# Annual Methodological Archive Research Review

## AI Algorithms and Their Influence on Consumer Trust in Social Media Advertising, Case Study of Pakistani Youth

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## ABSTRACT

In recent years, algorithms have changed how businesses engage with customers through targeted advertising on social networks, particularly among the youth. This study examines the influence of personalized, targeted advertising aimed at consumers in regard to trust, a particularly relevant topic for young adults living in Pakistan. The study aims to discover if these data driven efforts are contributing to an increase or a decrease in trust in ads placed by or on social media. The researcher adopted a quantitative approach, with almost 400 respondents collected from major areas of Pakistan mainly universities students using stratified random sampling. Respondents are asked questions regarding their views on algorithm based, personalized advertising, their levels of trust, and their purchasing habits. The education levels ranged and included undergraduate and postgraduate students. Each level of education entailed some level of experience with social media advertising, although varied. The empty data is explored, using descriptive statistical tools pertaining to the overall implications of views on targeted advertising on social media and pie charts are used to display the results of analyzed data. The findings show that while 62% of respondents assessed personalized ads as more relevant to their personal interests, only 41% have total trust in content that is algorithmically driven. A significant proportion (37%) offered a neutral response, suggesting there was scrutiny of ethical dilemmas. Likewise, 22% indicated little trust due to anxiety about privacy and data security. The study concludes that while algorithmic personalization helps make the ad relevant, it does not automatically elevate trust levels of a Pakistani youth consumer group. Transparency, ethical data management, and privacy protection, play an important role in trust. Marketers are encouraged to articulate clearly, explain, educate how data goes into the equation, and ethically promote product advertising, in order to earn long-term consumer trust.

## Introduction

Digital marketing has changed significantly in recent years, largely the result of technology that reveal insights regarding how consumers behave, specifically through data driven advertisements (Götz et al., 2011; Paschen et al., 2020). In fact, the global market value of this kind of data informed digital marketing is projected to grow to $107.5 billion by 2028 (Fortune Business Insights, 2021)! So, the democratization of sophisticated, data driven digital marketing is sitting at the forefront as businesses look to 'fine tune' their advertising expenditures. Marketers use unique algorithms to adjust their marketing decisions as well as actions based on algorithmic predictions of what consumers might want, ultimately hoping to drive up revenues. Features like real time interactions with consumers, personalized content through targeted digital ads, and targeting based on behavior are game changers for the ways in which brands can connect and engage with their respective audiences, offering experiences that uniquely suit them.

Nonetheless, there are persistent doubts about transparency and dependability (Bjørlo et al., 2021; Paschen et al., 2020) with respect to how automated advertising can impact consumer decisions. Of notable contribution to consumer buying behavior, is the agency of social media. Social e-commerce continues to grow significantly, given what appears to be the ever increasing online popularity, with just over 4.7 billion users on social platforms (Clement, 2022)! Brands increasingly utilize social media in the delivery of personalized advertisements and rely heavily on ability to utilize advanced targeting to deliver highly credible offers using information about the consumer's interests during their past interactions with that brand, and in accordance to the perceived behavior of consumers online.

The marked movement away from traditional advertising towards data driven advertising is making significant changes in how consumers and brands interact with each other, particularly with younger audiences who adopt hot trends very quickly. These techniques contribute to relevance within consumers' advertisements, while potentially deteriorating consumer trust with respect to their consent.

In growing markets such as Pakistan, data driven marketing strategies are being adopted rapidly, yet the obstacles lie ahead. According to the Global AI Adoption Index (2022), slow adoption is potentially due to a lack of infrastructure, skills from professionals and an unwillingness from consumers. There is rapid growth (35% per annum, Statista 2022) in the e-commerce industry in Pakistan, but trust in automated advertising remains low and users do not afford great attention to algorithms or advertising cues that explain their behavior in the system competitors work within.

Another very compelling challenge is locating the optimum balance of targeting with personalization while maintaining the privacy of consumers. When brands leverage tailored recommendations, targeting is deemed too intrusive. Market studies concluded lower purchase intention (Bleier et al., 2020; Grewal et al., 2017; Lam et al., 2008; Mariani et al., 2021). Given these issues, we must understand how automated advertising could adversely affect judgement in consumer decisions. This study reports on how algorithm based advertisements in social media channels impact levels of trust for Embarked young adults in Pakistan. Do they increase confidence or do they cause distrust and skepticism? Understanding the association of increased trust or hindrance caused by the advertising is paramount for marketers who intend to build long-term relationships with younger consumers and elevate acceptance of digital trends in advertising.

