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Marketing – Market Relationship & Customer Engagement

Course of

Marketing Communication & New Media

**AI IN ADVERTISING: ETHICAL CHALLENGES AND
GENERATIONAL DIFFERENCES.**

A STUDY ON GENERATION Z AND MILLENNIALS

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ABSTRACT

This research presents the ethical dimensions of Artificial Intelligence (AI) in advertising with a special emphasis on the generational differences between Millennials and Generation Z.

Employing a mixed-method approach combining controlled web survey and comparative contrast of two scenarios, this study examines how these ethical issues are associated with consumer trust and sense of manipulation.

Results show privacy concerns and transparency are central to ethical sentiments towards AI advertising. Millennials are more sensitive to openness and enjoy open AI disclosure, while Gen Z reacts with nuanced responses, pairing sensitivity to AI risk with pragmatic accommodation of tailoring. While privacy concerns affect trust, no trust mediation effect on perceived manipulation was discovered. Regression analysis demonstrated that privacy, transparency, and trust alone do not predict perceived manipulation in combination, and ethical factors influence consumer perception separate from trust. Scenario studies elicit stronger negative reactions to latent AI influencers than data-driven targeting, showing more strongly the importance of transparency in AI communication strategies.

Most of all, the research emphasizes the imperative for brands to adhere to transparent, ethical AI and adjust messaging according to what different generations expect. The study thus contributes to the research on *Ethical AI in Marketing* by giving a new perspective on how different generations judge AI-driven advertising and by giving guidelines to companies that aspire to be trustworthy and credible in a mainly AI-powered digital market.

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1. INTRODUCTION

1.1. Context: AI in the advertising sector

AI is changing the advertising industry by providing tools and methods that fundamentally change the way consumers interact with brands. Thanks to its ability to process vast amounts of information in real time, AI makes it possible to build effective advertising strategies on highly targeted and personalized ads. This change is especially notable in areas like programmatic advertising, where sophisticated algorithms take user-initiated advertising to the next level by automating the purchase of advertising slots, thus providing more ROI and marketing precision (Luo, 2023).

One of the clearest demonstrations of the impact of AI in advertising is the use of recommendation algorithms. Companies like Netflix and Spotify utilize AI to analyse user preferences and recommend personalized content, creating an increasingly engaging consumer experience. For instance, Netflix places banners to recommend movies and TV series based on users' viewing habits, whereas Spotify creates customized playlists called "Discovery Weekly" based on individual musical preferences. These tools not only enhance user experience but also increase brand loyalty and time spent on the platform.

Another important example is the application of chatbots and virtual assistants in marketing. Sephora and H&M, for instance, have chatbots that solve customers' queries in real time and offer guidance throughout the buying process. Sephora's chatbot gives personalized beauty advice, while H&M's chatbot aids shoppers in selecting clothes that suit their needs. These applications not only enhance brand-consumer relations but also lower the operational costs of conventional customer service.

Moreover, AI is transforming how advertising content is created. Tools like ChatGPT and DALL·E allow the creation texts and images in an automated way, reducing production's times and costs. Some companies use AI to generate advertisements for specific targets of users, adapting, among other things, the language and the style to customers' preferences (Clark, 2023). This approach not only creates more efficient campaigns but also allows to rapidly test different variations to identify the more performing ones.

These innovations are not issue-free. The massive use of personal data, the lack of transparency in algorithms, and the risk of psychological manipulation pose serious ethical questions. The ability of AI to analyse consumers' behaviour and predict their preferences can be considered an opportunity to improve the consumer experience but can also be a potential breach to privacy (Morgan, 2023). The increasing sophistication of algorithms makes it difficult for the users to distinguish between authentic and AI generated content, raising concerns about trust and transparency (Williams, 2023).

An emblematic case is represented by the Cambridge Analytica scandal, it highlighted how personal data could be used to influence consumers' behaviour through targeted advertising (Cadwalladr, 2018). This episode, that will be further developed, leads to an increase in consumer awareness of privacy and manipulation risks, prompting many companies to review their marketing policies.

Another example is TikTok, the platform's algorithm uses AI to analyse user interactions and provide personalized ads. It has raised concerns for the potential creation of "filter bubbles" that limit users' exposure to new perspectives (Amarikwa, 2023).

1.2. Relevance of the topic: ethical implications and generational differences

The ethical implications of AI in advertising represent a topic of great relevance, especially in an era in which data privacy, algorithm transparency and consumer trust are at the centre of public debate. The increasingly widespread use of AI-driven tools in marketing has led to greater efficiency and personalization of advertising campaigns, but has also raised significant concerns regarding psychological manipulation, invasion of privacy and lack of user control (Gartner, 2023). These questions not only influence the relationship between brands and consumers, but also have legal, reputational and financial implications for companies.

According to a Gartner report (2023), 76% of consumers declare that they are sceptical about the use of their data in advertising, leading to growing distrust. This scepticism is expressed by young generations, like Generation Z (born between 1997 and 2012), who grew up in a hyperconnected digital world, and Millennials (born between 1981 and 1996), who lived the transition from traditional to digital advertising (McKinsey, 2023).

Generation Z is usually more aware of the risks related to privacy and manipulation thanks to his familiarity with digital tools. This generation, which represents an important slice

of the digital market, gives a lot of value to transparency and authenticity, showing a strong preference to brands that adopt ethical and privacy-friendly practices (Smith & Johnson, 2023). According to McKinsey (2022), 68% of consumers would stop purchasing from a brand that uses their data in a non-transparent way.

On the other hand, Millennials, even though being confident with the digital world, may be more willing to exchange their data for a more personalized experience. However, even among Millennials, sensitivity towards ethical issues is increasing, especially following events such as the introduction of the General Data Protection Regulation (GDPR) in Europe, which has strengthened consumers' rights regarding the management of their personal data (European Commission, 2018).

These differences between generations represent an interesting case study as they show how expectations and concerns change depending on the age and experience with digital tools. The understanding of these dynamics is essential for the companies to avoid reputational damage and enhance consumer's experience.

AI in advertising has ethical implications that extend beyond privacy and transparency and could result in psychological manipulation and algorithmic bias. AI algorithm, in fact, can influence users' behaviour in a subtle and unconscious way, exploiting their cognitive weaknesses to stimulate impulsive purchasing decisions (Williams, 2023). This raises questions about companies' responsibility to guarantee that their advertising practices are ethical and respectful of consumer rights.

In 2021, a study by the University of Cambridge demonstrated that AI-driven advertising can exploit cognitive biases. An example is the “fear of missing out” (FOMO), which stimulate compulsive buying behaviour (Chen, et al. 2022).

1.3. Research gap

Although past research extensively examines the application of AI in advertising, the ethic of its application is under researched, especially the different approaches across generations. Most of the existing research considers either the technology of AI or the ethics individually without investigating the ethical conception of AI across demographic groups. This thesis aims to fill

this gap by offering a comparative assessment of generational attitudes towards AI-driven advertising behaviour, offering business insights that will allow companies to modify their approach in line with the ethical demands of different consumer groups.

1.4. Research objectives

The main objective of this thesis is to analyse the generational differences in the perception of ethical implications of AI in advertising, with a specific focus on Generation Z and Millennials. Throughout a comparative analysis, the research explores how these generations react to crucial themes like privacy, algorithms' transparency and trust in brands, and how these perceptions influence their purchasing intentions. In particular, the thesis has three specific objectives:

1. *Identify the main ethical concerns of AI in advertising*, this objective aims to identify the most relevant issues emerged in the academic and public debate, with a specific focus on:
 - a. data privacy, how the collection of data influence consumers' trust.
 - b. transparency of algorithms, the ability of users to know how their data are used.
 - c. risk of psychological manipulation, linked to the capacity of AI to influence user behaviour in a subtle and unconscious way.
2. *Analyse the differences between Gen Z and Millennials in the perception of these issues*, to explore generational differences with an approach that combines both qualitative and quantitative methods.
3. *Provide recommendations for companies on how to improve transparency and trust in AI-driven advertising campaigns*, helping them to balance the use of AI with ethical expectations of consumers.

In summary, this research aims to fill a gap in the existing literature, offering new perspectives about a theme that is every day more important. Through an in-depth analysis, the thesis will contribute to a better understanding of the ethical dynamics related to the use of AI in advertising, providing useful tools for companies.

1.5. Research question

The research question underlying in this work is:

How do the ethical applications of AI in advertising influence consumer trust and buying behaviour, and how do generational differences (Gen Z vs. Millennials) change the perception of these ethical practices?

This research not only aims to examine the impact of AI on consumers' relationship with brands, but also how each generation reacts to fundamental questions such as privacy, algorithmic transparency and the likelihood of manipulation. This research aims to find out if and how Generation Z, raised in an information-driven and hyper-connected world, exhibits a different sensitivity than that of Millennials who experienced the transition from broadcast to data-driven advertising.

1.6. Structure of the thesis

This thesis is structured into seven chapters which collectively respond to the research question posed, and the objectives presented. This structure is intended to ensure that the information presented follows a logical and coherent sequence, starting from the theoretical context leading to practical aspects of the finding.

The first chapter is the introduction, it provides a general overview of the topic, outlining the landscape in which AI is transforming the advertising industry, the relevance of the ethical implications and the generational differences. In this chapter, furthermore, are presented the objectives and the research question.

Chapter 2, the literature review, examines previous studies about AI in advertising, with a specific focus on ethical implications and generational factors. It serves the purpose to identify and fill the gaps in the existing literature about the topic and provide a solid theoretical base for subsequent analysis.

The third chapter, about the conceptual model and research hypotheses, defines the key work variables (like privacy, transparency, trust and purchasing decisions) and

relationships between them. The research hypotheses that guide the empirical analysis are formulated, creating a bridge between theory and practice.

Chapter 4 - research methodology - describes, step by step, the method used to conduct the study. Both qualitative (semi-structured interviews with marketing and advertising specialists), and quantitative (online surveys among Gen Z and Millennials) methods are presented, alongside the data analysis techniques undertaken.

The fifth chapter displays the results of the qualitative and quantitative analysis. The chapter focuses on generational differences in the perception of the ethical implications of AI in advertising, analysing how these influence trust in brands and purchasing decisions.

The discussion (Chapter 6) interprets the findings considering the existing literature, highlighting the theoretical and practical implications of the study. The original hypotheses are also discussed, comparing them with the collected data and making suggestions for future reflection.

Finally, the seventh chapter summarizes the main findings of the study, providing concrete recommendations to companies on how to increase transparency and trust in AI-driven advertising campaigns. Directions for future research are also suggested, leaving it open for further research.

2. LITERATURE REVIEW

2.1. Artificial Intelligence in marketing and advertising

The integration of artificial intelligence (AI) in the marketing and advertising industries has redefined traditional paradigms, ushering in an era of hyper-personalization, automation, and predictive analytics (Davenport et al., 2020). While existing literature extensively covers AI's technical applications, few studies explore how different generations perceive its ethical implications—a gap this thesis addresses.

2.1.1. Definition and application of AI in advertising

Artificial Intelligence is a discipline that studies the theoretical fundamentals, methodologies and techniques to design systems capable to perform tasks that traditionally require human intelligence, such as learning, reasoning and problem solving (Russell & Norvig, 2021). In advertising, AI is used to analyse large volumes of data, predict consumer behaviour and provide personalized content (Lamberton & Stephen, 2016).

The use of AI in advertising is a phenomenon that has grown exponentially in the last decades, together with the development of new digital technologies (Rust, 2020). In the 1990s, advertising was based on traditional systems such as television, radio and press, with a generalized approach (Belch & Belch, 2022). Then, with the advent of Internet and social media, everything changed, marketers began to collect data from the consumers and develop a targeted advertising (Goldfarb & Tucker, 2011). The introduction of AI has enabled real-time data analysis and dynamically adapt advertising campaigns, increasing efficiency and return on investment (Lambrecht & Tucker, 2019). There are some key applications of AI in advertising:

- Programmatic advertising, it is one of the most widespread applications of AI in advertising. It is an automated process in which advertising spaces are bought and sold in real time throughout advanced algorithms (Lambrecht & Tucker, 2019). These algorithms analyse user behaviour, such as online searches and page views, to show relevant ads (Tucker, 2014). This approach reduces advertising waste and improves targeting (Lambrecht & Tucker, 2019).

- Recommendations systems, platforms like Netflix and Spotify use AI to analyse user preferences and suggest personalized content (Gomez-Uribe & Hunt, 2015). These recommendation systems improve the user experience so that the consumer will be more loyal and spend more time on the platform (Fleder & Hosanagar, 2009).
- Chatbots and virtual assistants, brands like Sephora and H&M use chatbots based on AI to offer more efficient customer service and reduce the operational costs of it (Luo et al., 2019).
- Content generation, tools like generative AI permit the creation of images, videos and texts, allowing marketers to produce unique and engaging advertisements at scale (Rao & Verweij, 2017).

2.1.2. Examples of AI-powered advertising campaigns

Below, some emblematic examples of AI-powered advertising campaigns are presented, they demonstrate how this technology has been successfully applied in different contexts.

- Netflix: content personalization

Netflix is one of the most well-known examples of the use of AI in marketing and advertising. The streaming platform uses recommendation algorithms to analyse users' viewing habits and suggest personalized content (Smith et al., 2017). In particular if a person is always using Netflix for action movies, the algorithm will emphasize other titles of the same genre in order for users to stay in the platform as long as possible (Fleder & Hosanagar, 2009).

Netflix revolutionized content discovery with the feature called "Play Something". It is designed to simplify the choice of movies and TV series through an AI-powered recommendation system. The feature analyses viewing preferences and automatically suggests content in line with personal tastes, reducing the time spent browsing through options (Jannach et al., 2021). However, it also raises questions about the algorithmic "bubble effect", which could limit the discovery of content outside of the usual patterns (Pariser, 2011). A balance between automation and diversity remains a key challenge for the future of streaming platforms.

In addition, Netflix uses AI to create personalized trailers. A case study (Gomez-Uribe & Hunt, 2016) explains that Netflix built multiple versions of the trailer for the show *Stranger Things*, adapting them on who the user was. Those who preferred thrillers were more likely to see a darker and more mysterious thriller, while those who loved friendship stories saw a lighter approach. This implementation increased the conversion rate and time spent on the platform.

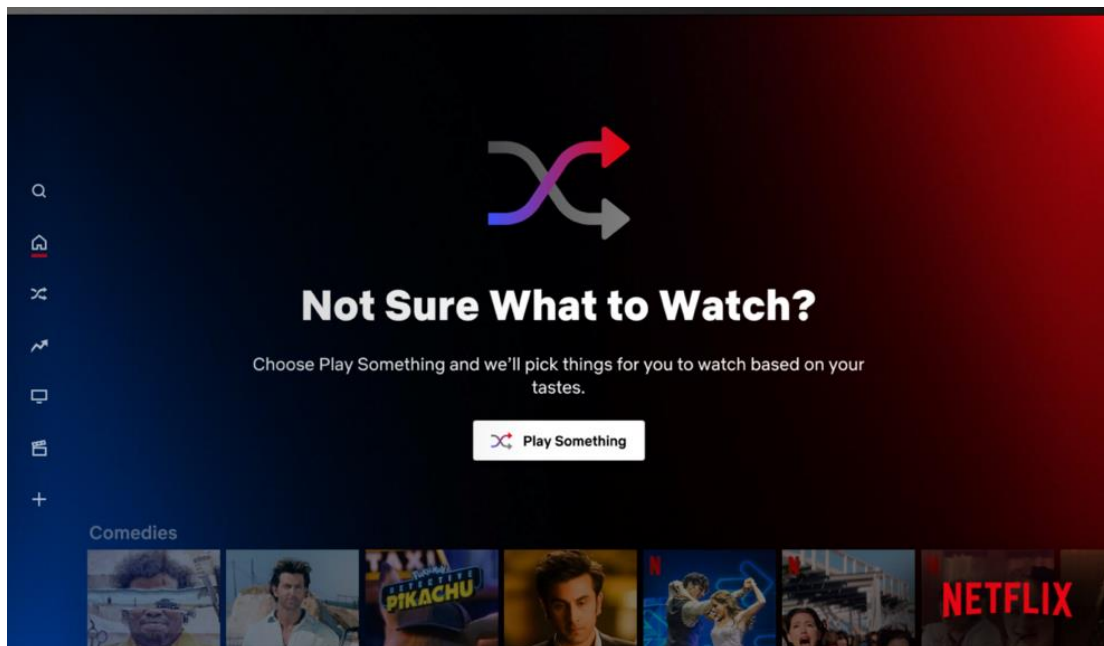


FIGURE 1: NETFLIX FEATURE “PLAY SOMETHING”

SOURCE: NETFLIX APP

- Spotify: personalized playlists

Spotify is another example of how AI can transform consumer experience. The platform uses machine learning algorithms to discover users' musical taste and provide customised playlists, such as *Discover Weekly* and *Release Radar*. *Discover Weekly* is a playlist updated every Monday that recommends songs that aligns with users' tastes while introducing them to new artists and tracks they might enjoy. Meanwhile, *Release Radar* focuses on newly released music from artists the user follows in order to keep the listeners update with their favourite musicians.

