consumers only read 2 reviews before making the decision to make a purchase (Mayers, 2024). This is concerning, as two reviews are insufficient to avoid scammers, especially since platforms like Google Reviews lack a mechanism to verify that reviews come from a verified buyer.

7: Case Study: Coca-Cola’s “Masterpiece” Ad

Another big example of AI being used in advertising is Coca-Cola’s “Masterpiece” campaign that was launched in 2023. The campaign featured a short video where a student in an art museum is struggling to find inspiration. A Coca-Cola bottle then passes through several famous paintings, from Edvard Munch’s *The Scream* to Andy Warhol’s pop art, and each artwork comes to life using generative AI techniques and plays with the Coca-Cola’s bottle. These animations were made possible using tools and machine learning models to transform art into interactive scenes that are very appealing. Coca-Cola aimed to use AI not to replace artists, but rather to enhance human creativity which make the final product both visually impressive and emotionally engaging (Marr, 2023). The ad was also well-received by students and younger viewers as shown in a study by Çavuş and Yılmaz (2024). This study found that AI-generated ads like this could even have educational value, in addition to the commercial benefits.

Looking at this campaign through the lens of Actor-Network Theory (ANT), Coca-Cola acts as the network builder who connects different actors. Those actors are the AI models, artists, classic paintings, editing software, and the audience. Using this theory, we can see that the success of the ad does not rely on AI alone, but on how all these actors work together to deliver a creative message. ANT helps explain how each element in the Coca-Cola campaign contributes

to shaping the viewer's experience as a whole. For example, AI-generated animations are not just tools, but active parts of the network that guide emotion and meaning. This case shows how AI can be used in advertising not to deceive, but to create powerful and artistic experiences.

8: AI in Advertising (Is it a Double-Edged Sword?)

There are a few ways where AI is implemented to prevent fake ads, which include anomaly detection and domain verification. Anomaly Detection method looks for unusual patterns in ad activity, like sudden increases in clicks or short time spent on a website, which can be signs of suspicious interactions. This helps advertisers save money by avoiding fake clicks. Domain verification checks if ads are being shown on real, trusted websites instead of fake ones by studying how different websites and ad networks are connected. This makes sure ads reach legitimate people on proper websites. (Agrawal, S., & Nadakuditi, S, 2023). However, all of these tools help the companies rather than the consumer themselves. Although there are, in fact, AI detection tools for consumers, many are not free, restricting access to average users. Additionally, most AI fake ads detection tools are designed primarily for companies rather than individuals. A combined human-AI system would make false advertising detection/reporting more accessible and reliable for everyday users.

Unfortunately, fake ads, especially the online ones, can have huge consequences on consumers in serious situations. One major example of this is the impact of false ads on health, as misleading health advertisements often make false claims about curing diseases or improving health without proper scientific evidence. These ads can be especially harmful to vulnerable groups like children and the elderly, who may lack awareness about associated risks, putting their health in dangerous situations. For example, the Advertising Standards Council of India (ASCI)

found over 300 misleading COVID-19-related ads between 2020-2022, with only 12 of them being scientifically accurate (Kannan).

9: Discussion: Is AI Helping or Harming the Future of Advertising?

Looking at the bigger picture, AI-manipulated advertising poses serious risks for brands. One major concern is the rapid spread of misinformation. AI can spread fake or misleading information faster than traditional advertising methods, and it's harder to control once it's out. Studies show that correcting false information takes much longer than spreading it. This can damage a brand's reputation, especially if the false information reaches a wide audience. Closely linked to misinformation is the challenge of brand consistency; AI-generated content if not carefully monitored, can deviate from a brand's intended image, potentially confusing consumers and diluting brand identity. Another challenge is competition because AI makes it easy to copy designs or marketing strategies, brands might lose their originality. Brands like H&M, which are known for quickly copying fashion trends, could do the same with ads. This puts pressure on brands to constantly innovate and protect their content. (Campbell et al., 2022).

Despite these risks, AI has also clear advantages to advertising. AI allows businesses to target their audience more effectively, personalize content, save production time, and even increase creativity. Some brands have used AI in an ethical way: to tell more engaging stories and connect with audiences in creative and meaningful ways, like Coca-Cola with their "Masterpiece" campaign.

Considering these challenges collectively leads to a critical overarching question: Is the growing use of AI improving advertising or making it more deceptive? AI helps advertisers reach the right audience more effectively yet it has also led to more false advertising, deepfake technology, and unethical marketing strategies. Many people now depend on social media for information, so how can we be sure that AI-driven advertising is honest? This uncertainty raises important ethical questions regarding accountability. Specifically, it makes one consider who (governments, companies, or consumers) should bear the responsibility of regulating misleading advertisements. As AI-generated content is becoming more advanced every day, we must think about how it affects public trust and consumer rights.

10- Conclusion

In conclusion, the media has evolved a lot over the past few years, from traditional mediums like newspapers to modern digital ones such as Twitter. While the media offers lots of benefits, such as being able to spread awareness and connect people globally, it also presents challenges like misinformation and false advertising. The rise of AI in ads raises both opportunities and challenges in advertising, especially promoting the false ones, which make it easier to target audiences effectively but also increase the spread of misleading information. The question of whether AI integrated with the advertising benefits is superior to the disadvantages, or the opposite, is complicated. As media technologies continue to develop, there will always be the need for stronger regulatory frameworks and ethical advertising practices to ensure that ads remain trustworthy. Ultimately, while the media have such power to influence things, especially in advertising, it must be navigated thoughtfully to protect both consumers and society.

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