This study also identifies ethical considerations in automated marketing and makes suggestions as to how to improve trust from consumers. It situates itself within the cultural and economic landscape in Pakistan, and informs the emerging discussion of how technology influences marketing and consumer behavior.

## Background

With social media platforms leading the way (Nasir, 2025), digital marketing has changed the way brands interact with customers in the last few years. From simple banner ads 10 years ago, the digital marketing world has opened up to personalized ad content. Now, digital marketing leverages what we know about consumer behavior, preferences, social connections, and attributes to be able to serve ads that seem relevant to the user. This evolving and changing advertising landscape is creating a more impactful and more precise advertising experience than ever before.

In Pakistan, the digital marketing field is developing rapidly, yet businesses still struggle with some of the advanced practices of digital marketing with regards to influencing buying behaviors and the buying best practices. Although there are companies and businesses implementing some of these features like personalized recommendations, most businesses do not implement this well, and continuing to engage in a real time environment still poses problems for marketers. According to the research, Pakistani consumers are generally more skeptical than average when asked to give a rating for example, 'Only 23% of Pakistani respondents trust algorithm based suggestions on social media compared to close to half

of users in the world.', meaning we need to adopt marketing environments that seem authentic and relevant to local consumers.

The power of personalized advertising drives better engagement rates and ultimately increases sales as a result of more personalized ads. Most major platforms are now leveraging algorithms to serve ads that are not only relevant, but timely as well. When the right ad reaches the right customer at the right time, marketing professionals have hit the jackpot.

Over the last twenty years, social media has emerged to be one of the most significant influences in our everyday lives (Nasir et al.., 2024). From our ways of communicating with one another, to forming opinions about ourselves and the world we live in, the impact of social media is divergent. We replaced cellular phone calls and e-mail to communicate instant global conversations at the tips of our fingers. As social media enabled us to cultivate and maintain relationships across distance, it mitigated the quality in which these interactions would occur. The shortened length that some platforms prescribe has the potential to simplify matters that may require lengthy discussions, and either the anonymity of some of these online spaces sometimes incites users to behave unfavorably, and compromise their well-being. The advancement of technology has certainly raised issues rooted in privacy and trust in marketing. Young consumers and, while comfortable with technology, have concerns about how information about them is captured and deployed. In a country where a majority of the population is young, and active users of social media, understanding this dimension poses a challenge for businesses attempting to develop a strategy for a digital world, particularly in Pakistan. While previous research has examined the impact of personalized marketing within the ethics and effectiveness, little work has been completed to understand these processes and how they contribute to trust among consumers in developing markets such as Pakistan, especially in a cultural context where long standing values are increasingly intermixed with rapidly evolving technology.

## Problem statements

Young consumers in today's marketplace are increasingly taking into account how digital advertising diminishes trust in brands. Although tailored ads make advertising more relevant, there are serious concerns about data privacy, ethics, and transparency. The increase of social media users, especially among youth in tech savvy countries such as Pakistan, have grown exponentially (Nasir, 2025), yet little research has been conducted on how youth conceptualize, engage with, or interpret these tailored ads, especially with respect to whether they build trust or violate trust.

The users of platforms, such as Instagram, Facebook and TikTok, place great value on targeted advertising that is driven by user information. Many young consumers, however, have concerns about how their data is collected, tracked, and utilized by companies. To this end, there is a need to further scrutinize if these marketing strategies increase or decrease trust with youth in Pakistan. Without this knowledge, businesses can repulse customers and hamper their long-term accountability.

## Objectives

1. **Assess Personalized Ads Impact Trust**

This research assesses how, if at all, targeted ads in social media increase engagement and trust with Pakistani youth respondents or do they simply create worry about data privacy and data security.

