Effects of AI-Driven Advertising on Consumer Preferences and Purchase Decision

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Abstract

The rapid integration of artificial intelligence (AI) into digital marketing has transformed the way brands communicate with consumers. AI-driven advertising enables personalized, data-driven, and real-time interactions that influence consumer perceptions and engagement. As companies use intelligence more and more to advertise to specific people it is really important to know how artificial intelligence affects what people like and what they buy. Artificial intelligence is a part of digital marketing now and it helps companies understand what people want.

This research studied the effects of AI-driven advertising on preferences and purchase decision of consumers. The study was done in New Delhi and by using the convenience sampling method a sample of 1151 respondents was selected for the study. To collect the data Google Docs was used and same was analyzed with the help of SPSS 25.0. For hypothesis testing one sample t-test, ANOVA and chi-square tests were applied. The results of the study indicated that a significant number of consumers were aware of AI-driven advertising and they have also noticed personalized advertisements based on their recent searches. The consumers highlighted the significant positive impact of AI drive advertisements on their perception and purchase decision. Consumers were satisfied with AI-driven advertisements however their satisfaction was highly affected with their perception towards AI-driven advertisements.

Key Words: AI-driven advertisements, Consumer preference, Purchase decision

Introduction:

The rapid advancement of Artificial Intelligence (AI) has significantly transformed the marketing landscape, particularly in the domain of digital advertising. In order to deliver highly customised and data-driven promotional messages, AI-driven advertising makes use of technologies like machine learning, predictive analytics, natural language processing, and automated content creation. AI systems examine vast amounts of

customer data in real time to comprehend browsing habits, preferences, and behavioural tendencies, in contrast to traditional advertising, which frequently depends on mass targeting. This change has made it possible for brands to transition from generic communication tactics to highly customised advertising campaigns.

The use of AI in advertising has been further accelerated by the expansion of digital platforms like social media, e-commerce websites, and mobile applications. To affect customer engagement, businesses are depending more and more on chatbots, recommendation engines, programmatic advertising, and dynamic content optimisation. By continuously exposing people to customised offers, messages, and products, these AI-powered tools not only improve customer interaction but also help to shape consumer preferences. Because of this, advertising is no longer merely educational; it is now persuasive and predictive, frequently influencing consumers to make particular purchases.

AI-driven advertising has started to have a significant impact on consumer purchasing decisions as a result of growing data footprints and increased digital connectivity. Targeted discounts, behavior-based ads, and personalised recommendations can all boost perceived relevancy, decrease search effort, and encourage impulsive purchases. But this expanding power also brings up significant issues regarding decision-making biases, privacy concerns, trust, and consumer autonomy. Therefore, examining the effects of AI-driven advertising on consumer preferences and purchase decisions is essential to understand both its strategic advantages for businesses and its psychological impact on consumers.

Review of Literature:

Agila (2025) investigated how consumer purchasing behaviour in the e-commerce industry is affected by AI-driven personalised marketing. By providing customised product recommendations based on browsing history and purchase patterns, machine learning algorithms and recommendation systems improve customer engagement, according to the study. According to research, personalisation greatly raises the likelihood of a purchase, boosts customer satisfaction, and fortifies brand loyalty. The study underlined how important predictive modelling and data analytics are in influencing consumer choices in cutthroat online marketplaces.

Ofosu-Ampong et al. (2025) investigated how AI-driven marketing personalisation affects consumer purchase decisions using a mixed-methods analysis. The study found that AI-based personalisation has a positive impact on perceived relevance, trust, and overall shopping convenience by combining quantitative survey data with qualitative insights. The people who wrote this study found out that people are more likely to buy things when the ads they see are about things they like and need.. The study also said that people are worried about their privacy and if their information is safe. This means that companies need to be careful with peoples information so that people will keep trusting them.

Dang (2024) did a review of lots of studies about how ads that use artificial intelligence affect what people buy. Dang used an idea called the Theory of Planned Behavior to guide the review. The review found that how people feel about ads, what other people think they should do and if they think they can actually do something all affect how people respond to ads that use intelligence. The study said that ads that use intelligence really do change what people want to buy by changing how people feel about the ads and if they think the ads are useful. The study also said that more research needs to be done to see if these ideas are true, in industries. Artificial intelligence advertising is a deal and companies need to understand how it works. Artificial intelligence advertising can help companies make ads that people will actually like and want to see.