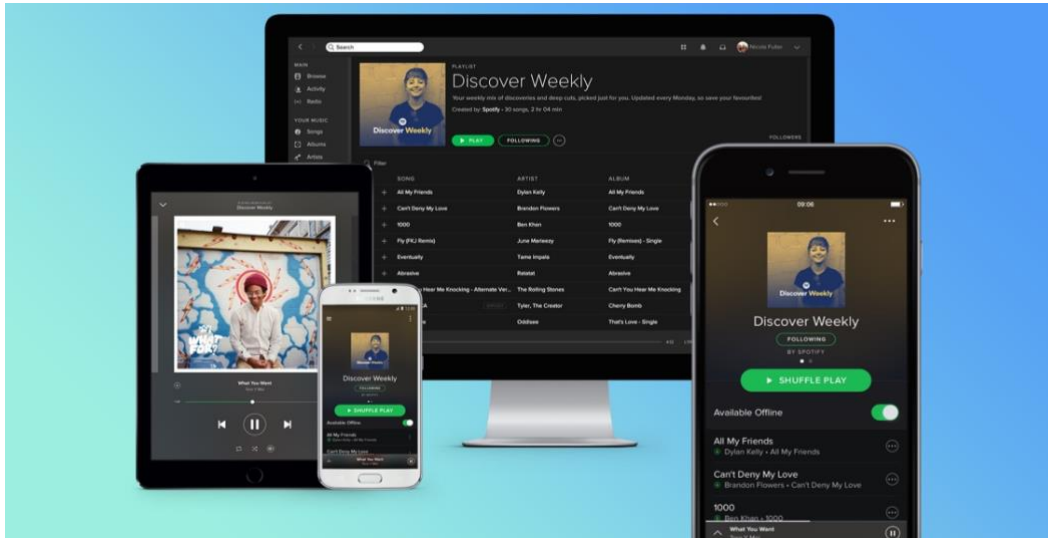


FIGURE 2: SPOTIFY FEATURE "DISCOVER WEEKLY"
SOURCE: USA TODAY

The most iconic example is the *Spotify Wrapped*, it exemplifies how AI-driven personalization can transform data into experiences. Spotify, through analyse users' listening habits, generates personalized annual summaries that celebrate each listener's musical identity. Millions of users share their Wrapped results, his viral nature demonstrates how intelligent data utilization can elevate marketing beyond traditional advertising, making it a prime example of AI's potential to revolutionize consumer experiences in the digital age.

- Sephora: Chatbot for personalized beauty

Sephora, leader in the beauty sector, has integrated AI into his marketing strategies throughout chatbots (Luo et al., 2019). Sephora's chatbot (available both on the website and the app) provides personalized beauty advice based on user preference. For example, users can ask questions like what products work best for their skin type or how to apply a specific makeup.

Sephora's chatbot has also been useful to lower traditional customer service spend and drive sales through relevant suggestions, in addition to enhancing the customer experience. It has been stated that 70% of users who interacted with the chatbot purchased the item, showcasing how efficient this technology is when guiding purchase intention (Sephora Annual Report, 2022).

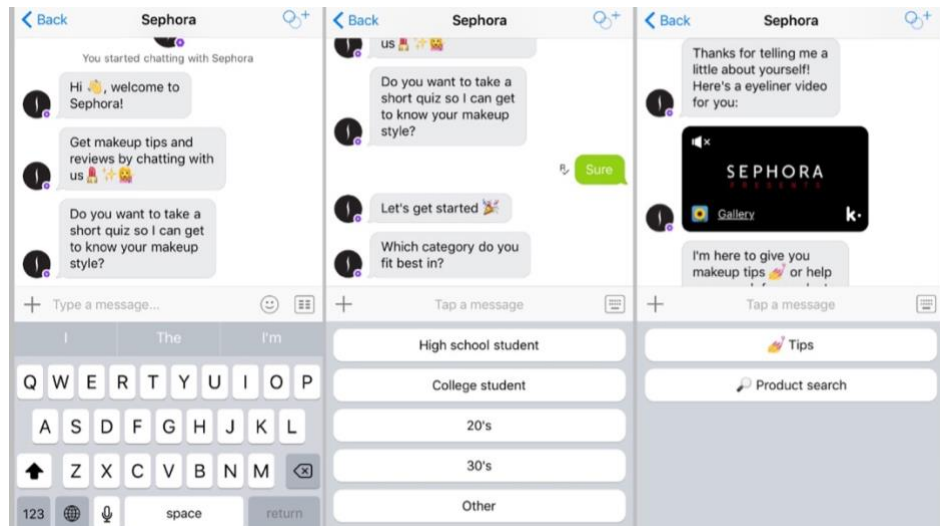


FIGURE 3: CHATBOT BY SEPHORA
SOURCE: SEPHORA WEBSITE

- TikTok: AI-based targeted advertising

TikTok uses AI to analyse user behaviour, and to show very targeted ads (Zhou et al., 2023). TikTok's algorithm operates by analysing user interactions such as video views, likes and comments to predict user preferences. For example, ads for athletic gear or nutritional supplements might be displayed to a viewer that routinely watches fitness content.

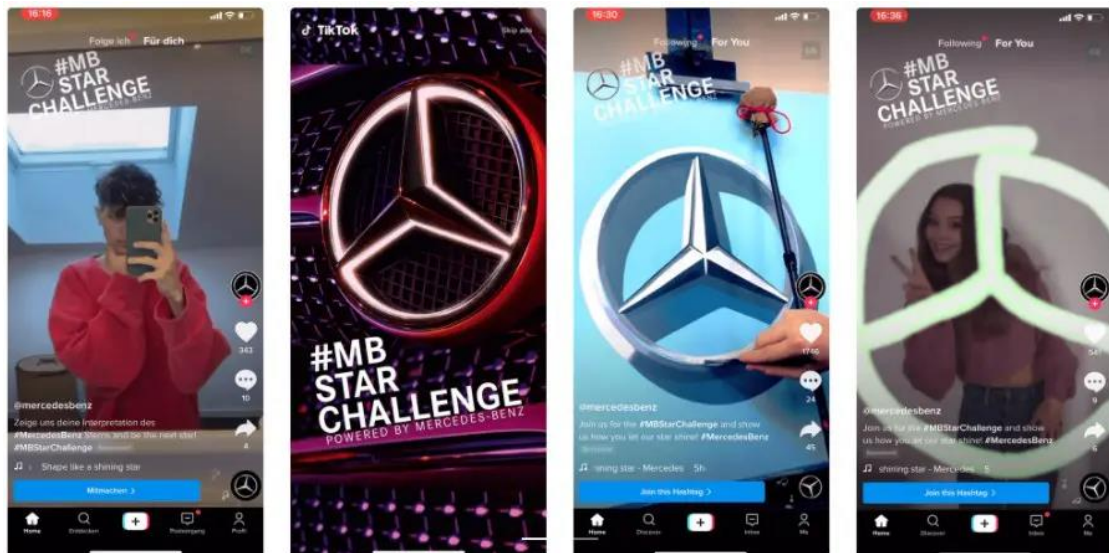


FIGURE 4: TIKTOK ADVERTISEMENT
SOURCE: TIKTOK

But TikTok's use of AI has sparked worries about privacy and about so-called "filter bubbles," which limit how much different content people see (Zuboff, 2023). A "filter bubble" is a situation where the user is shown only information and opinions that reinforce his own beliefs, this happens precisely because of the algorithm that personalize each online experience. These "algorithmic bubbles" risk to reduce exposure to diverse perspectives, narrowing the digital horizon of users and reinforcing bias or misinformation. While TikTok's AI is successful in keeping users engaged, its role in shaping online experiences highlights the urgent need for greater transparency in algorithmic advertising.

The rapid spread of AI adds significant ethical challenges, such as privacy, transparency, algorithmic bias and manipulation of the psyche (Zuboff, 2019). As advertising becomes progressively more sophisticated through AI, businesses must balance innovation with responsibility to maintain consumer trust while adapting to evolving regulation.

2.2.1. Privacy and data collection

AI has created an ethical dilemma of the digital age: the erosion of personal privacy. Modern AI systems require huge amounts of personal data to function effectively, that's why every click, search, like and even moment of inactivity is recorded, analysed and monetized (Acquisti et al., 2020). This constant monitoring has generated what some scholars call a "panopticon of consumer behaviour" (Zuboff, 2019), where users are unaware participants in a big and invisible data economy.

Modern advertising platforms collect personal information of every kind: demographic data, behavioural data, social connections (friends, followers, interaction networks), location information, device data, etc. These data are not just collected, but even extracted, crossed and enhanced by machine learning algorithms (Turow et al., 2022). For example, research has shown that AI systems can predict with surprising accuracy personality traits, political inclinations and even susceptibility to certain types of advertising, based solely on the digital traces of users (Matz et al., 2017).

The problem that makes this situation very dangerous is the *privacy paradox*, the contradiction between consumers' stated concerns about privacy and their actual willingness to share personal data (Norberg et al., 2007). Surveys consistently show that more than 80% of consumers express concern about their privacy online (Pew Research Center, 2023), in practice, the majority agree to exchange personal information for convenience, personalized services or perceived benefits. This paradox creates an environment in which users feel they have no choice but to accept intrusive practices to participate in digital life, so platforms exploit this resignation through manipulative consensus mechanisms.

One of the main problems about privacy in digital tools is the lack of informed consent and transparency. Many companies collect information without providing an explicit description of how it is going to be utilized (Nissenbaum, 2020). An example is internet service terms and conditions, which are long and complex, thus discouraging the users from going through them (McDonald & Cranor, 2008). It becomes hard for consumers to understand what information they are providing and why.

Storing amounts of personal data enhance the possibility that data security is violated. It happened in the Cambridge Analytica case, where information of Facebook users (in terms of millions) were manipulated illegally to be used towards influencing political elections (Isaak & Hanna, 2018). Such incidents highlight systemic failures in data governance and underscore the need for stronger encryption.

Finally, one of the most critical but underdiscussed privacy concerns is the secondary use of collected data. It refers to the proceeding where information initially gathered for targeted advertising is repurposed for other applications (often without explicit consent) such as behavioural profiling or selling to third parties (Zuboff, 2019). This is concerning from a transparency and consumer control over their data perspective (Acquisti et al., 2020).

To address these challenges, laws such as the General Data Protection Regulation (GDPR) in Europe and the California Consumer Privacy Act (CCPA) in the US have been formulated (European Parliament, 2018; CCPA, 2020). These laws state that Internet pages require an explicit consent from the user to collect his data, a clear disclosure of how the data will be treated and the right of the users to see, edit, or delete their data. The GDPR, for example, introduced the concept of privacy by design, under which companies must bake in data

protection within the design of their systems. This has spurred some companies to look back at how they gather and manage their data, but this has also resulted in more operational challenges, especially for small- and medium-sized businesses (Jia et al., 2021).

2.2.2. Transparency of algorithms

The transparency of algorithms is one of the most debated topics in artificial intelligence applied to advertising. Algorithm transparency is defined as the ability to understand the decision-making mechanisms of algorithmic systems. Those algorithms are often considered "black boxes", because their working is complex and difficult to deeply understand for the users (Pasquale, 2015), simply the opposite of the "white box" (or transparent box) models, where every step is clear.

It's very important for the algorithms to be transparent for many reasons. First, because decisions based on erroneous or biased data can harm specific individuals or groups. Moreover, transparency is essential to maintain public trust, especially when algorithms influence important aspects of our life. Greater transparency makes easier to verify that algorithms comply with ethical, legal and technical standards. It also encourages innovation by enabling developers to learn from mistakes and improve system performance.

An emblematic case of lack of transparency occurred with Facebook, which faced criticism for the way in which its advertising targeting algorithm favoured discriminatory ads. In 2016, a ProPublica survey revealed that job advertisements on Facebook could be targeted exclusively to users of a certain gender or ethnicity, excluding other groups. (Angwin et al., 2016). This raised questions about the fairness and transparency of the algorithms used.

To solve this problem, in 2019, Facebook launched its new job ads portal with a design capable to eliminate all forms of discrimination in job, housing and credit advertisements. No more explicit targeting by age, gender or race. A step towards transparency, but the reality turned out to be much more complicated. An example is the Dolese Bros. case, a construction company looking for truck drivers in Oklahoma. Without any manual selection of the audience, the ad ended up in the eyes of an 87% male audience (Facebook Civil Rights Audit, 2020).

It happens because the algorithm uses indirect signals as interests (like "mechanics" or "cooking") or past behaviours to decide who is "suitable" for an ad (Lambrecht et al., 2018). The consequence is that, for example, a plumber ad is only shown to men, even if the company has not asked for it. The same loop is repeated, and the filter bubble is created, the system rewards those who click more on certain content, reinforcing stereotypes (Pariser, 2011).

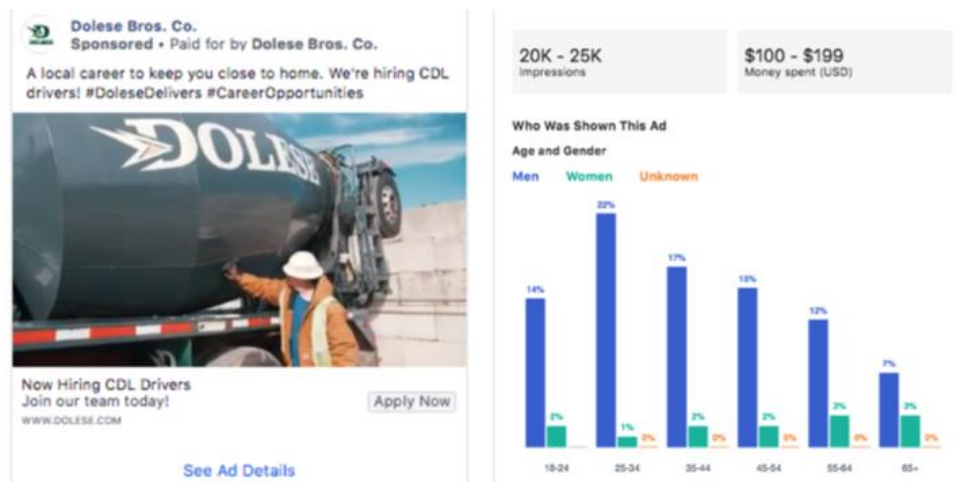


FIGURE 5: FACEBOOK'S CHART SHOWS THAT 87% OF THE PEOPLE WHO SAW THE AD WERE MAN

SOURCE: [HTTPS://WWW.SALON.COM/2019/12/15/FACEBOOK-ADS-CAN-STILL-DISCRIMINATE-AGAINST-WOMEN-OLDER-WORKERS-DESPITE-A-CIVIL-RIGHTS-SETTLEMENT_PARTNER/](https://www.salon.com/2019/12/15/facebook-ads-can-still-discriminate-against-women-older-workers-despite-a-civil-rights-settlement_partner/)

The consequences are heavy, even a well-intentioned company (such as Dolese) ends up excluding qualified candidates, but the worst problem are the legal risks. In the US, this could violate laws such as the Fair Housing Act, which prohibit practices with "disparate impact", even without intent.

Regulations and transparency initiatives

In addition to the General Data Protection Regulation (GDPR) in Europe and the California Consumer Privacy Act (CCPA) in the US, some companies are taking proactive approaches to improve transparency.

For example, Google has introduced the "Why this ad", a feature that helps people understand why they are seeing a particular ad (Google Safety Center, 2023). For example, it

is possible to find that a camera ad is shown because it has been searched for cameras, visited photography websites, or clicked on a camera ad in the past.