2. **Examine Ethical Issues in Digital Advertising**

The research explores a number of aspects of ethical issues including, data collection protocols, transparency, and some factors which lead to consumer skepticism and perceptions of digital advertising.
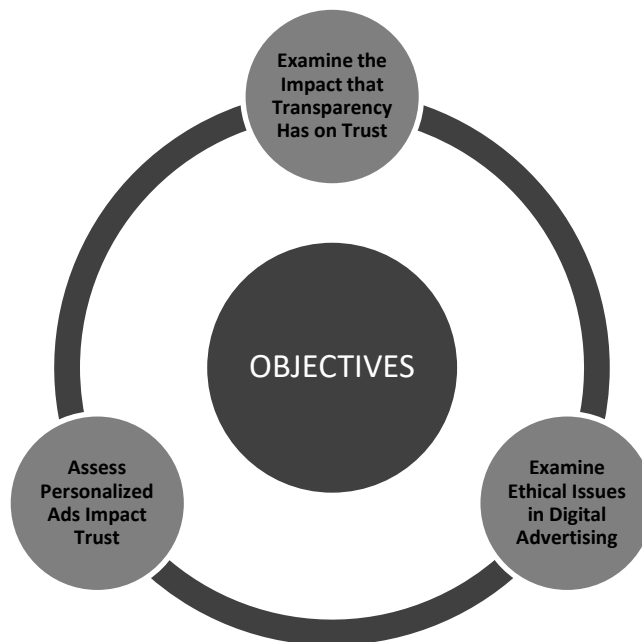
3. **Examine the Impact that Transparency Has on Trust**

The research looks at whether more visible communication about advertising personalization and data usage can elevate level of trust and improve young people's perceptions of digital advertising.

By investigating these questions, this research can assist businesses with more trustworthy and effective marketing to young people in Pakistan.

## Research Questions

1. How does personalized digital marketing influence the level of trust that Pakistani youth hold?

This research question is focused on whether personalized advertisements help or harm brand trust among young consumers.

**2**.        What ethical concerns do Pakistani youth have toward data centric digital marketing?

The study examines relevant concerns such as privacy, security, and transparency to inform our understanding of how these ethical concerns impact young consumers' trust in targeted advertisements.

**3**.        Does transparency in digital advertising build trust among young consumers?

This question examines if being transparent about the personalization of advertisements and how their data is used increases trust in marketing efforts.

## Significance of the Study

This research is significant because it provides insight into how digital marketing strategies impact consumer trust through a youth lens. As social media becomes the more prominent and powerful advertising method today, understanding these interactions helps policymakers, businesses, and academics develop more appropriate strategies.

Whether a consumer purchases a product is often considered the most objective measure of marketing strategy success. If advertisements, such as ads with online and social media promotional products align with a consumer's interests, it is intended to increase brand loyalty to the brand with corresponding sales. Personalized recommendations unequivocally help to eliminate uncertainty when making purchase decisions. Engaging with customers in real time to enhance their satisfaction also creates a positive impact for an entity. By completing the aforementioned objectives, the research provides practical recommendations for designing and executing trustworthy and compelling digital marketing campaigns.

## Literature Review

Modern digital marketing strategies increasingly depend on data driven personalization to enhance consumer engagement. The literature indicates that personalized recommendations, accurate product suggestions, and immediate customer support can greatly influence consumers' purchasing decisions (Yin & Qiu, 2021). The change in marketing strategies from traditional to the new digital version created newer interactive, responsive, flexible, and adaptive systems that assist brands to connect with the consumer audience. Understanding how brand managers utilize these strategies is crucial for companies to devise strategies that cater to that evolution in consumer behavior.

Personalized marketing exercises are more effective when relevant recommendations that relate to personal preferences are provided (Al-Debei et al., 2015). Accurate product suggestions encourage consumer confidence and ease decision making (Smith and Wilson, 2021). Furthermore, consumer relationships and loyalty are enhanced through real-time

customer support offered by brands (Brown et al., 2019). The literature suggests that quality of customer service offered through live chat can increase customer satisfaction by as much as 34% (Hsu et al., 2012).

Purchase intention, or the likelihood that a consumer buy a product, is a fundamental business metric (Dellaert et al., 2020). Purchase intention in the digital space unfolds across three avenues which are product information availability, e-commerce platform reliability, and opportunism to ease purchasing decisions (Mariani et al., 2021). Poor personalization or inaccurate recommendations severely hurt every advertisement's marketing effectiveness and a consumer's retention (Cooke & Zubcsek, 2017). In markets such as Pakistan by virtue of limiting digital infrastructure, and consumption dynamics, implementation of advanced marketing strategies are more complex. Social media has changed how people see themselves and engage with others. Visual platforms encourage users to portray the perfect version of their lives. In turn, this can lead to perpetual comparison that erodes self-esteem (Zhan et al., 2024). The chase for likes and followers through social media engagement may take a mental health toll for users, and relationships built through social media rely on numbers instead of true engagement (Abou Houran et al., 2023). On a more political note, social media is a means of spreading information quickly and responsibly to help promote activism and discourse, but it is just as easy to spread misinformation (Sandoval-Almazan & Ramon Gil-Garcia, 2014). The decline of traditional media has allowed for locally prioritized activism and rabid reconnaissance, while also creating echo chambers that support harmful extremism (Xiao et al., 2024).