Chowdhury et al. (2024) looked into how digital marketing that uses Artificial Intelligence affects what people want to buy. They did a study and found out that when companies make ads personal people can talk to them and they use data to target the people it makes people think these ads are valuable and trustworthy. The results showed that when companies use Artificial Intelligence for marketing people are more likely to buy things. The study said that companies should use Artificial Intelligence tools, for marketing to get people more engaged and to sell more things.

Dahivale (2024) studied how Artificial Intelligence is used for marketing and how it affects what people buy. This person looked at how automated systems, chatbots, predictive analytics and systems that recommend things influence what people decide to buy. They found out that using Artificial Intelligence for marketing makes it easier for people to find what they want and gives them the information, which makes them more likely to buy things. The paper also said that companies need to be careful and make sure people know what is going on so they do not lose trust in them. Artificial Intelligence marketing is good. People need to know what is happening so they feel safe and keep trusting companies that use Artificial Intelligence for marketing.

Dang (2024) did a study to looked at how ads that use Artificial Intelligence affect what people think and what they want to do. It used something called the Theory of Planned Behavior. The study found out that when people think Artificial Intelligence is useful they are more likely to buy things. It also found that people are more likely to buy things when they can control what they do. The study looked at what other people had found out and put it all together. It said that when people like Artificial Intelligence they are more likely to want to buy things. The study also said that we need to do research on how different cultures feel about Artificial Intelligence. We need to find out how different types of people feel about it too.

Bashynska (2023) did a study to looked at how Artificial Intelligence can help make ads that are personalized. It focused on being good to the earth and using things again. The study said that Artificial Intelligence can help people buy things that're good for the earth. It can suggest things that people will like. That are good for the earth too. The study found out that when ads are personalized people are more likely to pay attention. They are also more likely to buy things that're good for the earth. The research said that Artificial Intelligence can help companies sell things in a way that's good for the earth. It can help them reach their goals and be good to the earth, at the time.

Singh and Adhikari (2023) did a study about how artificial intelligence's used to make advertisements personal in online shopping. They found out that when ads are made for someone based on what they look at and buy online it really gets their attention and makes them want to buy things. The study said that artificial intelligence tools like the ones that recommend products and predict what people will buy are really good for shopping companies because they make ads more relevant and effective.

Agarwal et al. (2023) talked about how artificial intelligence's changing the way ads are made in a paper they presented at the IEEE International Conference on Technology Management, Operations and Decisions in 2023. They said that artificial intelligence technologies like looking at lots of data and machine learning make it possible to make ads that're really personal and can be changed in real time. The study said that artificial intelligence helps make ads that people actually want to see which makes them more engaged and helps companies sell things. It also said that companies need to be careful when they use intelligence for ads and make sure they are doing it in a responsible way. Singh and Adhikari and also Agarwal and the other people showed that artificial intelligence is really important for making advertisements, in online shopping. Artificial intelligence helps online shopping companies make ads that're just right for each person, which is what people like and it helps companies sell more things.

Kim, Kang and Bae (2022) wanted to see how what customers want to achieve when they shop affects how they respond to suggestions from intelligence. They looked at Stitch Fix to get their information. The study found out that people who shop to get something done quickly or to solve a problem like the suggestions from artificial intelligence. On the hand people who shop for fun or to see what they can find do not like these suggestions as much. The study showed that artificial intelligence is good at suggesting things when it knows what the customer wants. The people who did the study think that it is very important to know what customers want when they shop so we can make the suggestions, from intelligence better.

Beyari and Garamoun (2022) tried to figure out how artificial intelligence affects what people buy online. They thought about how useful artificial intelligence's how easy it is to use how much people trust it and the risks of using it.

They found out that artificial intelligence helps people make decisions and reduces confusion, which makes them more likely to buy something. The authors think that we should look at how people behave and how technology works to understand how artificial intelligence affects online shopping.