Even some social media giants have introduced reporting tools to safeguard their transparency. The Meta Ad Library, for example, gives to the audience an overview of all

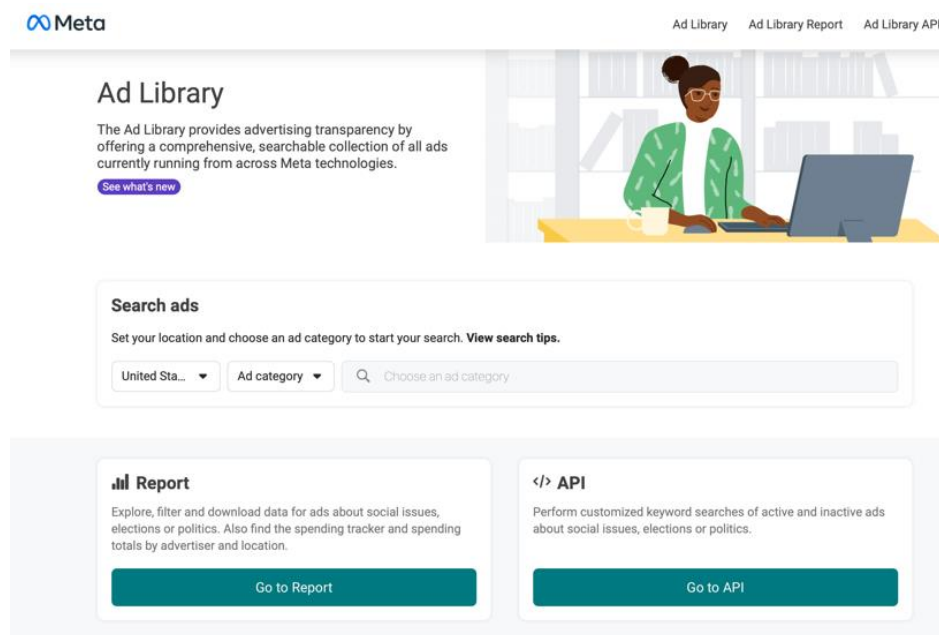


FIGURE 6: META AD LIBRARY
SOURCE: META

active ads on Facebook and Instagram, showing targeting parameters such as location and interests, plus data on spend and impression (Meta Transparency Report, 2023). However, as the experts point out, there is a lack of crucial information on the actual demographics reached by ads that makes it impossible to verify whether advertisements discriminate certain groups.

2.2.3. Psychological manipulation and algorithmic bias

The use of artificial intelligence in advertising is not without risks, especially when it comes to psychological manipulation and algorithmic bias. These two aspects raise significant ethical concerns, as they can influence consumer behaviour in subtle and unconscious ways.

Psychological manipulation

Psychological manipulation occurs when AI algorithms exploit users' cognitive weaknesses to influence their purchasing decisions. Algorithms use techniques such as FOMO (fear of missing out) or nudging to push consumers to buy products or services impulsively (Gupta et al., 2022).

We can have an emblematic example of the use of FOMO in advertising campaigns in platforms like Amazon or Booking.com. They use messages like "Only 2 left in stock!" or "20 people are looking at this product" to create a sense of urgency because the product or service might sell out soon and push users to buy (Gupta et al., 2022). These techniques, known as "scarcity marketing", encourage the customer to place the order sooner rather than later (Cialdini, 2021).



FIGURE 7: AMAZON'S EXAMPLE OF SCARCITY MARKETING

SOURCE: AMAZON

Another example is the use of nudging, a technique that guides users' choices and encourage them to purchase a specific product or service. For example, an algorithm could highlight more expensive products or suggest pre-selected purchasing options, influencing consumers' decisions in a subtle but significant way. Nudging is even used to promote upsells and cross-sells by suggesting complimentary products to provide more sales (Thaler & Sunstein, 2008).

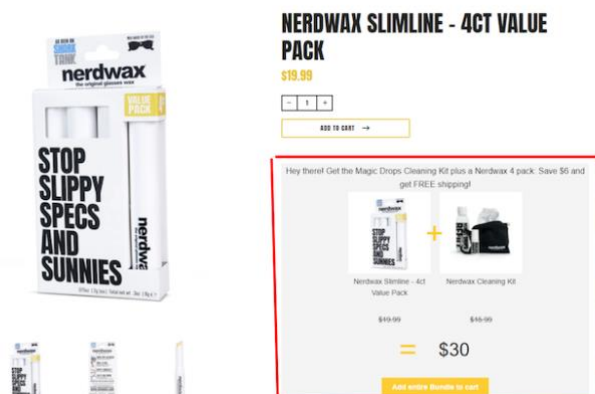


FIGURE 8: EXAMPLE OF THE USE OF NUDGING TO CROSS-SELL

SOURCE:
[HTTPS://WWW.CROWDSPRING.COM/BLOG/NUDGE-MARKETING/](https://www.crowdspring.com/blog/nudge-marketing/)

Algorithm bias

Algorithm bias, also called AI bias or machine learning bias, refers to the possibility to occur distorted results because of human prejudice that alter original training data or the AI algorithm, creating distorted outputs that can be potentially dangerous for the specific brand and the society (Mehrabi et al., 2021). When AI distortions are not promptly addressed, they reduce the accuracy of the IA and therefore its potential, thus affecting an organisation's success.

The models on which AI is based absorb societal biases, which can be silently incorporated into the huge amount of data on which it is being trained (Buolamwini & Gebru, 2018). A data collection influenced by time distortions, reflecting social inequalities, can harm historically marginalized groups in cases such as recruitment, credit ratings and many others. According to the *Wall Street Journal*, "With the rise of artificial intelligence, companies continue to struggle to address pervasive distortions".

When AI makes mistakes due to distortions, such as denying opportunities to certain groups of people, misidentifying them in photos or punishing them unfairly, the responsible organization suffers damage to its brand and reputation (Eubanks, 2018). At the same time, people in these groups and society may suffer harm without even realizing it.

In 2016 Eric L. Loomis' case brought international attention to issues related to the use of predictive algorithms in the justice system. Arrested in 2013 for possession of a car involved in a shooting, Loomis received a six-year prison sentence, also determined by the risk assessment processed by COMPAS software (Correctional Offender Management Profiling for Alternative Sanctions) (Angwin et al., 2016). This algorithmic system analyses a series of personal and judicial data of the defendant, including criminal history, socio-economic conditions and ethnic origin, to produce an estimate of recidivism risk class. In this case, COMPAS attributed a high risk to Loomis, thus contributing to the decision of the court of first instance. The defence challenged this assessment, arguing that the use of the algorithm violated the right to a fair trial, as the system is based on statistical comparisons with groups of individuals with similar characteristics rather than a personalised assessment (State v. Loomis, 2016). The Wisconsin Supreme Court, while recognizing the legitimacy of COMPAS use, has ruled that its results cannot be the determining factor in a decision, but must be considered

together with all other relevant factors. The judges stressed the need for careful case-by-case assessment, preventing the algorithm from becoming the exclusive tool for sentencing.

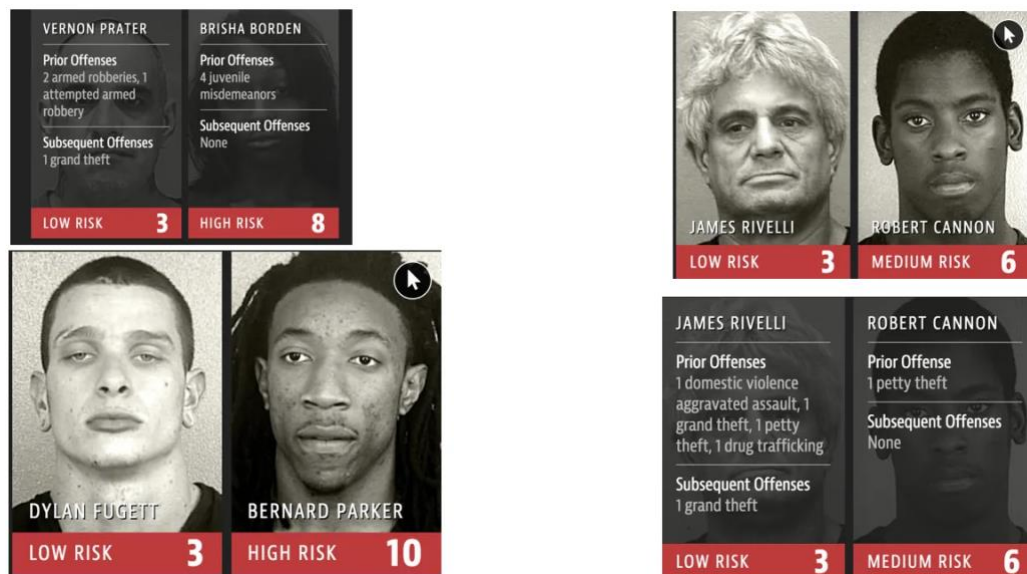


FIGURE 9: COMPASS SOFTWARE
SOURCE: MEDIUM

Not surprisingly, in 2018 the Council of Europe adopted the European Charter on Ethics for the use of AI in criminal justice systems. It emphasizes the risk of discrimination because in the data evaluated by the algorithm there is a high probability that specific factors are reconstructed in relation to certain ethnic, religious and economic-social prejudices.

2.3. Generational differences in advertising content consumption

The digital age has created a deep generational gap in how people perceive online advertising. Millennials, formed with the advent of social media, on the one hand they appreciate personalization, on the other they begin to doubt algorithmic profiling after scandals like Cambridge Analytica (Cadwalladr, 2018). Generation Z, on the other hand, is more sceptical and prepared, they systematically use ad-blockers and prefers less invasive and more authentic ads. These differences are redefining the rules of digital marketing pushing towards a new era in which advertising effectiveness and user respect are on the same level.

2.3.1. Characteristics of the Generation Z (Gen Z)

Generation Z (Gen Z) is made up of individuals born between 1997 and 2012, it represents the first generation of true digital natives (Pew Research Center, 2023). People born in these years have grown in a hyper-connected world, this has allowed them to develop unique features, different from previous generations, especially with technology, privacy and brands.

Gen Z is considered the generation of “Digital natives” because they grew up with smartphones, social media and high-speed internet (Prensky, 2001). This is evident from the moment when 55% of Gen Z use their smartphones more than 5 hours a day and 26% more than 10 hours a day (Statista, 2023).

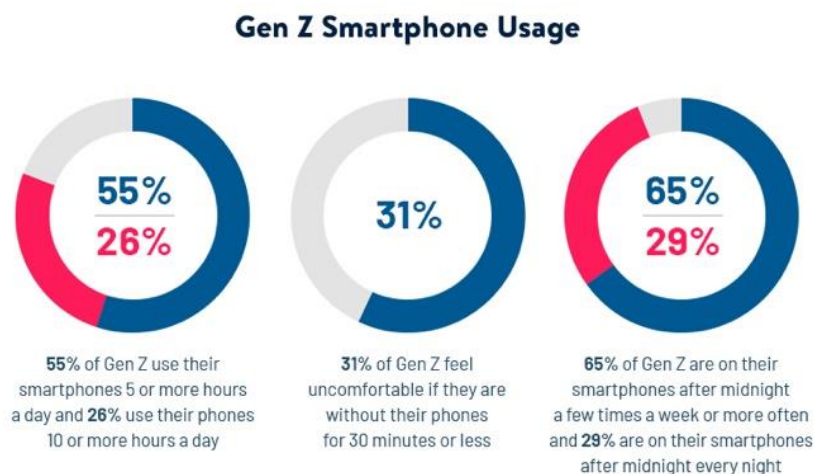
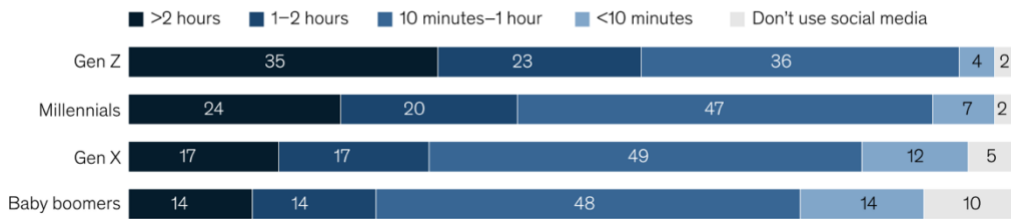


FIGURE 10: GEN Z SMARTPHONE USAGE
SOURCE: CGK

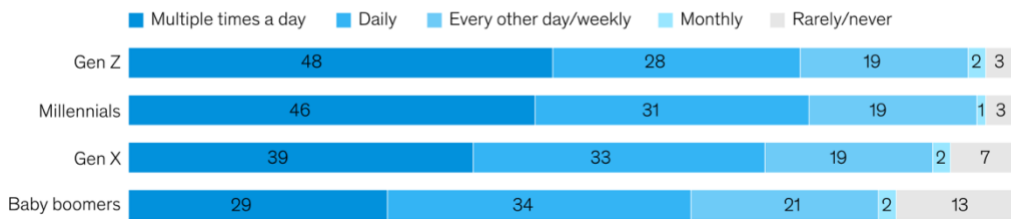
According to a 2022 McKinsey survey (Francis & Hoefel, 2022), 98% of Gen Z members own a smartphone, and 75% spend more than 4 hours a day on social media. The accessibility of digital tools makes this generation suitable for spending a lot of time online but also requires greater quality and authenticity of contents.

Social media habits by generation

Time spent on social media daily,¹ % of respondents (n = 41,960)



Social media check-in frequency,² % of respondents who use social media (n = 40,684)



Social media posting frequency,³ % of respondents who use social media (n = 40,684)

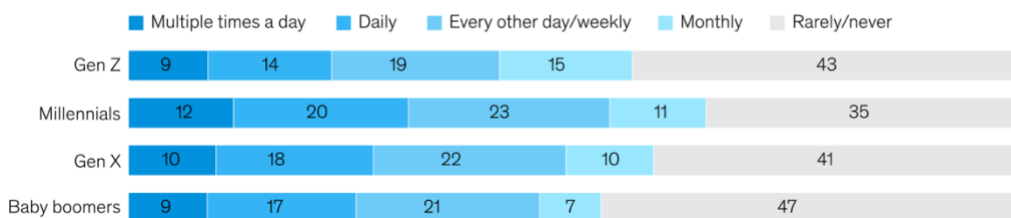


FIGURE 11: SOCIAL MEDIA HABITS BY GENERATION

SOURCE: MCKINSEY HEALTH INSTITUTE GLOBAL GEN Z SURVEY (2022)

The McKinsey Health Institute Global Gen Z survey (2022) reveals that almost every generation uses social media, but in different ways. The main difference is the time spent on social platforms, 35% of Gen Z participants declare that they spend more than 2 hours on social media daily, compared to other generations, which use them much less time. It's interesting to highlight that the habits of posting content are also different. It turns out that millennials are the generation who post more frequently than others and the Gen Z is one of those who post less, preceded just by Baby boomers. The social media check-in frequency is almost the same between Gen Z and Millennials.

Generation Z is a unique challenge for digital marketing. This generation shows a marked mistrust towards traditional forms of online advertising, but surprisingly it does not reject them entirely. On the one hand, these young digital natives are most influenced by targeted ads: 23% say that digital advertising has an increasing impact on their purchasing decisions (this percentage rises to 38% in Italy). Not only: 59% actively click on the ads and buy the products displayed, demonstrating a surprising openness towards well-designed advertising forms.

Has online advertising become more or less influential to you in making purchasing decisions over the past two years?

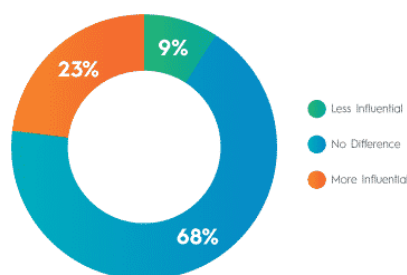


FIGURE 12: ONLINE ADS INFLUENCE ON GEN Z
SOURCE: CRITEO

Opinion on Online Ads

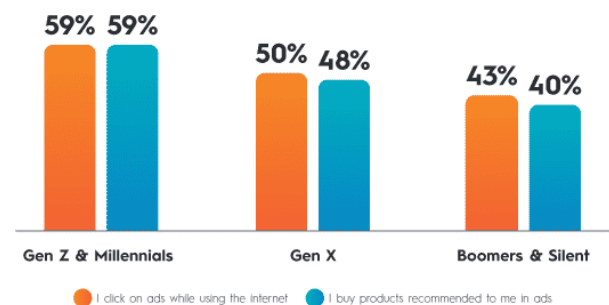


FIGURE 13: OPINION ON ONLINE ADS
SOURCE: CRITEO

On the other hand, Gen Z is also the generation that demands for more personalization, 71% appreciate ads when they show products that are relevant to their interests. Consequently, Gen Z is most likely to act after seeing a sponsored d in search results.