Overall, this review highlights the complexities and cross talk between all of the components of digital marketing strategies, social media effects, and consumer behavior all of which is relevant when considering how youths engage with their environment, especially in emerging markets like Pakistan.

**Applied consequences for marketers**

This study provides practical insights for marketers that are interested in building trust with young consumers in Pakistan. Having knowledge about the factors that impact young people's trust in digital advertisements, marketers develop profitable, effective campaigns that respect privacy, while still being personalized. These constructs can also serve as a basis for future actions about how to create ads that form and sustain an audience and the community of trust rights.

**The notes to the academic literature**

This study examined narrow research opportunities in a country adjusting to new developments in a digital environment. This has expanded the extremely limited research around how marketers develop technology based marketing strategies in developing markets. Importantly, automated ads and the nature of trust, engagement, and decision facilitating processes have yet to be adequately addressed in the literature. It has exposed and clarified ethical considerations that digital marketing studies are failing to include, and in many but a few instances, discussed disclaimers, disclosures and disclaimers that have been woefully at the absence of ethical steps in marketing.

**Policy Consequences**

As more advertising is directed and personalized based on data, steps and regulations need to be imposed if there is going to be any hope for effective consumer rights in the digital advertising space. Young people's rights are being questioned, while still beleaguered by questionable practices of advertisers. Our research helps to highlight friends and company add friend gaps, while also encouraging policy recommendations to help to understand consumer rights and to challenge policy-makers.

**The Impact on Individuals**

By developing awareness for the entitled rights in a digital environment, particularly consumers such as youth can gain empowerment from understanding the elements contributing to confidence in AI driven advertising. The purpose of this study is to foster more informed, responsible relationships between consumers and the businesses that engage with them in an online manner by addressing related considerations regarding data privacy, transparency, and security.

**Delimitations**
**Delimitation 1**
**Focus on Pakistani Youth**

The study focus is on Pakistani youth (aged 18–30), meaning the findings constrained to this age group. The results may not be transferable to any other age groups or populations in other areas of the world where social media usage and cultural attitudes, and the uptake and use of technology may be unique.

## Delimitation 2
## Excluding Non-Social Media Platforms
The study looks only at social media platforms (Facebook, Instagram, TikTok) in the study, leaving out any other digital marketing platforms such as email marketing, search engine ads, or display ads on websites. This delimitation enable the research study to concentrate on which AI influences digital networks and not any of the other forms of digital are marketing strategy.

## Delimitation 3
## Focusing on AI Based Techniques of Promotion
The study also excludes traditional promotion techniques and non AI methods of digital marketing and only considers AI based approaches to marketing, specifically because it's designed and/or focused a bit more towards the ads. The study's emphasis restricts itself to specific methods and influences on the direction of digital marketing approaches.

## Research Design
## Research Approach
For the purposes of this study, a quantitative research methodology predominantly used to examine patterns of consumer trust associated with digital marketing in a structured manner. With a quantitative research rationale, the intention is to collect quantifiable data in order to determine statistical relationships between key variables of interest.

## Data Collection Method
A structured questionnaire is used to gather primary data from participants. The characteristics of a structured instrument allow researcher to provide similar opportunities across all participants, affording the researcher reliability and validity consideration for comparative analysis by utilizing similar research methods.

## Sample Selection
The population of interest is youth in Pakistan ages 18 - 30 and specifically university students. Stratified random sampling was considered across the key urban populations of Pakistan to obtain a representative sample of 400 participants across the demographic concerns.

## Variables Measures
Some variables that examined include
  ➢ Personalized marketing experiences
  ➢ Ethical issues surrounding digital advertising
  ➢ Data privacy and security concerns
  ➢ Transparency in marketing.

## Research Methodology
## Research Design
This research presents a quantitative methodology, utilizing quantitative data to identify patterns and the performance of digital marketing strategies. Based on the numbers from above, we are able to make actual performance evaluations and learn how to adjust certain tactics to maximize results. As a result, we gain direct and unequivocal evidence-immediate measurable value to eliminate any uncertainty surrounding the performance of our marketing.

## Data Collection Techniques
This study presents a quantitative approach to gaining insights and understanding the success or effectiveness of digital marketing strategies through numbers. By looking at the hard number, we can validate some key assumptions, and

understand ways in which the various tactics work to create results. Extracting hard number results takes the guesswork out of how marketing is working by providing us with measurable insights.