Jangra and Jangra (2022) looked into how artificial intelligence's used in online shopping and how it affects what people buy. This study was presented at the IEEE conference, which is called ICCSEA 2022. It showed how artificial intelligence tools like chatbots and things that recommend products to you can make shopping better and easier. The study found that artificial intelligence makes things more convenient and personalized which makes people happier and more likely to buy things.

Gkikas and Theodoridis (2021) wrote about intelligence and how it affects what people buy in a book chapter. They talked about how machines can learn and how big data and automation are changing the way people make decisions when they shop. They said that artificial intelligence does not just try to guess what people like. It also helps shape what people like by showing them certain things and recommending products. They think that artificial intelligence is very important in changing the way people interact with brands and companies

Rabby, Chimhundu and Hassan (2021) looked at how artificial intelligence's used in digital marketing and how it affects people behavior. They looked at what other people have written about this topic. Came up with a theory that can be used for future research. They found that artificial intelligence helps make things more personalized and can even predict what people might want to buy. They also said that artificial intelligence can automatically communicate with people, which can affect how people feel about products or companies. They think that more research should be done to see how things like age and culture affect how people respond to intelligence, in marketing.

Sharma, Patel, and Gupta (2021) focused on making customers more engaged with the help of AI in marketing. This is done by using methods like filtering and neural networks. The study showed how advanced computer programs can look at customer data. They then give product suggestions that're really relevant, to each customer. The results found that using AI like this makes customers more engaged. It also makes customers like a brand and buy more often. The authors said it is very important for marketers to use networks. They should include these in their marketing plans to make them work better.

Kim (2020) did a study about how people think about the costs and benefits of AI systems that make recommendations. The study found that people like it when these systems are convenient and accurate and know what they want. People get worried about their privacy and how their data is used and that makes them think these systems are not as good. So it is really important to make sure people think the good things about these systems are more important than the things so they will keep using them and like them.

Kumar et al. (2019) did a study about how artificial intelligence's used in marketing to get people engaged. They wrote about it in the California Management Review. They said that artificial intelligence helps companies talk to their customers in a way by knowing what each person wants and needs at the right time. The authors said that artificial intelligence makes marketing work better by figuring out how money a customer will spend and by making sure the company talks to the customer at the right time and by making the customer happy. They think artificial intelligence is a part of what makes a company better than others, in marketing.

Sang, Xue, and Zhao (2018) did a study about the people who buy things in China will sometimes switch to a brand even if they are happy with what they have. This happens when they want to try something. A study found out that people who are happy with a brand will still switch if they do not care much about the product or if they want to try something different. This is important for companies that use computers to pick ads for people because these ads can either make people like a brand or want to switch to something else.

Rathore (2017) wrote a paper about fashion and a new kind of internet called the metaverse. He talked about how computers can be used to make people more excited about fashion and help brands come up with ideas. The paper said

that companies can use computer tools like helpers, prediction tools and special personalized experiences to make people feel more connected to brands when they shop online. It said that computers can help brands make experiences that people will remember and feel good about which can make people like a brand and want to come back. The paper also said that using computers to make these experiences can change the way brands talk to people and make people more loyal, to brands, which can change the way fashion works in the world.

Rathore (2016) explored the future of fashion marketing is something that is really important. When you look at it through the lens of intelligence and sustainability you can see that artificial intelligence can really help with sustainable production methods and transparent supply chains. Artificial intelligence can also help with communication that promotes responsible consumption. Artificial intelligence can help brands make sure their marketing strategies are in line with what people think is ethical and what consumers want when it comes to being environmentally conscious. The research found that when you combine intelligence with sustainable practices it makes brands more credible and consumers trust them more. This also helps with long-term engagement in the fashion industry and with fashion marketing.

Remar, Campbell, and DiPietro (2016) investigated about food marketing and how it affects what people buy and how much they are willing to pay in a foodservice setting. Even though they did not focus on intelligence their study was still very helpful, in understanding how marketing messages and being authentic can influence what consumers do. The study found that when marketing focuses on sourcing and quality and is transparent consumers are more likely to buy things and pay more money for them. This study helps us understand how marketing strategies that are personalized and based on values can shape what consumers prefer and how they make decisions.