What have you done upon seeing a **sponsored image ad** in search results?

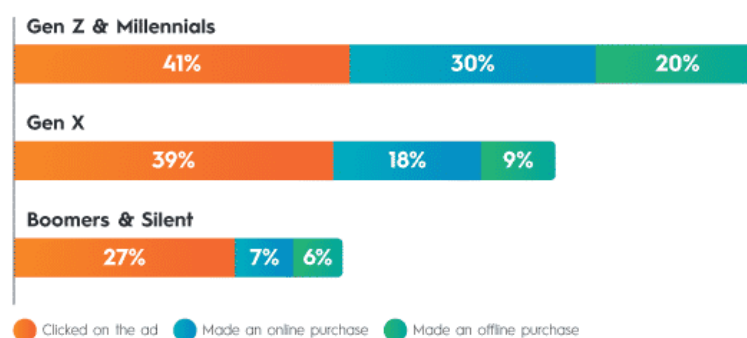


FIGURE 14: ACTION UPON SEEING ADS
SOURCE: CRITEO

This apparent contradiction - between vulnerability to digital persuasion and sophistication in evaluating content - reflects the dual nature of Gen Z: very skilled at filtering advertising, but also fully aware that ads are part of their digital experience. Unlike millennials, who are more likely to doubt algorithmic profiling, Gen Z youth seem to have accepted the *Faustian pact* of digital marketing: they accept personalized advertising in exchange for a more fluid and relevant experience.

Generation Z has completely redefined consumer values, demand for more authenticity and responsibility from brands. Deloitte's 2023 global survey reveals that 60% of young people in Gen Z choose brands that demonstrate a concrete commitment to sustainability and social justice, with many willing to pay up to 10% more for products made ethically.

For Generation Z, transparency is non-negotiable. They expect brands to communicate openly about supply chains, working conditions and company policies, preferring unfiltered honesty over refined marketing narratives (Vrontis et al., 2022). This change has forced companies to adopt radical transparency or risk losing credibility. In addition, their preference for experiences rather than material goods (55%, according to Deloitte 2023) highlights a wider rejection of hyper-consumerism in favour of meaningful involvement.

2.3.2. Characteristics of Millennials

Millennials, born between 1981 and 1996, are a generation of digital pioneers (Twenge, 2017). This generation is often described as idealistic, experience-oriented and socially conscious, but also as a generation that has had to face unique economic and social challenges, such as the 2008 financial crisis and rising cost of living.

Millennials represent a unique generation in the digital landscape: they are true pioneers who have experienced firsthand the transition from the analogue to the hyper-connected world (Smith, 2018). This generation has "built bridges" between two eras, adapting to technological innovations during their youth rather than being born into it like Generation Z. They were the first to create profiles on social media, to experience online shopping and face the complexities of digital privacy before rules existed.

This pioneering position created a special relationship between them and technology, first because of their capacity of adaptability, they have learned to use floppy disk and then cloud storage. They acted as “translators” between the old and new digital world: while Gen Z takes certain dynamics for granted millennials remember a time without omnipresent algorithms.

The Integration Of Technology

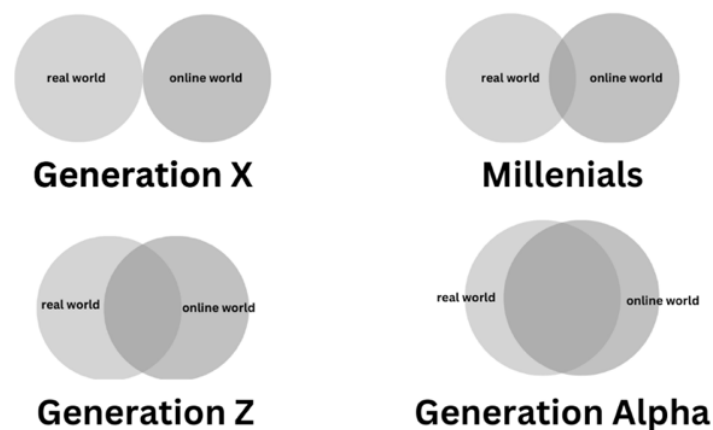


FIGURE 15: THE INTEGRATION OF TECHNOLOGY

SOURCE: [HTTPS://THEWHITEHATTER.CA/BLOG/THE-ONLINE-WORLD-HOW-DIFFERENT-GENERATIONS-INTEGRATED-TECHNOLOGY-INTO-THEIR-LIVES/](https://thewhitehatter.ca/blog/the-online-world-how-different-generations-integrated-technology-into-their-lives/)

Their attitude toward online advertising reflects a generation deeply aware of the dynamics of marketing, but also increasingly demanding authenticity and transparency. According to recent comparative studies between the US and the UK, an articulated picture emerges on the one hand they recognise the structural role of advertising in the economic ecosystem, on the other hand, there is a scepticism about its honesty (Laurie et al., 2019).

This mistrust is particularly pronounced among US millennials, where 72% openly state that too much advertising is false or misleading, compared to 58% of their UK peers (Laurie et al., 2019). One possible explanation is the increased exposure to a perceived more aggressive and less regulated advertising system, whereas in the UK, there is a slight increase in tolerance, but accompanied by a stronger demand for regulatory action, with 47% in favour of more stringent regulation compared to 30% in the US (ASA, 2022; IAB Europe, 2023).

Despite these reservations, Millennials do not demand an indiscriminate reduction of advertising, but rather its qualitative evolution (Laurie et al., 2019). Only 26% are in favour of a general decrease in advertisements, while 61% approve the ban on promoting harmful products (Deloitte, 2023, p. 17), indicating an increasing ethical sensitivity. At the same time, television is cited as the most irritating advertising medium, with 35% of negative reviews (Nielsen, 2022), suggesting that digital is still perceived as a more modern and less intrusive channel, as long as it meets certain fundamental criteria: realism in messages, respect for privacy and absence of outdated stereotypes. For the companies, the challenge is not to convince Millennials of the usefulness of advertising, but rather to show that it can be transparent, useful and culturally relevant.

Like Gen Z, millennials also reward brands committed to social and environmental causes, but with one crucial difference: while younger people are often willing to pay more for sustainable products, millennials seek tangible evidence of this commitment (Vrtana & Krizanova, 2023).

While for previous generations the advertising focused on owning goods as a status symbol, millennials have shifted their focus to experiences and intangible value (Gilmore & Pine, 2007). This explains why campaigns based on authentic stories, emotional engagement, and practical utility are more successful than classic promotional spots. Their preference for realistic content and time spent on social media has forced marketers to completely rethink their communication tones and channels.

Millennials have not simply adapted their media consumption; they have imposed a new set of rules that reward honesty (Edelman, 2023), so companies that want to win them over must abandon old persuasive schemes and embrace a more engaging approach, demonstrating not only what they sell, but what they believe in. With the advent of Gen Z, even more intransigent on these issues, millennials teach that the era of advertising as a pure tool of persuasion is over. The future belongs to brands that know how to build relationships based on trust and shared values.

2.3.3. Comparison between Gen Z and Millennials: attitudes toward technology and privacy

While millennials and Gen Z share a common distrust of traditional advertising and a strong interest in brand authenticity, generational differences are further redefining the marketing landscape (Kantar Millward Brown, 2017).

Analysis of data from the 2017 Kantar Millward Brown Ad Reaction Gen XYZ report (Kantar Millward Brown, 2017) reveals a significant shift in advertising attitudes between millennials and Generation Z, with crucial differences that every marketer should understand. While millennials, at the time in the 25-35 age group, were already showing signs of disenchantment with traditional advertising, Generation Z emerged as even more selective.

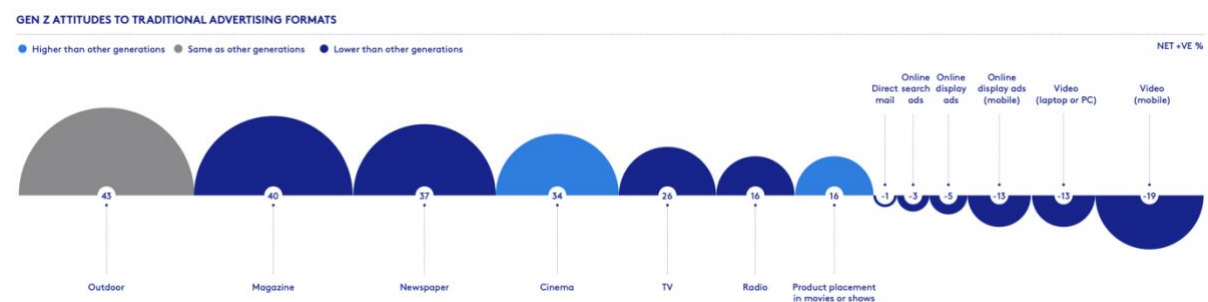


TABLE 1: GEN Z ATTITUDES TO TRADITIONAL ADV FORMATS
SOURCE: KANTAR MILLWARD BROWN AD REACTION GEN XYZ REPORT (2017)

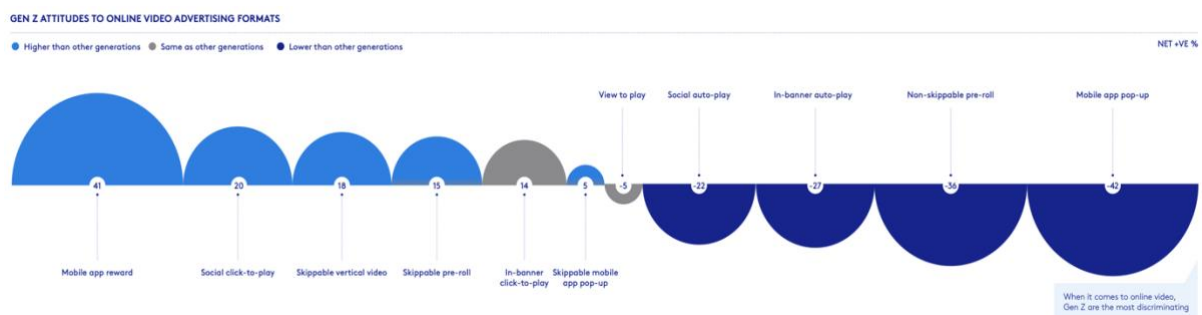


TABLE 2: GEN Z ATTITUDES TO ONLINE VIDEO ADV FORMATS
SOURCE: KANTAR MILLWARD BROWN AD REACTION GEN XYZ REPORT (2017)

The chart shows that Gen Z is more accepting traditional formats such as outdoor, magazines and newspapers, but show a strong aversion to intrusive online ads, non-skiable and

auto-play in-banner. However, interactive formats such as reward-based in-app ads and social click-to-play are more popular, and more accepted than other generations suggesting that active engagement and choice are key elements in winning this generation (Statista, 2023).

The report shows that only 35% of Generation Z consider advertising for free content acceptable, a significantly lower percentage than 45% of millennials (Kantar Millward Brown, 2017). This represents a first sign of the growing intolerance towards advertising models perceived as intrusive, which would then radicalize in later years (Jenkins, 2018). The generational difference was also evident in the approach to advertising formats: millennials showed a greater openness towards innovative solutions, with around 42% enjoying interactive experiences, while Generation Z were more sceptical, prioritising authentic and fast content, with a shorter threshold of attention and a marked preference for essential formats.

Both generations shared a preference for mobile advertising, but with qualitatively different approaches (Statista, 2023). Millennials were more likely to tolerate longer ads, in the 15-30 second range, while Generation Z showed a clear preference for ultra-short formats of six seconds or less, more like the social media video formats (Kantar Millward Brown, 2017).

The analysis of expressive preferences reveals another crucial aspect: humour in advertising is the best way to prevent people from avoiding ads. Gen Z is particularly strict about the choice of music in the commercials, privileging songs in line with their taste. Design occupies a prominent position in the preferences of this generation. Unlike the more mature cohorts, who might give more attention to the substance of the message, the Gen Z shows a strong sensitivity towards aesthetics and graphics. Regarding the use of testimonials, although the presence of celebrities is generally less important than in the past, Gen Z still shows a higher interest towards this element than other generations (Statista, 2023).

GEN Z PARTICULARLY VALUE HUMOUR, MUSIC, DESIGN AND CELEBRITIES IN ADVERTISING

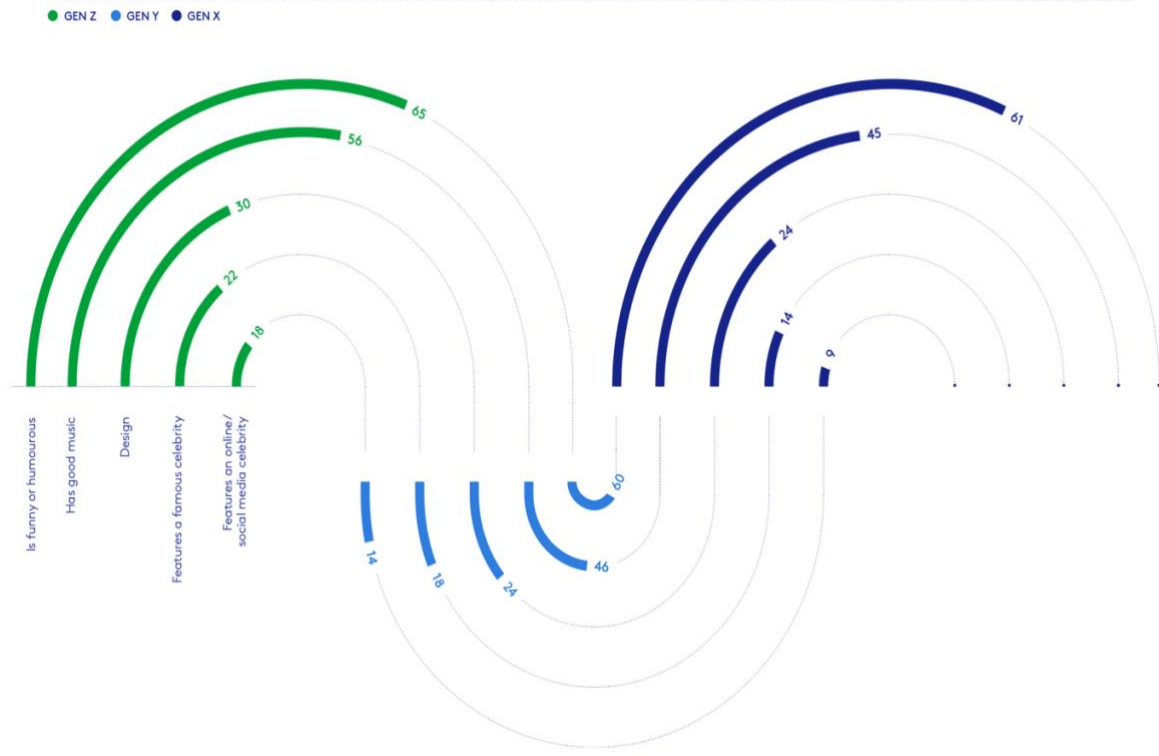


TABLE 1: PREFERENCES IN ADV AMONG GENERATIONS
SOURCE: KANTAR MILLWARD BROWN AD REACTION GEN XYZ REPORT (2017)

The relationship between AI-based advertising and generations

The study "Rethinking Technological Acceptance in the Age of Emotional AI" (Ho et al., 2022) offers a unique perspective on how Generation Z and Millennials perceive automated collection of emotional data (NCDC) through artificial intelligence.

The study reveals that 50% of young people in Gen Z say they are "concerned" when emotional data is analysed by private companies. This scepticism is amplified when the NCDC is run by government agencies, reflecting a fear of digital surveillance.

Compared to Gen Z, millennials are more familiar with the evolution of digital, having witnessed the transition from traditional media to algorithmic marketing (Smith, 2020). They accept AI if it improves the user experience (e.g. personalized recommendations) but reject overly intrusive emotional manipulations (Ho et al., 2022).