## Population and Sample
This report brings forward Pakistan's exciting demographic youth - active young person's 18-30 years of age, who are well-renowned as the future of Pakistan's digital landscape.  We mainly connected with university aged participants, and university students across university campuses hold a valuable position to share mostly young tech savviest perspectives.

## Instrumentation
The survey was designed to measure
➢ Consumer satisfaction
➢ It's perceptions of ethical marketing practices
➢ Consumer trust in digital advertising
➢ Participant responses will be recorded using a 5-point Likert scale, permitting consistent meaning construction as participant responses were interpreted.

## Ethical Consideration
The study adhered to the following ethical consideration
➢ Informed consent obtained from all study participants
➢ Research objectives clearly communicated to all study participants
➢ Assurances to protect participant confidentiality were guaranteed
➢ Secure handling of all responses and collected data throughout the study
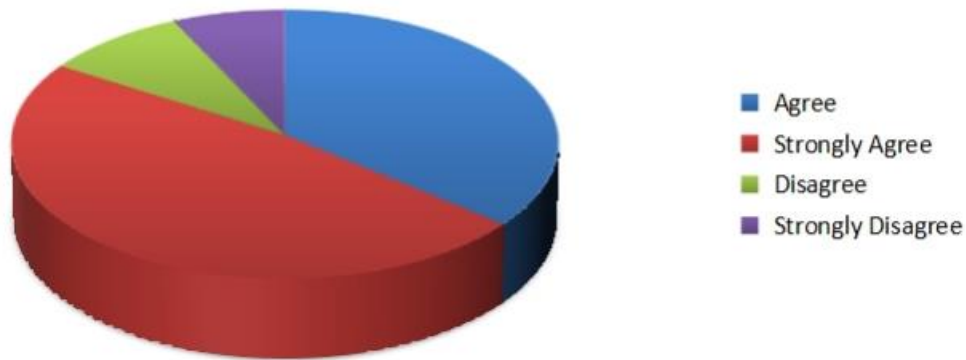
## Data Analysis
Statistical analyses permitted us to
➢ Summarize respondents' characteristics of interest
➢ Identify major patterns in responses
➢ Explore the relationships between variables using regression analysis
➢ Test the research hypotheses

## Data Presentation
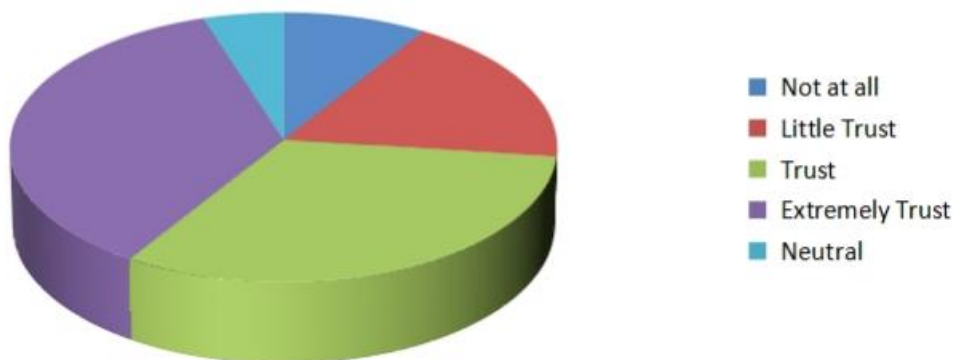Findings were presented using:
➢ Pie charts to show analyzed data

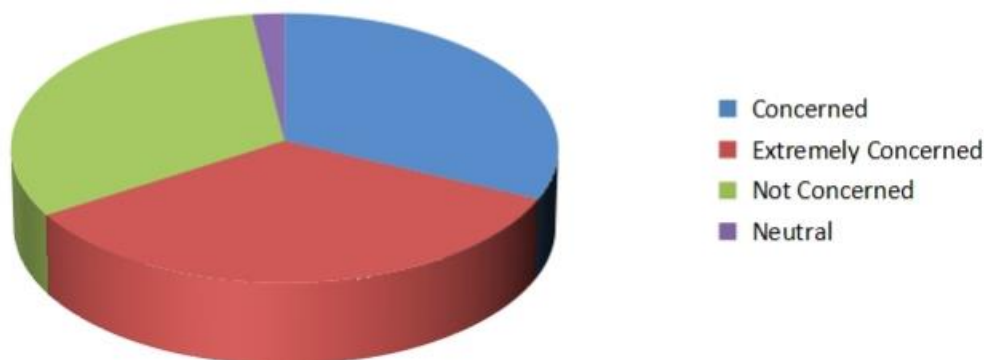1. "AI-driven ads on social media reflect my personal interests and preferences accurately"?