White (2015) looked into how artificial intelligence affects how consumers behave. The paper talked about how AI technologies like data mining, predictive modeling and behavioral analytics help marketers understand what consumers need and want. These technologies improve their ability to figure out what consumers are likely to do. Artificial intelligence plays a role in dividing audiences into more precise groups. This helps marketers create campaigns that're more likely to grab the attention of consumers and lead to sales. The study found out that AI really helps marketers make decisions. It does this by giving them an understanding of consumer patterns and preferences through artificial intelligence. The use of AI, in marketing leads to results.

Research Gap:

The majority of studies concentrate on theoretical frameworks, technological models, or particular industries like e-commerce and fashion marketing, even though the body of existing literature thoroughly explores AI-driven personalisation, recommendation systems, ethical marketing, and purchase intention. Although purchase intention and engagement are highlighted in a number of reviews, there is little empirical data on consumer awareness, perception, brand preference formation, satisfaction levels, and their combined impact on actual purchase decisions within a single framework. Furthermore, a lot of research focuses on intention rather than how AI-driven advertising simultaneously affects post-exposure satisfaction and brand preferences. Additionally, little research has been done on how consumers view AI-driven ads in useful, real-world digital contexts outside of recommendation systems. Therefore, a comprehensive empirical investigation assessing consumer awareness, perception, brand preference, purchase decision, and satisfaction together is required to bridge this gap and provide a holistic understanding of the effects of AI-driven advertising on consumer behavior.

Objectives

1. To assess the level of consumer awareness regarding AI-driven advertising
2. To examine consumers' perceptions of AI-driven advertising
3. To analyze the impact of AI-driven advertising on consumer brand preferences
4. To evaluate the influence of AI-driven advertising on consumers' purchase decisions

5. To access the consumers' satisfaction with AI driven advertisements

Hypotheses

1. Consumers' Perception towards AI-driven advertising is indifferent with respect to their age and education level
2. There is no significant impact of AI-driven advertising on consumer brand preferences
3. There is no significant influence of AI-driven advertising on consumers' purchase decisions
4. There is no impact of consumers' Perception towards AI-driven advertising on their satisfaction with AI driven advertisements

Research Methodology

- Research Design: Descriptive research design was used to identify the consumers' awareness level of AI-driven advertisements, further Causal research design was used to check the impact of AI-driven advertisements on consumer preference and purchase decision.
- Sampling: The study was done in New Delhi and by using the convenience sampling method a sample of 1151 respondents was selected for the study.
- Data Collection Tool: Data was collected by using the questionnaire method. The questionnaire was having the following sub-sections:-
  - o Demographic Information
  - o Awareness of AI-Driven Advertising
  - o Consumers' Perception of AI-Driven Advertising
  - o Impact of AI-Driven Advertising on Consumer Preferences
  - o Impact of AI-Driven Advertising on Purchase Decision
  - o Consumers' Satisfaction with AI-Driven Advertising
- Data Analysis Tool: The data has been analyzed in SPSS 21.0. For interpretation average, coefficient of variation, one sample t-test, ANOVA and Chi-square tests have been used.

Analysis of Data

- Demographic Information of Respondents

Table 1 is depicting the demographic profile of sample respondents

- Gender of Respondents: In the sample 58.99% male respondents and 41.01% female respondents were included.
- Age of Respondents: Majority of respondents (42.40%) were aged between 25 to 40 years followed by 41 to 55 years (32.93%) and more than 55 years (15.12%).
- Education level of Respondents: in the sample 40.75% respondents were postgraduate and 32.32% respondents were graduates. Very few respondents (4.26%) were PhD holders and 6.43% respondents were holding the professional degree.
- Occupation of Respondents: It was found that 39.18% respondents were employed in private sector and 17.03% respondents were in government job. Te sample included 20.94% students, 9.64% businessman, 7.82% homemakers and 5.39% retired employees.