Both generations share a demand for authenticity but differ in their perception of risk (Deloitte, 2023). It emerges that Gen Z fears emotional surveillance and prefers fast, user-

generated content without "filters" (Pew Research Center, 2023) while millennials are more willing to trade data for better services, but only if companies demonstrate accountability (Ho et al., 2022).

3. CONCEPTUAL MODEL AND RESEARCH HYPOTHESIS

The objective of this chapter is to define the theoretical framework that will guide the analysis, linking AI-related ethical concerns in advertising to consumer reactions, with a specific focus on the differences between Generation Z and millennials.

3.1. Definition of key variables

In this research there are three kinds of variables: independent, dependent and control variables. The main independent variable is generational membership, which distinguishes between Gen Z and Millennials. This categorisation has been possible asking for the year of birth, excluding from the results respondents outside these categories. The hypothesis is that the two generations, due to differences in historical exposure to technology and digital socialization, show different perceptions about AI ethics in advertising.

Alongside this, other independent variables include concern for privacy and the perception of transparency. The first was measured through a Likert scale to capture the level of discomfort towards the use of personal data (e.g. "I feel vulnerable when brands know too much about my interests"), while the second evaluates the importance of the clarity of AI practices (e.g. "An unreported AI-generated testimonial is misleading"). Both constructs reflect critical dimensions of the ethical debate that has emerged in the literature, from digital surveillance to algorithmic manipulation.

The dependent variable is brand trust, built by combining both positive and negative item responses. For example, statements such as "I would pay more for brands that use AI ethically" contribute directly to the scale, while others ("Using AI in advertising reduces my confidence") have been reversed to preserve consistency of the text.

Then, control variables include demographic (gender, education) and behavioural (frequency of exposure to digital advertising). The latter, in particular, possibly moderate the effect of the independent variables: an over-exposed user to personalized advertising could normalize the controversial aspects of it, attenuating the negative impact on confidence.

Finally, responses to hypothetical scenarios at the end of the survey provide additional data to explore causal mechanisms, such as the intention to leave a brand after a practice

perceived as deceptive. Although not central in the model, these elements enrich the analysis with concrete perspectives.

It is important to state that the choice of variables and their operationalization are based on tools validated in previous studies, ensuring methodological robustness. However, the combination of existing scales with items adapted to the context of advertising AI represents an original contribution, aimed to deeply understand the phenomenon under consideration.

3.2. Relationships between variables

The first relationship is between generational belonging and privacy concern. It is assumed that Gen Z have more critical awareness of privacy than millennials, probably because they grew up in a hyper-connected digital environment. While the latter have experienced the transition from a pre-digital age to one dominated by AI, perhaps developing a certain resignation towards algorithmic surveillance, Gen Z - more accustomed to control tools such as privacy settings on social media - may express more pronounced concerns. However, it is even possible that familiarity with technology normalizes some practices, reducing sensitivity among younger generations. This ambivalence makes the relationship between generation and privacy a central aspect to explore.

A second significant linkage is the one between generational belonging and transparency. Millennials, who have experienced both traditional and modern advertising, may be more critical of algorithms' opacity, demanding more clarifications about how their data are used. Gen Z, more used to auto-generated content, may take for granted manipulation in some cases. The relationship could therefore be mediated by the different historical exposure to technology.

Both these constructs are assumed to predict brand trust. High privacy concern should be inversely related with trust, especially when consumers perceive that they have zero control over their information. Similarly, low transparency perception - e.g., discovering that a brand is not expressly stating the use of virtual influencers - would harm trust negatively. Possibly, such effects are stronger among millennials, while the Gen Z could be more tolerant if it is compensated with individual benefits.

It is also necessary to highlight the role of control variables. Factors such as gender and level of education may moderate the above mentioned relationships. For example, women and individuals with higher education could show greater sensitivity to ethical issues. At the same time, the frequency of exposure to digital advertising could mitigate some effects: those who are constantly exposed to targeted ads could develop a form of addiction, reducing the influence of ethical concerns on purchasing decisions.

At the end of the survey, responses collected from the hypothetical scenarios (e.g. privacy breach or unreported AI influencers) provide additional insights. For example, the propensity to boycott a brand after a privacy breach may be greater in Gen Z, reflecting a greater probability of online activism, meanwhile, millennials would likely react with a less active avoidance, simply not purchasing from the brand, without any “public protest”. These variations suggest that generations not only perceive risks differently but also use distinct methods to protect themselves.

3.3. Formulation of research hypothesis

H1: Privacy concerns negatively impact trust in brands that use AI-advertising with a stronger effect for Generation Z compared to Millennials.

The first research hypothesis suggests that a greater concern for personal data privacy has a negative effect on consumer confidence in brands using artificial intelligence-based advertising tools. The negative impact is expected to be significantly stronger for Generation Z than for Millennials. This generation difference assumes that digital natives, who have been brought up in a media culture where safeguarding one's own data is an important aspect, are more sensitive than the previous generation, which has seen the transition from traditional advertising to data-driven marketing.

H2: Millennials associate transparency with explicit AI identification, while Generation Z values transparency in terms of personalized benefits.

The second hypothesis is based on the concept of algorithmic transparency and argues that the two generations assign different interpretations to this topic when applied to the use of

artificial intelligence in advertising. In particular, it is assumed that the Millennials, being accustomed to forms of advertisement with a strong human factor, consider transparency as the clear and immediate identification of the intervention of artificial intelligence in promotional content, by seeking explicit indicators which distinguish human from automatically generated content. In contrast, Generation Z, growing up in a virtual world, would seem to value a form of transparency more oriented to communicate the personalized benefits obtained using their data.

H3: Perceived psychological manipulation tactics (e.g., FOMO, nudging) reduce purchase intention more strongly among Generation Z than Millennials.

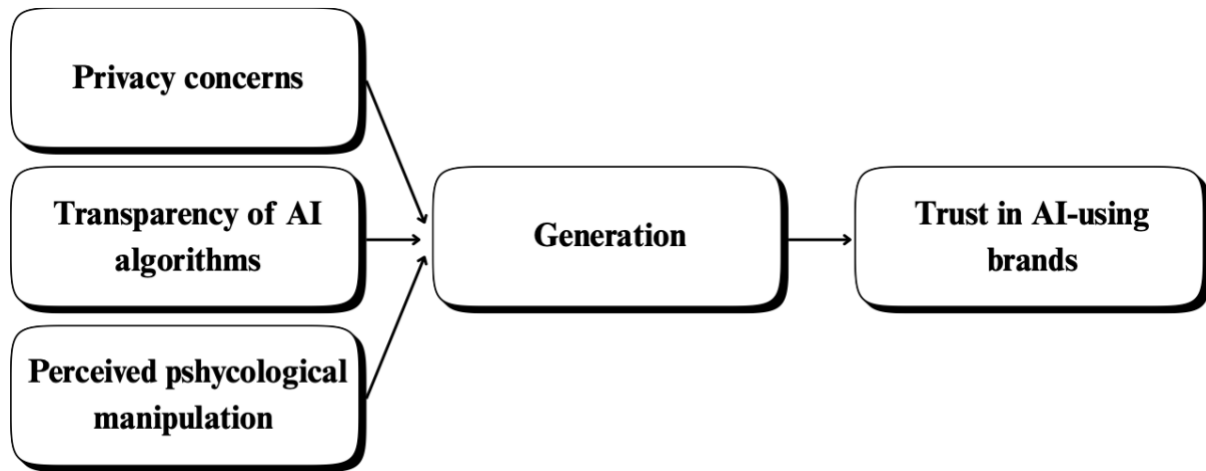
The third hypothesis explores the perceived impact of psychological manipulation strategies applied through AI advertising tools, such as "fear of missing out" (FOMO) or behavioural nudging tactics. It is assumed that these techniques, although designed to stimulate the buying action in a not totally conscious way, create a more intense rejection reaction among Generation Z, resulting in a strong decrease of the buying intention. For millennials, however, the negative effect is expected to be less pronounced because this generation may have normalized such practices, perceiving them as integral elements of the modern shopping experience rather than as ethical violations.

H4: Generation Z is more likely than Millennials to boycott brands using unethical AI advertising practices.

Finally, the fourth hypothesis concerns the propensity to adopt boycotted behaviour towards brands that make use of advertising practices based on AI deemed ethically incorrect. It is assumed that Generation Z customers will be more likely than Millennials to turn their moral issues into concrete action, as the abandonment or boycott of brands perceived as not morally responsible.

Each of the hypotheses has been framed with a view to being good for falsification and will be put into practice utilizing empirical tools such as standardized questionnaires and contrast statistical analysis, as explained in the methodology chapter.

3.4. Graphical model of the theoretical framework



This graphical model illustrates the way in which ethical concerns regarding the use of AI in advertising – specifically privacy, transparency, and perceived psychological manipulation - influence consumer trust in brands. Generation acts as a moderating factor, highlighting the differences between Generation Z and Millennials. This structure allows the research to explore the way in which these variables interact to shape consumer behaviour and ethical expectations toward AI-based marketing strategies.

4. RESEARCH METHODOLOGY

4.1. Quantitative research

The study adopted a quantitative approach based on a structured survey on Qualtrics. The methodology has been developed with the objective to guarantee both internal validity and reliability of the data collected, while maintaining a balance between scientific rigour and accessibility for participants from different age groups.

The questionnaire, available in Italian, English and Spanish, was constructed through a process involving literature review and preliminary testing. The translation ensures conceptual equivalence between the three language versions. The final version has been optimized to capture not only respondents' opinions, but also their intentions with realistic scenarios.

Special attention was dedicated to the design of measuring scales. Items related to privacy concerns, transparency perception and brand trust were formulated using 5-point Likert scales, with a mix of direct and inverted items to reduce the risk of acquiescence. The two hypothetical scenarios have been created to evoke reactions as close as possible to real behaviours.

Online delivery was chosen to reach a large sample representative of the two target generations. To optimize the user experience, especially for younger participants who are used to interacting mainly from mobile devices, the questionnaire was designed with an interface adaptable to different screens and sizes. Particular attention to usability ensured high completion rates.

4.1.1. Questionnaire design

The questionnaire design was developed following a step-by-step approach to guide participants through a logical process. The aim is to maximize engagement and data quality.

The questionnaire opens with an introductory section that presents the research objectives in simple and accessible terms, ensuring transparency on data use. This part also includes the informed consent form, which is necessary to complete the form.

Subsequently, there is the demographic section, positioned at the beginning to strategically familiarize participants with the interface of the tool before tackling more complex topics. In addition to standard questions on year of birth, gender and level of education, this part includes a question about the experience with personalised advertising, which aims to understand how often the user has experienced it.

The heart of the questionnaire is represented by next three sections. The section on privacy concerns was first placed, as it addresses the most concrete and immediately perceivable topic for respondents. The items in this part are formulated to capture both the emotional ("I feel vulnerable...") and the rational ("I find ... acceptable if I can control") component of personal data use concerns.

Privacy concerns	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I find personalized advertising acceptable if I can control what data is shared.	☐	☐	☐	☐	☐
I'm worried that AI uses my data to show me personalized ads	☐	☐	☐	☐	☐
I feel vulnerable when brands know too much about my interests	☐	☐	☐	☐	☐

FIGURE 16: PRIVACY CONCERNS SECTION
SOURCE: ETHICAL IMPLICATIONS OF AI IN ADVERTISING: MILLENNIALS VS. GEN Z

The next section is about transparency, as it requires more reflection by participants it is placed after privacy. This structure follows a principle of progressive conceptual complexity, allowing respondents to think about accessible topics before facing more complex evaluations. The items of this part include both judgements about concrete situations ("An undisclosed AI-generated spokesperson is misleading") and general principles ("Brands should disclose when they use AI for advertising").

Transparency

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Brands should disclose when they use AI for advertising.	☐	☐	☐	☐	☐
An undisclosed AI-generated spokesperson is misleading.	☐	☐	☐	☐	☐
I trust brands more when they explain how they use AI.	☐	☐	☐	☐	☐

FIGURE 17: TRANSPARENCY SECTION

SOURCE: ETHICAL IMPLICATIONS OF AI IN ADVERTISING: MILLENNIALS VS. GEN Z

The central part of the questionnaire ends with a section on brand trust. In this section it was found necessary to include inverted items to check the consistency of responses and prevent acquiescence bias, particularly relevant when investigating issues on which there may be shared social norms.

Brand trust

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I believe AI is used to manipulate consumers.	☐	☐	☐	☐	☐
I would pay more for brands that use AI ethically.	☐	☐	☐	☐	☐
The use of AI in advertising reduces my trust in the brand.	☐	☐	☐	☐	☐

FIGURE 18: BRAND TRUST SECTION

SOURCE: ETHICAL IMPLICATIONS OF AI IN ADVERTISING: MILLENNIALS VS. GEN Z

The structure continues with two hypothetical scenarios, presented in random order among participants. Each scenario is followed by a set of questions that explore different possible reactions, from boycott intentions to information seeking strategies. Placing these situations after the theoretical sections makes it possible to observe how statements translate into specific behavioural intentions.

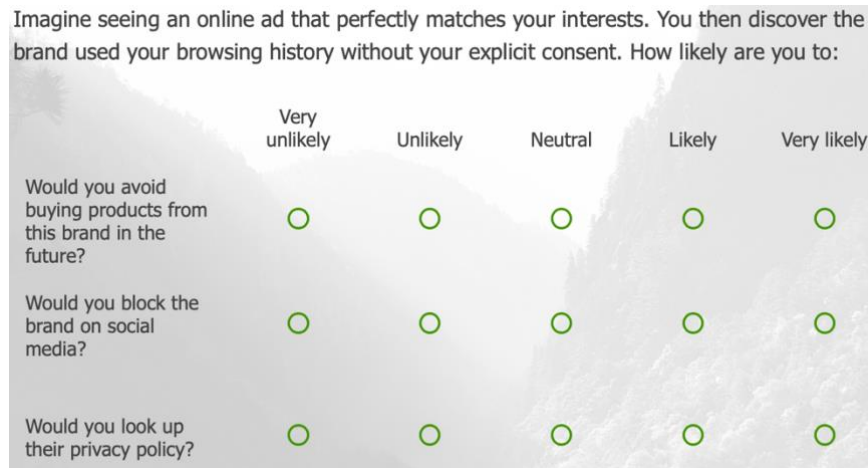


FIGURE 19: SCENARIO 1

SOURCE: ETHICAL IMPLICATIONS OF AI IN ADVERTISING: MILLENNIALS VS. GEN Z

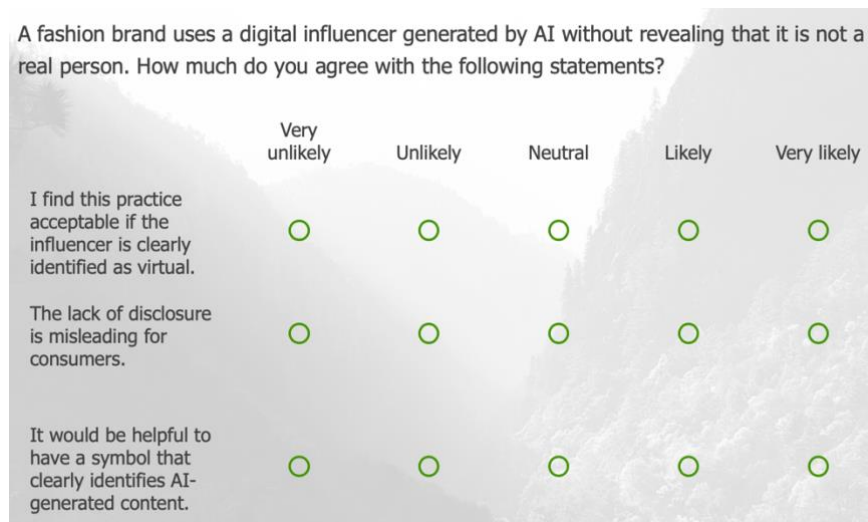


FIGURE 20: SCENARIO 2

SOURCE: ETHICAL IMPLICATIONS OF AI IN ADVERTISING: MILLENNIALS VS. GEN Z

Next, there is an open question on transparency, placed at the end when the participants have already reasoned about the topic. The neutral wording ("How could brands improve...") encourages authentic answers, this is the only part in which the answer is not mandatory, simply to avoid abandonment at the last. This qualitative part provides a complement to the quantitative data, allowing us to grasp nuances and suggestions that closed questions do not reveal.