- Agree
- Strongly Agree
- Disagree
- Strongly Disagree

**Discussion:** The study found that respondents agree and strongly agree that AI driven advertisements on social media reflect their personal interests and preferences accurately while some of them believe that artificial intelligence driven advertisements doesn't reflect their personal interests and preferences accurately and responded as disagree and strongly disagree.



2. How much do you trust advertisements that are personalized using Artificial Intelligence on social media platforms?
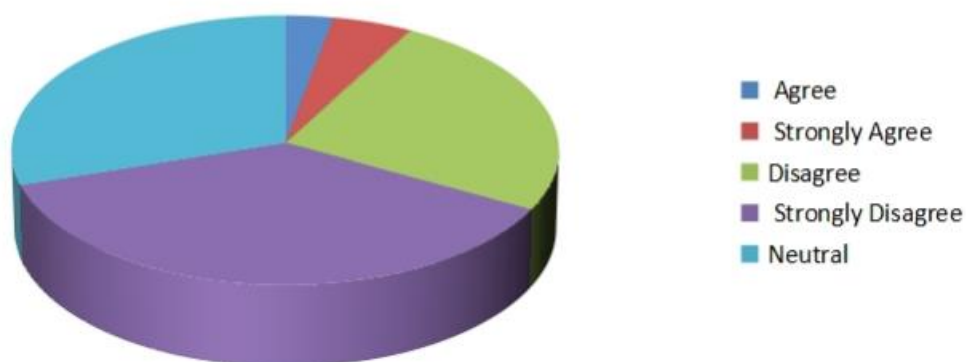
- Not at all
- Little Trust
- Trust
- Extremely Trust
- Neutral

**Discussion:** Analysing the collected data, It Is concluded that youth trust advertisements that are personalized using artificial intelligence on social media platform. Lots of the youth also extremely trust such ads while other trust very little or not at all and some of them remain neutral during this survey research.

**3. To what extent are you concerned about the privacy of your personal data when interacting with AI-curated advertisements?**

- Concerned
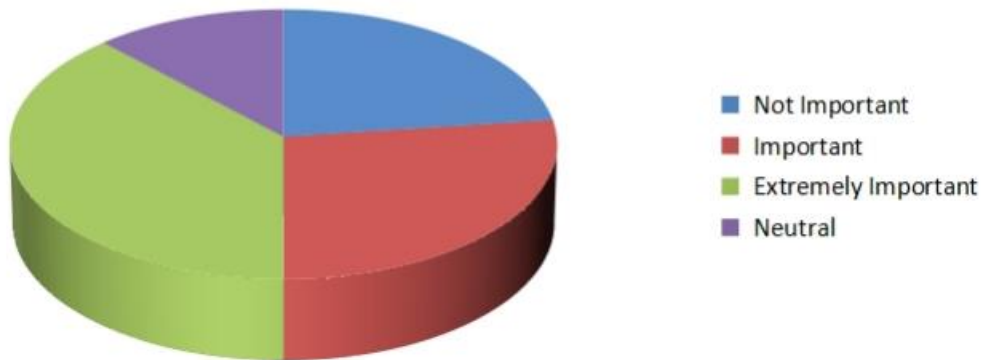- Extremely Concerned
- Not Concerned
- Neutral

**Discussion:** Youth of Pakistan is concerned and extremely concerned about the privacy of their personal data when interacting with AI curated advertisements. Further the same ratio as of concerned and extremely concerned; youth is found neutral in response of this question.



**4. Do you believe AI advertising systems on social media platforms collect and use your data ethically?**

- Agree
- Strongly Agree
- Disagree
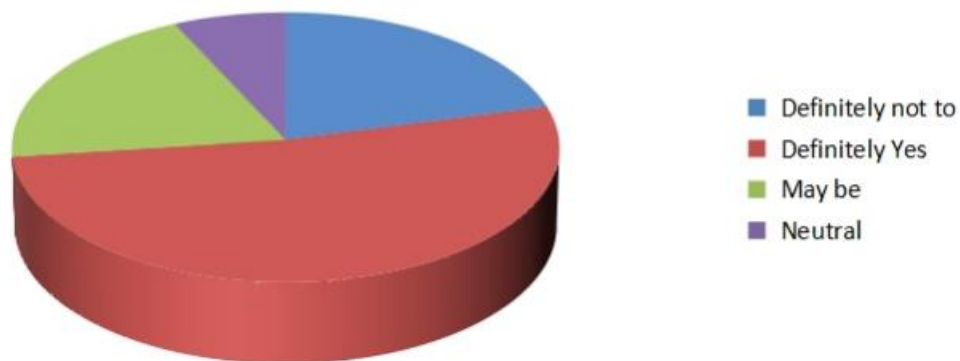- Strongly Disagree
- Neutral

**Discussion:** The study found that AI advertising systems on social media platforms do not ethically collect and use the users data ethically that is why in the above questionnaire youth is concerned and extremely concerned about their privacy while using social media and consuming AI curated ads.