Table 1: Demographic Profile of Respondents

Gender	**N**	**Percentage**
Male	679	58.99
Female	472	41.01
Total	**1151**	**100**
Age	**N**	**Percentage**
Under 25 Years	110	9.56
25 to 40 Years	488	42.40
41 to 55 Years	379	32.93
55 Years and above	174	15.12
Total	**1151**	**100**

Gender	N	Percentage
Education	**N**	**Percentage**
Up to School Level	141	12.25
Graduate	372	32.32
Postgraduate	469	40.75
Doctorate	49	4.26
Professional Degree	74	6.43
Other	46	4.00
Total	**1151**	**100**
Occupation	**N**	**Percentage**
Student	241	20.94
Government Employee	196	17.03
Private Employee	451	39.18
Businessman	111	9.64
Homemaker	90	7.82
Retired	62	5.39
Total	**1151**	**100**

- **Awareness of AI-Driven Advertising**
- Respondents' awareness about AI driven advertising is shown in table 2
- Awareness about AI driven Advertising: It was observed that 58.99% respondents were moderately aware about AI driven advertising and 17.20% respondents were extremely aware about AI drive advertisements.
- **Platform for frequent encounter of AI-driven advertisements:** Majority of respondents (33.62%) indicated that they frequently encounter AI-driven advertisements on social media followed by e-commerce websites (24.41%) and search engines (20.94%).
- **Frequency of noticing personalized advertisements:** It was found that more than 1/3rd of the respondents (36.58%) sometimes notice personalized advertisements online while 30.32% respondents often see such advertisements.
- **Reflection of recent activities in Ads:** Almost half of the respondents (49.17%) indicated that they have noticed ads that reflect their recent online searches or purchases.
- **Awareness about AI collection of history, clicks, and preferences:** More than half of the respondents (51.61%) knew that AI uses browsing history, clicks, and preferences to personalize ads, while 23.54% respondents were not aware about this fact.
- **Awareness about data collection by companies for Ad personalization:** Majority of respondents (68.20%) were somewhat aware that companies collect consumer data to improve ad personalization and 14.68% respondents were fully aware about this fact.
- **Ever modified privacy settings:** 31.28% respondents admitted that they have modified ad or privacy settings due to personalized advertising, and 32.32% respondents were not aware of any such setting.

Table 2: Awareness of AI-Driven Advertising

Please Specify your awareness level about AI driven Advertising		
Response	**N**	**Percentage**
Extremely Aware	198	17.20
Moderately Aware	679	58.99
Slightly Aware	274	23.81
Total	**1151**	**100**
Where do you most frequently encounter AI-driven advertisements?		
Response	**N**	**Percentage**
Social media	387	33.62
Search engines	241	20.94
E-commerce websites	281	24.41
Streaming platforms	152	13.21
Mobile applications	90	7.82
Total	**1151**	**100**
How often do you notice personalized advertisements online?		
Response	**N**	**Percentage**
Very Often	144	12.51
Often	349	30.32
Sometimes	421	36.58
Rarely	165	14.34
Never	72	6.26
Total	**1151**	**100**
Have you noticed ads that reflect your recent online searches or purchases?		
Response	**N**	**Percentage**
Yes	566	49.17
No	311	27.02
Not Sure	274	23.81
Total	**1151**	**100**
Do you know that AI uses browsing history, clicks, and preferences to personalize ads?		
Response	**N**	**Percentage**
Yes	594	51.61
No	271	23.54
Not Sure	286	24.85
Total	**1151**	**100**
Are you aware that companies collect consumer data to improve ad personalization?		
Response	**N**	**Percentage**
Fully Aware	169	14.68
Somewhat Aware	785	68.20
Not Aware	197	17.12
Total	**1151**	**100**
Have you ever modified ad or privacy settings due to personalized advertising?		
Response	**N**	**Percentage**
Yes	360	31.28
No	419	36.40
Was not aware this was possible	372	32.32
Total	**1151**	**100**

- **Consumers' Perception towards AI-driven advertising**

To access the consumers' perception towards AI-driven advertisement they were asked to indicate their agreement towards few statements as depicted in table 3. Respondents appreciated the AI driven advertisements as compared to traditional ads (Mean=4.08) as these ads are relevant to their needs (Mean=3.97) and improve their overall experience (mean=3.82). Further respondents indicated that AI-driven advertisements are trustworthy (Mean=3.52) because they provide useful product information (Mean=3.69) and save time while searching for products (Mean=3.41).