The quality control section completes the questionnaire. The choice to place these elements at the end minimizes intrusion into the participant's cognitive flow.

4.1.2 Sampling

The sampling has been designed to ensure comparability between the two target generation groups. Participants were recruited primarily through the dissemination of the Qualtrics link to the survey via social media and messaging apps. The data collection period was about three weeks, with daily monitoring of the sample. Thanks to the initial screening section data were collected only from individuals born between 1981-1996 or 1997-2012.

Even gender distribution was monitored, the aim was achieving a balanced composition that roughly reflects the population distribution. It was maintained a ratio of 59% female respondents and 41% male respondents.

Another level of stratification was education, with separate quotas for graduates, holders of bachelor, master or higher degree. This is particularly important to study the correlation between educational level and sensitivity to ethical issues in the digital sphere.

Regarding geographical distribution, while maintaining a predominance of Italian respondents, there were also participants from other European countries, mainly Spain and France. This choice aims to attenuate cultural specificities while maintaining a homogeneous social context.

4.1.3. Adaptation and validation of scales

The development of the items followed a hybrid approach combining the adaptation of validated scales with the creation of new context-specific items. For privacy concerns, although the theoretical reference framework is the IUIPC (*Internet Users' Information Privacy Concerns* is one of the most endorsed privacy concern scales), in practice the adaptation proposed by Martin and Murphy has been preferred (2017), more focused on the marketing context. The original items have been significantly reworked to adapt them to the specific case of AI advertising, maintaining the conceptual structure but not the literal formulation of the questions.

For the measurement of transparency, the study by Kizilcec (2016) called "*How Much Information? Effects of Transparency on Trust in an Algorithmic Interface*" provided the

conceptual framework, but the operational items were developed from scratch, again to be consistent with the reality of algorithmic advertising.

As for the part on trust in brands, it provides an adaptation from the *Development and validation of a brand trust scale* by Delgado-Ballester (2003). Two out of three items have been completely rewritten to make explicit reference to the use of AI technologies, and an inverted item not present in the original scale has also been introduced to improve the reliability of the measurement.

The hypothetical scenarios were conceptually inspired by the work of Martin and Murphy (2017) called *The Role of Data Privacy in Marketing*.

4.2. Data analysis

A variety of quantitative analyses were conducted in SPSS, such as:

- Descriptive statistics to establish central tendencies for all variables;
- Reliability analysis to establish internal consistency of all constructs;
- Factor analysis to ascertain whether survey items correctly represented their intended constructs;
- Independent samples t-tests to compare generational group means;
- Correlation analysis to ascertain the correlations between the main ethical dimensions;
- Mediation analysis to test whether brand trust mediates the effects of privacy and transparency concerns on perceived manipulation;
- Multiple regression analysis to test whether ethical concerns predict perceived manipulation.

This conceptual framework not only provides an image of Millennials' and Gen Z's perception of AI in advertising, but also insight into the processes underlying their ethical decision-making and trust formation. By adopting a cross-generational focus, this study provides actionable guidance to brands that would wish to embark on AI-based initiatives in an ethically sound and socially sensitive manner.

4.3. Methodological limitations

A first limitation concerns the self-reported nature of data, common to much social and behavioural psychology research. The responses given by participants may have been influenced by social desirability bias, it is manifested when individuals provide more favourable responses to improve their self-presentation (Blome & Augustin, 2015), including both positive self-deception (tendency to provide distorted self-reports in a positive sense) is the management of impression (a tendency to intentionally falsify answers in order to create a socially desirable image) (Paulhus, 1991). Participants may have overestimated their level of concern to appear more consistent with perceived social norms, especially in Generation Z, who are more exposed to public debate on these issues.

The sampling, although demographic balanced, has limitations in geographical and socio-economic representativeness. The predominance of Italian and European participants limits the generalizability of results to cultural contexts with distinct digital habits, such as Asian or North American countries. In addition, despite stratification efforts, the sample may over-represent individuals with greater digital literacy and pre-existing interest in technology issues, given the voluntary nature of participation.

Another significant limitation is the unique measurement over time, in fact, it does not allow to capture the evolution of ethical perceptions in relation to the rapid technological developments in AI applied to marketing. A longitudinal approach would have made it possible to examine how the initial concerns change with practical experience.

Online administration introduces possible distortions in the questionnaire experience. Generation Z, accustomed to fragmented digital interactions, may have filled out the questionnaire in distracting contexts (for example, while performing other activities), influencing the quality of responses. On the contrary, millennials may have approached the task with more systematicity, creating an artificial amplification of differences.

Despite these limitations, the study makes a significant contribution to understanding generational differences in ethical perceptions of AI in advertising. Methodological choices have been carefully considered to balance scientific rigour and feasibility, and the results must be interpreted in this context.

5. RESULTS AND DISCUSSIONS

5.1. Reliability analysis

➤ *Privacy concerns*

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.679	.686	2

The scale assessing privacy concerns included two items after the exclusion of one poorly correlated statement. The final two items - "I'm concerned that AI uses my data to show me personalized ads" and "I feel vulnerable when brands know too much about my interests" - demonstrated moderate internal consistency with a Cronbach's alpha of .679. Although slightly below the conventional threshold of .70, the scale still reflects a meaningful relationship between the two items ($r = .522$, $p < .001$). The excluded item, which focused on the acceptability of personalized ads under conditions of data control, displayed a negative correlation with the other items and was therefore removed to improve overall reliability. Two items were kept on the scale measuring privacy concerns after one statement with low correlations was removed.

➤ *Transparency*

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.560	.565	3

Although the three-item scale measuring transparency yielded a relatively low internal consistency (Cronbach's alpha = .560), all items were retained. This decision was based on the theoretical relevance of each item, which reflects different facets of transparency in AI advertising — including the explicitness of AI involvement, ethical obligations in information

disclosure, and the relationship between transparency and consumer trust. The moderate inter-item correlations (.226 to .362) support the interpretation of transparency as a multifaceted rather than unidimensional construct.

➤ *Trust in brand*

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.703	.703	2

The trust in brand construct initially consisted of three items. After examining item-total correlations, one item was removed because it lacked adequate internal consistency with the rest of the items. The other two items, “AI in advertising reduces my trust in the brand,” and “I believe AI is used to manipulate consumers,” exhibited acceptable reliability and had a Cronbach’s alpha of .703 and significant inter-item correlation ($r = .542$, $p < .001$). These findings indicate that the remaining two items encompass the concerns of the respondents regarding trust in brands considering the use of AI in advertising.

➤ *Scenario 1*

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.466	.466	2

The first scenario involved a corporation using AI to retarget individuals without their explicit consent. Participants’ reactions to this ethically ambiguous situation were measured through three items capturing both behavioural and emotional responses: refraining from purchasing products, reading the privacy policy, and blocking the brand on social media. The internal consistency of the scale was low (Cronbach’s alpha = .479), and inter-item correlations were modest (ranging from $r = .149$ to $r = .304$). These results suggest that participants’

responses do not reflect a single, unified psychological construct, but rather multiple forms of consumer resistance - each representing a distinct dimension of ethical discomfort or defensive behavior.

➤ *Scenario 2*

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.422	.423	2

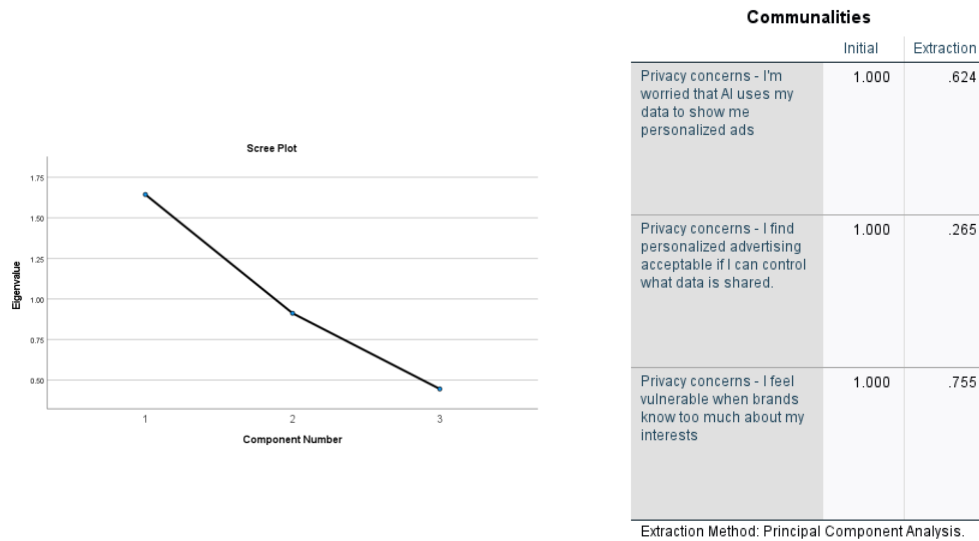
In the second manipulation scenario, participants were presented with social media content from an 'influencer' that was generated by an AI, without any indication that it had been AI generated. Responded to two items "Failure to report is misleading for consumers" and "It would be useful to have an icon that clearly identifies AI-generated content." Their internal consistency was very low (Cronbach's alpha = .422) and they only modestly correlated with each other ($r = .268$, $p = .009$). This indicates that, although all items seem to relate in one way or another to the lack of transparency and manipulation, they focus surprisingly on different aspects of ethical advertising communications - differing in the lack of transparency and manipulation of the content.

5.2. Factor analysis

➤ *Privacy concerns*

Total Variance Explained						
Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.644	54.789	54.789	1.644	54.789	54.789
2	.911	30.381	85.170			
3	.445	14.830	100.000			

Extraction Method: Principal Component Analysis.



The privacy concerns factor analysis showed only one factor which accounts about 55% of the total variance. Bartlett's Test of Sphericity was significant ($\chi^2(3) = 41.043$, $p < .001$), indicating the correlations amongst the items were sufficient for factor analysis. Two of three items loaded high on the factor: feeling vulnerable when brands know too much (.869) and being worried over how AI uses personal data (.790). The acceptance of personalized ads if control is provided, the third item, had a negative weaker loading of (.515). This suggests it loaded because it measures a slightly different dimension. Regardless, all the items helped form the factor.

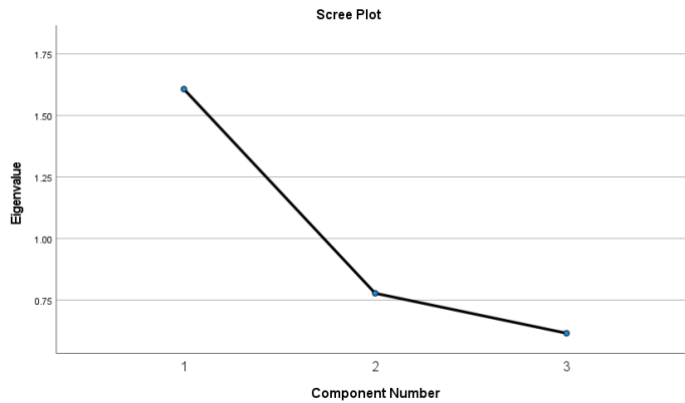
Component Matrix^a

	Component 1
Privacy concerns - I'm worried that AI uses my data to show me personalized ads	.790
Privacy concerns - I find personalized advertising acceptable if I can control what data is shared.	-.515
Privacy concerns - I feel vulnerable when brands know too much about my interests	.869

➤ *Transparency*

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.609
Bartlett's Test of Sphericity	Approx. Chi-Square	25.269
	df	3
	Sig.	<.001



Communalities

	Initial	Extraction
Transparency - Brands should disclose when they use AI for advertising.	1.000	.620
Transparency - An undisclosed AI-generated spokesperson is misleading.	1.000	.464
Transparency - I trust brands more when they explain how they use AI.	1.000	.523

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.607	53.570	53.570	1.607	53.570	53.570
2	.778	25.920	79.490			
3	.615	20.510	100.000			

Extraction Method: Principal Component Analysis.

To achieve transparency the analysis performed had extracted a single factor that explains stepwise regression residuals, which represented approximately 54% of the total variance. Bartlett's Test was significant ($\chi^2(3) = 25.269$, $p < .001$). All three items loaded positively and considerably on the factor analysis. All three items loaded positively on the factor, reflecting different yet coherent aspects of AI transparency: the importance of AI disclosure (.788), trust in brands that articulate their AI usage (.723), and the perception of deception when AI influencers are not clearly disclosed (.681). This illustrates a rather articulated strong factor that represents participants' demand for corporate AI transparency.

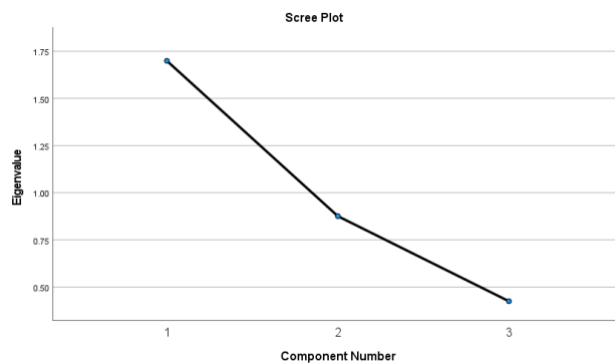
Component Matrix^a

	Component 1
Transparency - Brands should disclose when they use AI for advertising.	.788
Transparency - An undisclosed AI-generated spokesperson is misleading.	.681
Transparency - I trust brands more when they explain how they use AI.	.723

➤ *Brand trust*

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.532
Bartlett's Test of Sphericity	Approx. Chi-Square	44.062
	df	3
	Sig.	<.001

**Communalities**

	Initial	Extraction
Brand trust - The use of AI in advertising reduces my trust in the brand.	1.000	.758
Brand trust - I would pay more for brands that use AI ethically.	1.000	.316
Brand trust - I believe AI is used to manipulate consumers.	1.000	.625

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.699	56.642	56.642	1.699	56.642	56.642
2	.876	29.193	85.834			
3	.425	14.166	100.000			

Extraction Method: Principal Component Analysis.

The Brand trust construct demonstrated one clear factor which accounted for approximately 57% of the variance. Bartlett's Test, as before, was significant ($\chi^2(3) = 44.062$, $p < .001$). Two items had strong positive loadings: "distrust when AI is used in advertising" (.871) and "the belief that AI is manipulative" (.791). The item regarding paying more to deploy ethical AI had a lower loading (.562). These results suggest that the factor mainly reflects distrust and concern over manipulation, with a secondary link to ethical consumer responsibility.

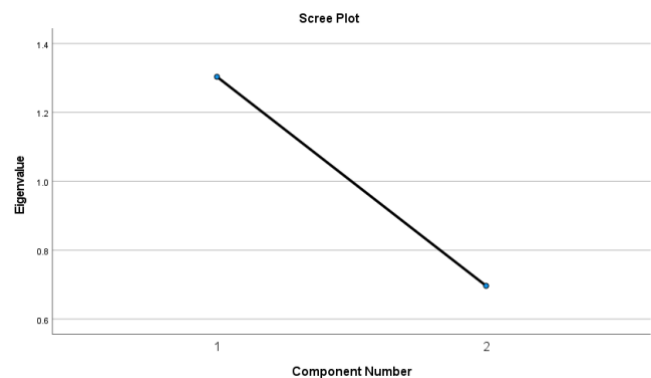
Component Matrix^a

	Component 1
Brand trust - The use of AI in advertising reduces my trust in the brand.	.871
Brand trust - I would pay more for brands that use AI ethically.	.562
Brand trust - I believe AI is used to manipulate consumers.	.791

➤ *Scenario 1*

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.500
Bartlett's Test of Sphericity	Approx. Chi-Square	8.940
	df	1
	Sig.	.003



Total Variance Explained

Component	Total	Initial Eigenvalues		Extraction Sums of Squared Loadings		
		% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.304	65.176	65.176	1.304	65.176	65.176
2	.696	34.824	100.000			

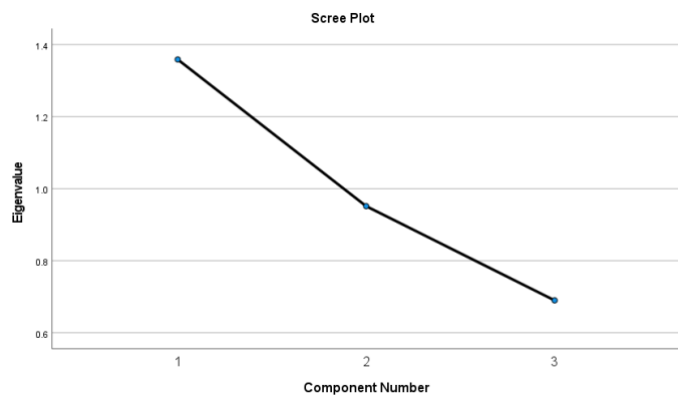
Extraction Method: Principal Component Analysis.