## 5. How important is it for companies to explain how AI algorithms work in tailoring ads to you?



Legend:
- Not Important
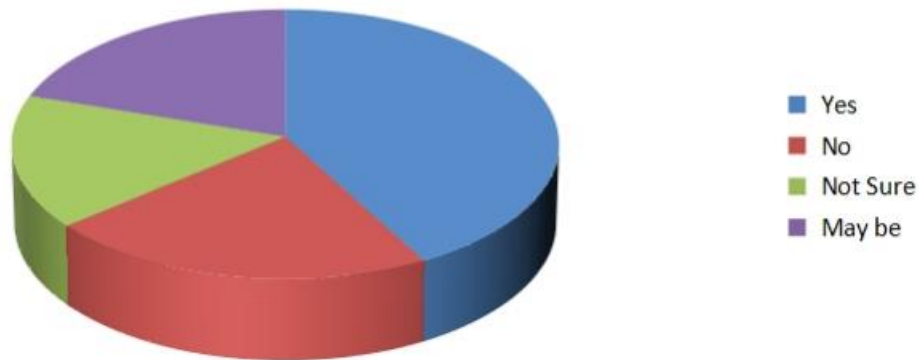- Important
- Extremely Important
- Neutral

**Discussion:** The study found that it is important and extremely important for companies to explain how artificial intelligence algorithms work in tailoring ads to the users.

## 6. Would you be more likely to trust AI-generated ads if platforms were transparent about how your data is used?



Legend:
- Definitely not to
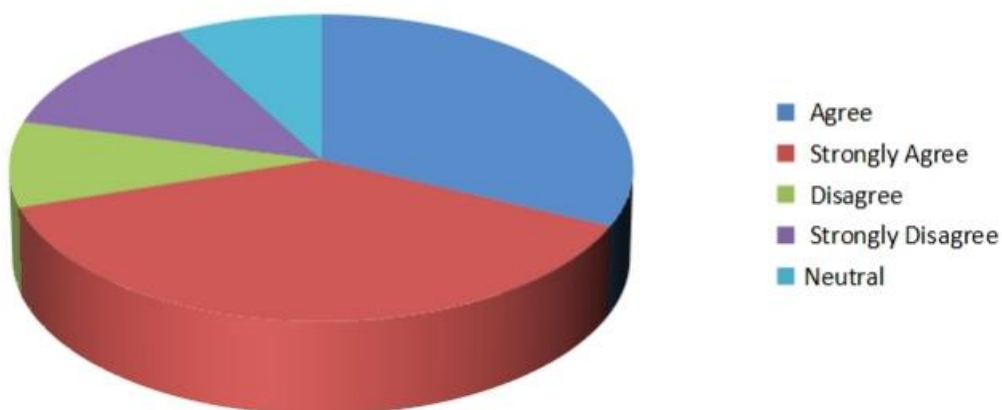- Definitely Yes
- May be
- Neutral

**Discussion:** Pakistani Youth Definitely trust AI generated ads if platforms were transparent about how their data is used while others found reluctant and responded as definitely not to while others were found neutral and some of them responded as may be they would more likely to trust AI generated ads if platforms were transparent about how their data is used.

## 7. Have personalized AI advertisements on social media ever influenced your decision to purchase a product or service?
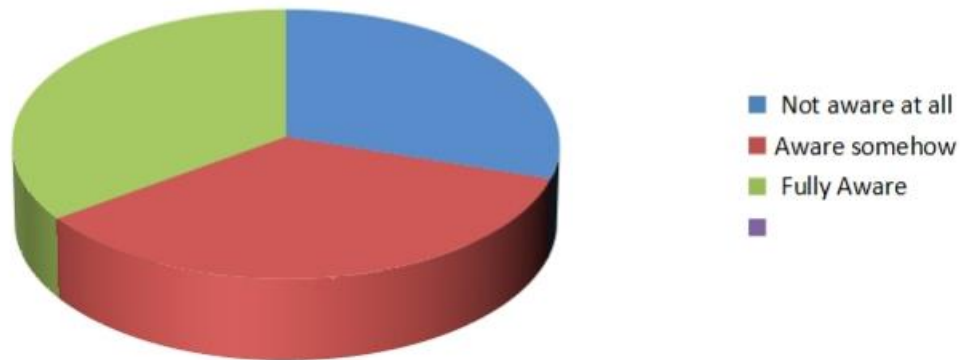