Table 3: Consumers' Perception towards AI-driven advertising

Consumers' Perception of AI-Driven Advertising	Mean	S.D.	C.V.	Result
AI-driven advertisements are relevant to my needs.	3.97	1.12	0.28	Agree
AI-based ads provide useful product information.	3.69	0.97	0.26	Agree
Personalized ads save time when searching for products.	3.41	0.85	0.25	Agree
AI-driven advertisements are more engaging than traditional ads.	4.08	1.05	0.26	Agree
AI-based ads improve my overall online experience.	3.82	0.79	0.21	Agree
Personalized ads feel interesting at times.	3.28	0.68	0.21	Neutral
AI-driven advertisements are trustworthy.	3.52	1.04	0.30	Agree

•Overall it was found that 84.27% respondents were having the positive perception towards AI-drive advertisements while 15.73% respondents have perceived AI-driven advertisements negatively.

Table 4: Consumers' Overall Perception towards AI-driven advertising

Overall Perception	N	Percentage
Negative	181	15.73
Positive	970	84.27
Total	**1151**	**100**

To check the difference in consumers' perception with respect to their age and education level following hypothesis has been taken:-

$H_0$1: Consumers' Perception towards AI-driven advertising is indifferent with respect to their age and education level

H_a1: Consumers' Perception towards AI-driven advertising is significantly different with respect to their age and education level

To test this hypothesis ANOVA test was used and result for age and education level are presented in table 5 and 6 respectively. The value of test statistic is significant which provide enough evidence to reject the hypothesis so it can be concluded that consumers' perception towards AI-driven advertising is significantly different with respect to their age and education level

Table 5: ANOVA test result to check significance of difference in consumers' perception towards AI advertising with respect to their age

Source of Variation	Sum of Squares	Degree of Freedom	Mean Sum of Squares	F-Ratio	p-value	Result
Between Samples	6253.65	3	2084.550	27.915	0.000	**Significant**
Within Samples	85653.3	1147	74.676			
Total	91906.9	1150				

Level of Significance=5%

Table 6: ANOVA test result to check significance of difference in consumers' perception towards AI advertising with respect to their education level

Source of Variation	Sum of Squares	Degree of Freedom	Mean Sum of Squares	F-Ratio	p-value	Result
Between Samples	7965.32	5	1593.064	24.464	0.000	**Significant**
Within Samples	74562.4	1145	65.120			
Total	82527.7	1150				

Level of Significance=5%

Impact of AI-driven advertising on consumer brand preferences

The sample respondents highlighted that AI-based ads increase their interest in advertised products (Mean=3.99), influence their brand preferences (Mean=3.85) and Personalized ads align well with their interests and lifestyle (Mean=3.72). It was observed that repeated exposure to personalized ads strengthens their brand preference (Mean=3.61), help them to discover brands they were previously unaware of (Mean=3.58) and they were more likely to prefer brands that offer personalized advertisements (Mean=3.42).

Table 7: Impact of AI-driven advertising on consumer brand preferences

Impact of AI-Driven Advertising on Consumer Preferences	Mean	S.D.	C.V.	Result
AI-driven advertising influences my brand preferences.	3.85	0.87	0.23	Agree
AI-driven ads help me discover brands I was previously unaware of.	3.58	0.95	0.27	Agree
I am more likely to prefer brands that offer personalized advertisements.	3.42	0.74	0.22	Agree
Repeated exposure to personalized ads strengthens my brand preference.	3.61	0.88	0.24	Agree
AI-based ads increase my interest in advertised products.	3.99	1.01	0.25	Agree
Personalized ads align well with my interests and lifestyle.	3.72	1.05	0.28	Agree

Majority of respondents (84.97%) indicated the positive impact of AI-driven advertising on consumer brand preferences.

Table 8: Overall Impact of AI-driven advertising on consumer brand preferences

Overall Impact	N	Percentage
Low	173	15.03
High	978	84.97
Total	**1151**	**100**

To check the significance of impact of AI-driven advertising on consumer brand preferences following hypothesis has been taken:-

H02: There is no significant impact of AI-driven advertising on consumer brand preferences

Ha2: There is a significant impact of AI-driven advertising on consumer brand preferences

Table 8 is showing the one sample t-test applied to check the significance of impact of AI-driven advertising on consumer brand preferences. The value of t-statistic is significant and the calculated value of mean (22.19) is higher than the median value (i.e.18) so it can be affirmably concluded that there is a significant impact of AI-driven advertising on consumer brand preferences.