For Scenario 1, which incorporated two items, the analysis indicated that a single factor was responsible for 65% of the variance. The KMO score was .500, the lowest acceptable value, and Bartlett's Test was significant ($\chi^2(1) = 8.940$, $p = .003$), indicating that the data could be factored. Both items - blocking the brand on social media and checking the privacy policy after discovering unauthorized data use - had strong and identical loadings of .807. This shows a unified reaction pattern, demonstrating participants' defensive behaviours toward what they perceived as inappropriate use of personal data.

➤ Scenario 2

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.517
Bartlett's Test of Sphericity	Approx. Chi-Square	10.321
	df	3
	Sig.	.016



Communalities

	Initial	Extraction
Imagine seeing an online ad that perfectly matches your interests. You then discover the brand used your browsing history without your explicit consent. How likely are you to: - Would you block the brand on social media?	1.000	.652
Imagine seeing an online ad that perfectly matches your interests. You then discover the brand used your browsing history without your explicit consent. How likely are you to: - Would you look up their privacy policy?	1.000	.652

Extraction Method: Principal Component Analysis.

Component Matrix^a

	Component 1
Imagine seeing an online ad that perfectly matches your interests. You then discover the brand used your browsing history without your explicit consent. How likely are you to: - Would you block the brand on social media?	.807
Imagine seeing an online ad that perfectly matches your interests. You then discover the brand used your browsing history without your explicit consent. How likely are you to: - Would you look up their privacy policy?	.807

In Scenario 2, one factor was derived explaining almost 45% of the variance. The KMO value was .517 and Bartlett's Test was significant ($\chi^2(3) = 10.321$, $p = .016$), indicating suitability to perform factor analysis. The strongest loading was related to the requirement for a symbol depicting the AI-generated content, followed by the concern over misleading practices, and lastly, the acceptability of virtual influencers when they are clearly labelled. This factor pertains to the ethical concerns regarding transparency and the presentation of AI-generated personas with labelling and consumer clarity.

Communalities			Component Matrix ^a	
	Initial	Extraction	Component	
			1	
A fashion brand uses a digital influencer generated by AI without revealing that it is not a real person. How much do you agree with the following statements? - I find this practice acceptable if the influencer is clearly identified as virtual.	1.000	.283		.532
A fashion brand uses a digital influencer generated by AI without revealing that it is not a real person. How much do you agree with the following statements? - The lack of disclosure is misleading for consumers.	1.000	.447		.669
A fashion brand uses a digital influencer generated by AI without revealing that it is not a real person. How much do you agree with the following statements? - It would be helpful to have a symbol that clearly identifies AI-generated content.	1.000	.629		.793

5.3. Hypothesis tests

Independent samples t-tests were employed to examine differences between the generations (Millennials and Generation Z) on concerns about privacy, trust in a brand, perception of manipulation, and transparency of AI advertising. The results showed statistically significant differences between the two groups did not exist for concerns about privacy, trust in a brand, or manipulation perception. This means that, overall,

both Millennials and Gen Z share the same issues regarding how brands are using AI when it comes to privacy and psychological influence.

Yet, a generational difference was observed in the variable of transparency. Millennials emphasized "transparency" in AI-driven advertising tactics more than Gen Z ($p < .05$). This validates that even as they feel more comfortable with traditional modes of communication, Millennials expect more description and transparency from artificial intelligence-driven brands.

Descriptive statistics reinforced these findings by showing both privacy and transparency to have reasonably high mean scores generally across the whole sample, suggesting that ethical concerns tend to be shared across participants across generations. Scenario 2, which was the scenario of involving a non-disclosed AI influencer, elicited more negative reactions than scenario 1, which was data-based targeting without consent. This was evident by the higher average scores of manipulation in scenario 2, that a lack of disclosure in influencer messages was perceived as more ethically unacceptable than ad targeting.

Correlation analysis was conducted to check the relationship between the ethical concern variables. The results revealed that privacy and transparency issues of greater magnitudes were positively associated with brand trust, particularly in scenario 2. This means that the more the participants felt higher ethical standards of how their information was handled or how information was disclosed to them, the more chances they had of trusting the brand, even in ethically sensitive advertising contexts.

Hypothesis results:

- *H1 was partially supported*: privacy concerns were correlated with trust but in the reverse direction from expected. In addition, the difference was not substantially larger for Generation Z, thereby also reducing support for the generational component of the hypothesis.

- *H2 was supported*: Millennials favoured transparency in AI advertising over Gen Z as indicated by a statistically significant t-test difference.
- *H3 and H4 were not supported*: no differences between groups were found regarding perceived manipulation or intentions to boycott brands either using unfair AI advertising practices.

These results suggest that while generational identity may influence certain ethical expectations (e.g., transparency), other ethical judgments such as privacy concerns and feelings of manipulation do appear to cross generations. The findings also underline the importance of transparency in influencing brand trust and feelings of ethical integrity, especially in more ambiguous or covert advertising formats like undisclosed AI influencers.

5.4. Mediation analysis

This section investigates whether trust in the brand (trustavg) serves as a mediator in the relationship between privacy concerns (priv_avg) or transparency (tran_avg) and perceived psychological manipulation in both Scenario 1 and Scenario 2. The analysis follows the PROCESS Model 4 framework, using mediation to understand the indirect effects in these relationships.

➤ *MODEL 1 – Trust as a Mediator Between Privacy Concerns and Perceived Manipulation (Scenario 1)*

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 *****

Model : 4

Y : man1_avg

X : priv_avg

M : trustavg

Sample

Size: 95

OUTCOME VARIABLE:

trustavg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3456	.1194	.5874	12.6149	1.0000	93.0000	.0006

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.4379	.4818	2.9843	.0036	.4811	2.3947
priv_avg	.4690	.1320	3.5517	.0006	.2068	.7312

OUTCOME VARIABLE:

man1_avg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1963	.0385	.7163	1.8439	2.0000	92.0000	.1640

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.4398	.5570	4.3804	.0000	1.3336	3.5460
priv_avg	.1452	.1554	.9343	.3526	-.1634	.4538
trustavg	.1433	.1145	1.2515	.2139	-.0841	.3707

***** TOTAL EFFECT MODEL *****

OUTCOME VARIABLE:

man1_avg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1489	.0222	.7207	2.1088	1.0000	93.0000	.1498

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.6459	.5337	4.9576	.0000	1.5861	3.7057
priv_avg	.2124	.1463	1.4522	.1498	-.0780	.5029

***** CORRELATIONS BETWEEN MODEL RESIDUALS *****

trustavg	man1_avg				
trustavg	1.0000	.0000			
man1_avg	.0000	1.0000			

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
.2124	.1463	1.4522	.1498	-.0780	.5029

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.1452	.1554	.9343	.3526	-.1634	.4538

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI
trustavg	.0672	.0553	-.0393 .1793

Bootstrap estimates were saved to a file

Map of column names to model coefficients:

	Conseqnt	Antecdnt
COL1	trustavg	constant
COL2	trustavg	priv_avg
COL3	man1_avg	constant
COL4	man1_avg	priv_avg
COL5	man1_avg	trustavg

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

The first scenario's relationship between the privacy concerns and perception of manipulation was evaluated through trust in the brand using PROCESS Model 4. The relationship of privacy impact on trust was indeed significant ($\beta = .469$, $p < .001$), demonstrating that greater privacy concerns came with greater sensitivity to ethical as well as trust issues. However, both the direct effect ($\beta = .145$, $p = .353$) and the indirect effect through trust ($\beta = .067$, 95% CI $[-.039, .179]$) showed non-significant results. Hence, in Scenario 1, trust did not mediate the privacy and perceived manipulation relationship, so participants' perceptions of manipulation are influenced directly by their privacy concerns, without trust playing a significant mediating role.

➤ *MODEL 2 – Trust as a Mediator Between Privacy Concerns and Perceived Manipulation (Scenario 2):*

This model analyzes if the trust in the brand (trustavg) acts as a mediator for the effect of privacy concerns (priv_avg) in relation to perceived manipulation for Scenario 2 (man2_avg) where AI influencers are used and not disclosed.

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 *****

Model : 4

Y : man2_avg

X : priv_avg

M : trustavg

Sample

Size: 93

OUTCOME VARIABLE:

trustavg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3586	.1286	.5582	13.4278	1.0000	91.0000	.0004

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.4111	.4703	3.0002	.0035	.4768	2.3454
priv_avg	.4729	.1290	3.6644	.0004	.2165	.7292

OUTCOME VARIABLE:

man2_avg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2429	.0590	.4131	2.8223	2.0000	90.0000	.0647

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.2010	.4241	7.5472	.0000	2.3584	4.0436
priv_avg	.2710	.1189	2.2789	.0250	.0347	.5072
trustavg	-.0171	.0902	-.1901	.8496	-.1963	.1620

***** TOTAL EFFECT MODEL *****

OUTCOME VARIABLE:

man2_avg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2422	.0586	.4087	5.6684	1.0000	91.0000	.0194

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.1768	.4024	7.8938	.0000	2.3774	3.9762
priv_avg	.2629	.1104	2.3808	.0194	.0436	.4822

***** CORRELATIONS BETWEEN MODEL RESIDUALS *****

	trustavg	man2_avg
trustavg	1.0000	.0000
man2_avg	.0000	1.0000

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
	.2629	.1104	2.3808	.0194	.0436 .4822

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
	.2710	.1189	2.2789	.0250	.0347 .5072

Indirect effect(s) of X on Y:

Effect	BootSE	BootLLCI	BootULCI
trustavg	-.0081	.0493	-.1054 .0923

Bootstrap estimates were saved to a file

Map of column names to model coefficients:

Conseqnt	Antecdnt
COL1	trustavg constant
COL2	trustavg priv_avg
COL3	man2_avg constant
COL4	man2_avg priv_avg
COL5	man2_avg trustavg

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

The findings demonstrated that concern for privacy does significantly predict both brand trust ($\beta = .473$, $p < .001$) and perceptions of manipulation ($\beta = .271$, $p = .025$), suggesting that stronger privacy concerns make individuals feel more manipulated within such AI advertising contexts. However, trust yielded no significant results on manipulation predicting trust in the brand ($\beta = -.017$, $p = .850$) and the indirect effect through trust was also non-significant ($\beta = -.008$, 95% CI $[-.105, .092]$). This implies that while privacy concerns bear directly and certainly on the degree of perceived manipulation consumers feel concerning non-disclosed AI influencers, this is not a case of mediation by trust. The finding indicates that

privacy concerns, in this mediation model, independently influence boundaries of ethical evaluations in this case scenario regardless of the level of brand trust.

➤ *MODEL 3 – Trust as a Mediator Between Transparency and Perceived Manipulation (Scenario 1)*

This model evaluated if trust in the brand moderates the relationship between the perceived level of transparency regarding the AI's use (tran_avg) and feelings of manipulation (man1_avg) in Scenario 1 concerning the targeted advertisement usage without consent.

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.2 *****

Model : 4

Y : man1_avg

X : tran_avg

M : trustavg

Sample

Size: 95

OUTCOME VARIABLE:

trustavg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2568	.0660	.6231	6.5666	1.0000	93.0000	.0120

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.8817	.4924	3.8212	.0002	.9038	2.8595
tran_avg	.3058	.1193	2.5625	.0120	.0688	.5428

OUTCOME VARIABLE:

man1_avg

Model Summary

R	R-sq	MSE	F	df1	df2	p
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```

        .2029    .0412    .7144    1.9756    2.0000    92.0000    .1445
Model
      coeff    se      t      p    LLCI    ULCI
constant  2.3700   .5671   4.1788   .0001   1.2436   3.4963
tran_avg   .1404   .1322   1.0623   .2909  -.1221   .4030
trustavg   .1500   .1110   1.3509   .1800  -.0705   .3705
***** TOTAL EFFECT MODEL *****
OUTCOME VARIABLE:
man1_avg
Model Summary
      R    R-sq    MSE      F    df1    df2      p
    .1489   .0222   .7207    2.1074   1.0000   93.0000   .1500
Model
      coeff    se      t      p    LLCI    ULCI
constant  2.6522   .5296   5.0080   .0000   1.6005   3.7039
tran_avg   .1863   .1283   1.4517   .1500  -.0685   .4412
***** CORRELATIONS BETWEEN MODEL RESIDUALS *****
      trustavg  man1_avg
trustavg  1.0000   .0000
man1_avg   .0000   1.0000
***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****
Total effect of X on Y
      Effect    se      t      p    LLCI    ULCI
    .1863   .1283   1.4517   .1500  -.0685   .4412
Direct effect of X on Y
      Effect    se      t      p    LLCI    ULCI
    .1404   .1322   1.0623   .2909  -.1221   .4030
Indirect effect(s) of X on Y:
      Effect  BootSE  BootLLCI  BootULCI
trustavg   .0459   .0410   -.0220   .1395
*****
Bootstrap estimates were saved to a file

```

Map of column names to model coefficients:

Conseqnt Antecdnt

COL1 trustavg constant

COL2 trustavg tran_avg

COL3 man1_avg constant

COL4 man1_avg tran_avg

COL5 man1_avg trustavg

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output: 95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals: 5000

-----END MATRIX -----

It was found that: trust was predicted significantly by transparency ($\beta = .306$, $p = 0.012$), meaning that when participants perceive AI ad practices as more transparent, they report higher brand trust. On the other hand, transparency did not significantly predict manipulation in a direct manner ($\beta = .140$, $p = .291$). Also, neither did trust significantly impact the manipulation perception ($\beta = .150$, $p = .180$). The total effect of predictability concerning the transparency of information upon manipulation was also non-significant ($\beta = .186$, $p = .150$). In addition, the indirect effect was not significant ($\beta = .046$, 95 percent CI [-0.022, 0.14]). To sum up, the findings suggest that although transparency leads to improved trust, it does not decrease the perceived manipulation associated within the scenario presented. No evidence supports the existence of mediation. Respondents participate may distinguish trusting a brand and feeling manipulated by the brand's AI application absent consent.

➤ *MODEL 4 – Trust as a Mediator Between Transparency and Perceived Manipulation (Scenario 2)*

This model investigated if trust in the brand acts as a mediator for the relationship between perceived transparency in AI use (tranavg) and perceived manipulation in Scenario 2 (man2avg), which is where a brand uses an AI-generated influencer without disclosing it.

Run MATRIX procedure

***** PROCESS Procedure for SPSS Version 4.2 *****

Model : 4

Y : man2_avg

X : tran_avg

M : trustavg

Sample

Size: 93

OUTCOME VARIABLE:

trustavg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2486	.0618	.6010	5.9964	1.0000	91.0000	.0163

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.9110	.4967	3.8477	.0002	.9244	2.8975
tran_avg	.2940	.1201	2.4488	.0163	.0555	.5324

OUTCOME VARIABLE:

man2_avg

Model Summary

R	R-sq	MSE	F	df1	df2	p
.3359	.1128	.3894	5.7242	2.0000	90.0000	.0046

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.8131	.4311	6.5257	.0000	1.9567	3.6695
tran_avg	.3304	.0998	3.3121	.0013	.1322	.5287
trustavg	-.0129	.0844	-.1534	.8784	-.1806	.1547

***** TOTAL EFFECT MODEL *****

OUTCOME VARIABLE:

man2_avg

Model Summary

R	R-sq	MSE	F	df1	df2	p
---	------	-----	---	-----	-----	---

	.3356	.1126	.3853	11.5487	1.0000	91.0000	.0010
--	-------	-------	-------	---------	--------	---------	-------

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.7884	.3976	7.0124	.0000	1.9985	3.5782
tran_avg	.3266	.0961	3.3983	.0010	.1357	.5176

***** CORRELATIONS BETWEEN MODEL RESIDUALS *****

	trustavg	man2_avg
trustavg	1.0000	.0000
man2_avg	.0000	1.0000

***** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y *****

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI
.3266	.0961	3.3983	.0010	.1357	.5176

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.3304	.0998	3.3121	.0013	.1322	.5287

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
trustavg	-.0038	.0284	-.0664	.0513

Bootstrap estimates were saved to a file

Map of column names to model coefficients:

	Conseqnt	Antecdnt
COL1	trustavg	constant
COL2	trustavg	tran_avg
COL3	man2_avg	constant
COL4	man2_avg	tran_avg

COL5 man2_avg trustavg

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

----- END MATRIX -----

The analytic model results revealed that trust was significantly predicted by transparency ($\beta = .294$, $p = .016$), which suggests that brands deemed more transparent about their AI use, trust levels increase. Furthermore, transparency also impacted the direct effect on manipulation perception ($\beta = .330$, $p = .001$), implying that greater transparency alters perception of manipulation to a lesser degree. However, in this case, trust did not significantly predict manipulation ($\beta = -.013$, $p = .878$) and the indirect effect of transparency on manipulation through trust was not significant ($\beta = -.0038$, 95% CI $[-.0664, .0513]$).

5.4.1. Mediation analysis: overall interpretation

The overall interpretation of the mediation analysis yielded the same result for all models: while privacy issues and transparency strongly influence trust in the brand, trust is not a mediator of the effect of these ethical aspects on feelings of psychological manipulation. The finding suggests that people judge directly based on privacy issues and transparency perceptions whether AI-based advertising is manipulative, and not by filtering these perceptions through trust. Practically, consumers seem to assess manipulative intent based on the extent to which they feel protected and informed, rather than making it a function of their general trust in the brand.

The finding is in line with the theoretical insight developed in the academic literature: trust is an important variable but is not always necessarily the bridge between ethical concerns and consumer manipulation perceptions. Rather, ethical conclusions on AI advertising practices appear to directly result from privacy and transparency issues. The results affirm the need for active and open management of ethical issues because trust alone is insufficient to mitigate concerns of manipulative behaviour in AI-driven marketing.

5.5. Multiple regression analysis

This section presents the results of a multiple regression analysis conducted to determine whether three predictors - privacy concerns, transparency, and brand trust - explain participants' perceptions of psychological manipulation in AI advertising (Scenario 1).

The R-squared value of 0.008 indicates almost no explanatory power regarding manipulation; that is, the model captures only 0.8% of the variance. Furthermore, the overall model does not reach statistical significance ($F = 0.250$, $p\text{-value} = .861$). None of the predictors considered individually - privacy concern, transparency, or brand trust associated with the brand - showed statistically significant impact on manipulation scores with all p values being greater than .05. Although residuals did not have huge outliers and were normally distributed, the limited variability in the predicted values suggests that the model lacks great predictive power. This indicates that, when Scenario 1 is being considered, privacy concerns, transparency, and trust in a brand cannot completely explain how participants feel manipulated.

In a more general sense, the research shows that Millennials appreciate transparency in AI advertising more than Generation Z. No other significant generational differences were found for concerns regarding privacy, trust in a brand, or perceived manipulation. Also, while privacy concerns and transparency were previously identified as affecting brand trust in their analyses, trust was not identified as mediating between the variables and perceived manipulation. Even the regression analysis confirms this finding: privacy concerns, transparency, and brand trust as a group do not forecast manipulation perceptions significantly.

These results emphasize that although in the case of AI-driven advertising ethics transparency does have a direct effect on consumer attitudes, trust is not an intermediary here. This means that gaining the trust of consumers, although valuable, is by itself not sufficient to mitigate manipulation issues - brands must clarify privacy and transparency as distinct matters.

6. CONCLUSIONS AND IMPLICATIONS

The data obtained revealed a dynamic and complex relationship between consumer ethical concerns and brand trust in AI advertising. Generation Z and Millennials demonstrated sensitivity to issues of data privacy, transparency in AI usage and perceived manipulation. Their concerns manifested differently among the two generations, depending on differences in digital socialization, familiarity with technology, and standards of ethical behaviour by brands. Notably, though transparency and privacy directly influenced psychological manipulation perception, hypothesized mediating effect of trust was not statistically significant in tested models. This leads us to the conclusion that trust perhaps does not work as a linear conduit in ethical judgments but rather works interactively with other attitudinal and contextual variables.

6.1. Managerial implications

The research highlights that ethical concerns over AI in advertising are at the nexus of consumer judgment processes and must be integrated into brand planning at a higher level. Brands that neglect ethical interaction, risk alienating digitally sophisticated and ethically aware consumer groups, especially within younger age groups.

A primary observation of this research is the status of privacy and transparency as ethical standards. Millennials appear more attuned to the trade-offs of sharing personal data for convenience and personalization. Clarity and control are what they prefer. They are more likely to comply with algorithmic invasion if it is made clear and if the perceived value exchange is fair. From a managerial point of view, this means that marketing communications to Millennials must highlight competency in ethical data management, providing users with options in data management, and giving instant feedback about how data are being used to benefit the user.

Firms must also make ethical behaviour visible. Transparency cannot be abstract or buried in legalistic terms and conditions. Instead, ethical practice needs to be demonstrated through unambiguous commitments, such as ethical AI principles, customer education on data rights and periodic release of algorithm audits. For Millennials, incorporating such practices into corporate identity can reinforce brand trust and long-term loyalty.

Generation Z, on the other hand, is a trickier one. As deeply immersed in digital worlds, this generation is not so comfortable with ethical ambiguity. They are more suspect of algorithmic control and show more caution at being psychologically manipulated through calculated advertising. Most importantly, Gen Z does not distinguish between digital convenience and ethical integrity; these must go together. For managers, this would mean that ethical transparency cannot be reactive or optional. It must be communicated in an active and transparent way.

To make brands appeal to Generation Z, brands must integrate ethical messaging into the brand storytelling itself. This requires acknowledging the phenomenon of AI, disclosing the utilization of AI-created content, and providing users with the capabilities to question and modify algorithmic recommendations. Gen Z consumers expect brands to be responsive, adaptive, and reflexive. This demands a shift from monologue and control to dialogue and co-creation. Initiatives such as interactive ethics toolkits, live transparency trackers, or crowdsourced audits of algorithmic fairness can be employed to establish trust and demonstrate ethical commitment.

Secondly, the concept of manipulation emerged as a highly sensitive issue. Across both generations, but more Gen Z, advertising tactics inducing feelings of urgency, loss aversion, or emotional pressure were viewed negatively. Management-wise, that necessitates establishing an essential boundary: ethical personalization should be instructive, not forceful. Brands should therefore avoid cognitive vulnerability exploitation patterns of design and messaging strategies. Instead, they need to embrace "ethical nudging" that maximizes well-informed decision-making, encourages user agency, and does not hurt psychological welfare.

Brand managers also need to understand that ethical concerns transcend what advertisements state to include the processes and technologies used. Consumers are more inquisitive and skeptical about how AI works. This shift in awareness demands a change in the culture of marketing - from superficial compliance to a commitment to moral design. Creating such a culture involves investing in cross-functional teams that have ethicists, data scientists, UX designers, and consumer advocates. It involves integrating ethical review processes into workflows of deploying AI and educating marketing staff on how to handle issues of algorithmic ethics competently.

Most importantly, the weak mediation effect of trust by statistical analysis suggests that trust may not always act as the connecting link from ethical issue to behavioural intention. Instead, consumers may bypass any trust moderating effect and react directly to ethical violation with boycott or withdrawal. Managers would do well to heed this warning observation: ethical credibility must be gained not only by commitment but by operational integrity.

6.2. Recommendations to improve transparency and trust

Establishing consumer trust in the case of AI-mediated advertising calls for more than mere superficial disclosures. It demands an overall strategy that inscribes ethical reflection into technological design as well as communicative practice.

An initial step would be the creation of intuitive and adaptable transparency interfaces. These must allow consumers to obtain information regarding how the AI systems are arriving at decisions in real time. These kinds of systems need to deliver explanations that are not only technically accurate, but also understandable to non-technical users. For example, rather than stating "our recommendation engine is based on deep learning," a site might explain that "we show you content based on what you and other people like you have liked in the past, but you can change or turn off these at any time."

Second, ethical communication must become inherent to brand storytelling. Brands won't be able to wait to be caught on their AI practices. Instead, they need to get involved actively to educate consumers in the form of campaigns that highlight ethical promise, make data-use policies transparent, and invite user participation. Interactive infographics, explanatory videos, and scenario-driven visualizations can all assist in making the public image of AI processes clearer.

Third, trust is reinforced when brands are responsible. This includes the establishment of internal ethics committees and external advisory boards to guide AI deployment. Public reporting of ethical performance indicators, such as algorithmic equity, inclusivity, and user happiness, can encourage transparency. Independent ethical technology organisations' certification or seals can also provide credibility.

Companies also need to establish an ethical culture within the organization. This includes ethics training for all the units involved in digital planning, ethical innovation reward systems, and open channels where employees and users can raise ethical concerns.

Finally, brands must embrace the idea that ethical advertising is a process rather than a statement of purpose. With the developments in AI technologies, the ethical challenges they pose will also evolve. Trust is not an inertia-based property but a living relationship that must be constantly nourished, talked about, and adjusted.

6.2.1. Strategies to address ethical concerns of different generations

To comprehend and resolve the ethical issues of various generational groups, there is a need for sophisticated communication approaches and customized brand behaviours that echo their unique values, expectations, and digital engagement habits.

Millennials, influenced by the ascension of social media and the internet, generally have a rational and transactional attitude toward technology. They are comfortable using digital spaces but demand equity and mutualism in data sharing. Strategically, companies targeting Millennials must focus on transparent value propositions explaining the value of AI personalization in a way that respects the autonomy of users. Brands have to offer user dashboards that give real-time visibility into how data are managed, offer opt-in/opt-out choices for personalized services, and clearly outline the controls in place to prevent abuse of data. Second, Millennials respond positively to companies that demonstrate social responsibility and ethical commitment. Therefore, integrating AI practices into broader sustainability and corporate responsibility narratives can enhance credibility. For instance, aligning AI transparency efforts with environmental or social impact metrics may increase Millennial engagement and brand loyalty.

Generation Z, who have always lived in the age of pervasive connectivity, artificial intelligence, and algorithmic social media, are more value-sensitive and critical toward AI. They need authenticity, inclusivity, and transparency as non-negotiable values. Ethical communication for them can never be nominal or post-factual; rather, it should be grounded on tangible practices and be visibly correlated with their values. Brands must proactively involve Gen Z in the ethics discussion. They can do this by involving them in co-created

campaigns, soliciting input on algorithmic decision-making, or even creating youth advisory panels to screen marketing strategies. Gen Z enjoys brands that are not only reactive but also reflexive - those willing to critique their own use of AI and improve because of public criticism. This group is particularly responsive to brands that show vulnerability, acknowledge ethical challenges, and are transparent about the steps being taken to improve.

At the content level, strategies such as visual transparency symbols, digital ethics explainer series, behind-the-scenes narratives about algorithmic design, and ethical storytellings in campaigns resonate with Gen Z's media use habits. The fact that they can hear from channels they trust - e.g., TikTok or Instagram - using formats that they prefer - e.g., short videos or interactive polls - focuses on increasing the acceptance and reception of messages.

Importantly, ethical credibility is cumulative and relational. It must be built over time through respectful, consistent, and contextually sensitive communication. Companies must conduct regular generational audits to monitor shifting expectations and adapt their AI communication approach in response. Moreover, using ethical KPIs segmented by age cohorts can help organizations measure and improve their performance in building trust with different consumer groups.

6.3. Research limitations and suggestions for future studies

Although the research provides useful evidence of generational opinion about AI ethics in advertising, it is important to embrace some methodological and conceptual constraints that impose limitations on the results' generalizability and richness.

First, the sample population was largely European and comprised individuals of relatively high digital literacy. This reflects geographical and educational bias since cultural reactions towards AI, privacy, and transparency would be quite different in other regions of the world or in segments with limited access to digital infrastructure. Follow-up researchers must attempt to make the sample more diverse in terms of being spread across continents, socio-economic segments, and education levels in order to get a wider picture of ethical attitudes globally.

Second, the use of self-report scales and hypothetical scenarios, though typical in survey research, may not fully capture real-world behaviours. Respondents may exaggerate ethical issues due to social desirability biases or may not possess the technical expertise of AI-based advertising frameworks. To mitigate this shortcoming, subsequent studies can include experimental setups or simulated environments where researchers can observe real user behaviour toward AI-based advertising interfaces.

Third, the cross-sectional design of the study captures attitudes as they stand at a single point in time. Ethical evaluations of technology are going to shift extremely rapidly with more people getting used to AI technologies, as regulatory environments become more established, and as public discussion evolves. Longitudinal research is therefore needed to track changes over time in ethical opinions and to develop a better understanding of how trust gets built, lost, or restored in rapidly changing digital environments.

Fourth, several of the constructs used in this study - i.e., transparency and manipulation - had poor to moderate reliability scores. This could reflect either that the constructs are more complicated than they were initially theorized or that the existing measurement tools are not sensitive enough to detect small differences. Future research needs to perform developing and validating multi-dimensional scales to measure the richness of psychological and cultural complexity of these ethical ideas.

Fifth, while the original research model focused on trust as a mediating variable, the findings indicate that other psychological mechanisms might better explain the relationship between ethical concerns and consumer behaviour. Variables such as perceived autonomy, algorithmic literacy, psychological empowerment, and perceived brand integrity may offer richer explanatory power. Integrating these variables into future conceptual models could yield more robust insights into the pathways through which AI ethics affect consumer perceptions and decisions.

Lastly, the present study is confined to the advertising context. However, AI technologies are increasingly pervasive in areas such as healthcare, finance, education, and the workplace. Future research could expand the investigation to these domains, comparing how ethical expectations vary across sectors and assessing whether generational patterns hold in more sensitive or consequential areas of AI deployment.

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8. APPENDICES

8.1. Survey questionnaire

Initial instructions

Dear participant,

This anonymous survey is part of academic research on opinions about the use of Artificial Intelligence in advertising. There are no right or wrong answers—we are only interested in your opinion. Thank you for your contribution!

Section 1: Consent

Data consent: I agree to the use of my anonymous data for research purposes.

Yes/No

Section 2: Demographic data

Year of birth:

- 1997-2012 (Gen Z)
- 1981-1996 (Millennial)
- Other (EXCLUDE. FROM QUESTIONNAIRE)

Gender:

Male / Female / Other / I prefer not to answer

Education level:

Diploma/ Bachelor's degree/ Master's degree or higher/ Other

Have you ever seen personalized advertising (e.g. on social media, search engines, etc.)?

- Yes
- No (EXCLUDE FROM THE QUESTIONNAIRE)

Frequency of exposure to digital advertising:

Several times a day / Every day / Weekly / Rarely

Section 3: privacy, transparency and brand trust

(all answers are on the Likert scale: 1=not at all agree, 5=totally agree)

Concern for privacy

- "I am concerned that the AI will use my personal data to show me targeted advertising."
- "I find personalized advertising acceptable if I can control what data is shared."
- "I feel vulnerable when brands know too much about my interests."

Transparency

- "Brands should declare when they use AI to create ads."
- "A testimonial generated by undeclared AI is misleading."
- "I trust brands to explain how they use AI."

Trust in brands

- "The use of AI in advertising reduces my confidence in the brand."
- "I would pay more for brands that use AI ethically."
- "I believe that AI is used to manipulate consumers."

Section 4: scenarios

(all answers are on the Likert scale: 1=not at all likely, 5=extremely likely)

Scenario 1:

"Imagine seeing an online ad perfectly suited to your interests. Find out that the brand has used your browsing history without your explicit consent. How likely..."

- would you block the brand on social media?
- ...would you look for information about their privacy policy?
- ...would you avoid buying products from this brand in the future?

Scenario 2:

"A fashion brand uses a digital influencer generated by AI without revealing that it is not a real person. How do you agree with these statements?"

- "I find this practice acceptable if the influencer is clearly identified as virtual."
- "Failure to report is misleading for consumers."
- "It would be useful to have an icon that clearly identifies the content generated by AI."

Section 5: Open question

"How could brands improve transparency on the use of AI?"

Section 6: Caution check

"Select '6' to confirm that you are paying attention."

1 2 3 4 5 6 7

Section 7: Thanks

8.2. References for the survey

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