**Discussion:** The study found that AI ads on social media platforms influence the user's decision to purchase a product or services that is why AI is considered to be the most influential tool for users influencing in advertising and digital media marketing in Pakistan.

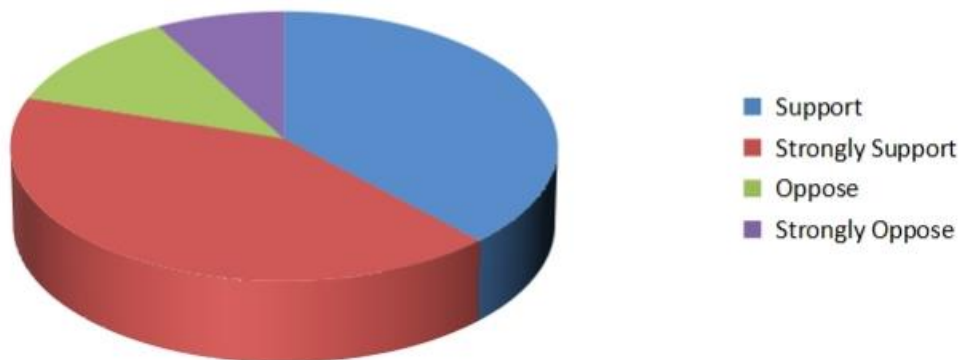## 8. "AI-enhanced ads make my purchasing decisions easier"?



**Discussion:** Analysing the collected data, it is concluded that AI powered ads made consumers purchasing power and decision making easier. AI powered ads made it easy to choose one of many in bulk for consumers while shopping online or booking digitally.

**Discussion:** Majority of Pakistani youth is aware about artificial intelligence in the advertisements they see on platforms like Facebook, Instagram, and Tiktok while some of them are not aware at all.



**Discussion:** The study found that Pakistani Youth support and strongly support regulations that require advertisers to disclose when AI is used to personalized ads while few of the respondents in the selected population as sample oppose this view.

**Finding**

**1.     Relevance vs. Trust Gap**

62% of participants said digital ads match their interests well. However, only 41% trusted those personalized ads at all, indicating a gap between useful content and trust

### 2.    Privacy Concerns
22% of respondents distrusted digital ads because of privacy concerns. Many said their worry about how companies collect and use their data was substantial

### 3.    Ethical Transparency
Most young adults said it is imperative for companies to explain how targeting works. Transparency is essential for developing trust in digital marketing

### 4.    Impact on Purchasing Behavior
Personalized ads are helping simplify their options for making purchases. Young consumers are reported being able to make quicker decisions and more confidently buy the products with help of customized recommendations

### 5.    Awareness and Regulation Support
Most young people in Pakistan are aware of when their ads are coming from an algorithm. There is a strong desire for regulations that state that companies must disclose their targeted audience reaching methods



## Conclusion
Although personalized digital ads are effective at catering to users interests that does not create trust by itself. Concerns about data management, ethics, and loose policies, also prevent full consumer trust. Lasting trust means considering the consumer's rights, being transparent, and adhering to ethical measures in the marketing spheres, especially as digital usage continues to increase among young people in Pakistan.

## Recommendations
### 1.    Enhance Transparency
Clearly explain data collection and ad targeting methods in more broaden way.
Use simple language to describe how personalization works globally.

### 2.    Protect User Data
Implement stronger privacy controls in study on global population.
Give users easy options to manage their data preferences.

### 3.    Establish Ethical Standards
Create industry guidelines for responsible digital marketing
Ensure fair and accountable advertising practices

**4.      Boost Digital Education**

Teach young consumers about online marketing systems

Help users understand their digital rights and options

**5.      Involve Young Adults**

Include youth perspectives when designing ad systems

Create feedback channels for consumer concerns

**6.      Label Targeted Content**

Clearly mark personalized ads (similar to "sponsored" tags)

Indicate when algorithms influence content

**7.      Ongoing Evaluation**

Regularly monitor consumer attitudes

Adapt strategies based on changing concerns and behaviors

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