Table 9: One sample t-test result to check significance of impact of AI-driven advertising on consumer brand preferences

Variable	Observed Mean	Test Value = 18			Result
		t-value	degree of freedom	p-value	
Impact of AI-Driven Advertising on Consumer Preferences	22.19	25.85	1150	0.000	**Significant**

Level of Significance=5%

Influence of AI-driven advertising on consumers' purchase decisions

The sample respondents highlighted that AI-based ads increase their likelihood of purchasing product (Mean=4.05) and reduced time taking of purchase decision (Mean=3.94) has encouraged them for impulsive buying (Mean=3.81). Respondents used to trust product recommendations generated by AI (Mean=3.74) and these advertisements increase their confidence while purchasing online (Mean=3.42). Consumers also indicated that personalized ads (Mean=3.61) along with the discounts & offers (Mean=3.54) motivate them to buy products.

Table 10: Influence of AI-driven advertising on consumers' purchase decisions

Impact of AI-Driven Advertising on Purchase Decision	Mean	S.D.	C.V.	Result
I trust product recommendations generated by AI.	3.74	1.09	0.29	Agree
AI-driven advertisements increase my likelihood of purchasing a product.	4.05	0.87	0.21	Agree
AI-driven advertising increases my confidence while purchasing online.	3.42	0.94	0.27	Agree
Personalized ads influence my final purchase decision.	3.61	1.02	0.28	Agree
Personalized ads reduce the time I take to make purchase decisions.	3.94	0.99	0.25	Agree
Discounts and offers shown in AI-driven ads motivate me to buy products.	3.54	1.03	0.29	Agree
AI-driven ads encourage impulse buying.	3.81	0.67	0.18	Agree

According to 86.79% consumers Ai-driven advertising positively influence their purchase decision

Table 11: Overall Influence of AI-driven advertising on consumers' purchase decisions

Overall Impact	N	Percentage
Low	152	13.21
High	999	86.79
Total	**1151**	**100**

To check the significance of role of influence of AI-driven advertising on consumers' purchase decisions following hypothesis has been taken:-

H03: There is no significant influence of AI-driven advertising on consumers' purchase decisions

Ha3: There is a significant influence of AI-driven advertising on consumers' purchase decisions

Table 12 is showing the one sample t-test applied to check the significance of influence of AI-driven advertising on consumers' purchase decisions. It can be seen that the value of t-statistic is significant which leads to the rejection of null hypothesis. As the calculated value of mean is higher than the median value (i.e.21) so it can be concluded that there is a significant influence of AI-driven advertising on consumers' purchase decisions

Table 12: One sample t-test result to check significance of influence of AI-driven advertising on consumers' purchase decisions

Variable	Observed Mean	Test Value = 21			Result
		t-value	degree of freedom	p-value	
Impact of AI -Driven Advertising on Purchase Decision	26.15	26.86	1150	0.000	**Significant**

Level of Significance=5%

Consumers' satisfaction with AI driven advertisements

Respondents were asked to indicate their satisfaction with AI drive advertisements and it was observed that respondents were highly satisfied with engagement and interactivity of ads (Mean=4.12, Rank=1) followed by in-formativeness (Mean=3.94, Rank=2) and convenience of ads (Mean=3.87, Rank=3). Consumers indicated satisfaction with trust & credibility (Mean=3.61, Rank=4), relevance (Mean=3.57, Rank=5) and personalized quality (Mean=3.41, Rank=6). Respondents were found neither satisfied nor dissatisfied with privacy & data security of AI driven advertisements (Mean=3.29, Rank=7).

Table 13: Consumers' satisfaction with AI driven advertisements

Consumers' Satisfaction with AI-Driven Advertising	Mean	S.D.	C.V.	Result
Personalization Quality	3.41	0.95	0.28	6
Relevance	3.57	0.87	0.24	5
In-formativeness	3.94	1.05	0.27	2
Engagement & Interactivity	4.15	0.88	0.21	1
Trust & Credibility	3.61	1.01	0.28	4
Convenience & Time Efficiency	3.87	1.14	0.29	3
Privacy & Data Security	3.29	0.69	0.21	7

According to result depicted in table 14, majority of consumers (84.88%) were satisfied with AI driven advertisements and 15.12% consumers were dissatisfied with AI driven advertisements.

Table 14: Consumers' overall satisfaction with AI driven advertisements

Overall Satisfaction	N	Percentage
Low	174	15.12
High	977	84.88
Total	**1151**	**100**

To check the significance of impact of consumers' Perception towards AI-driven advertising on their satisfaction with AI driven advertisements following hypothesis has been taken:-

$H_0$4: There is no significant impact of consumers' Perception towards AI-driven advertising on their satisfaction with AI driven advertisements

Ha4: There is a significant impact of consumers' Perception towards AI-driven advertising on their satisfaction with AI driven advertisements

Table 15 is showing the chi-square test applied to test this hypothesis. The significant value of chi-statistic leads to the rejection of hypothesis so it can be concluded that there is a significant impact of consumers' Perception towards AI-driven advertising on their satisfaction with AI driven advertisements

Table 15: Chi-square test result to check impact of consumers' Perception towards AI-driven advertising on their satisfaction with AI driven advertisements

Consumers' Perception	Consumers' Satisfaction			Chi - Statistic	p-value	Result
	Low	High	**Total**			
Negative	152	29	181	793.65	0.000	**Significant**
Positive	22	948	970			
Total	174	977	1151			

Level of Significance=5%

Conclusion

1. The results indicated that that a significant number of consumers were aware of AI-driven advertising and they have also noticed personalized advertisements based on their recent searches.
2. Respondents appreciated the AI driven advertisements as compared to traditional ads as these ads are relevant to their needs and improve their overall experience. Further respondents indicated that AI-driven advertisements are trustworthy because they provide useful product information and save time while searching for products.
3. Overall it was found that 84.27% respondents were having the positive perception towards AI-drive advertisements while 15.73% respondents have perceived AI-driven advertisements negatively. Further it was found that consumers' perception towards AI-driven advertising is significantly different with respect to their age and education level
4. Respondents highlighted that AI-based ads increase their interest in advertised products, influence their brand preferences and Personalized ads align well with their interests and lifestyle. It was observed that repeated exposure to personalized ads strengthens their brand preference, help them to discover brands they

were previously unaware of and they were more likely to prefer brands that offer personalized advertisements. Majority of respondents (84.97%) indicated the positive impact of AI-driven advertising on consumer brand preferences.

5. The sample respondents highlighted that AI-based ads increase their likelihood of purchasing product and reduced time taking of purchase decision has encouraged them for impulsive buying. Respondents used to trust product recommendations generated by AI and these advertisements increase their confidence while purchasing online. According to 86.79% consumers; Ai-driven advertising positively influence their purchase decision.
6. Respondents were highly satisfied with engagement and interactivity of ads followed by in-formativeness and convenience of ads. Consumers indicated satisfaction with trust & credibility, relevance and personalized quality.
7. Majority of consumers (84.88%) were satisfied with AI driven advertisements and 15.12% consumers were dissatisfied with AI driven advertisements. It was also found that there is a significant impact of consumers' Perception towards AI-driven advertising on their satisfaction with AI driven advertisements.

Implications of the study:

The study has important implications for marketers and advertising professionals. Given that most of the consumers were aware of, had a positive perception of and were satisfied with AI advertising, strategic investments in AI-enhanced personalization technologies would be likely to improve consumers' engagement with products or brands. Consistently significant effects of AI advertising on brands' preferences and purchase decisions suggest that personalized, data-driven media campaigns would be more successful in building brand awareness, creating brand equity, and generating sales. Accordingly, marketers must carefully craft and deploy personalized, informative, interactive, and lifestyle-relevant advertisements to maximize benefits. Consistent results across repeated exposures to personalized AI advertising suggest that consumers' lifestyles and communication preferences can be harnessed to improve brand recall and loyalty. Finally, the differences in perception of AI advertising across age and education suggest that marketers need segment-specific AI advertising strategies for equal reach and effects across different consumer groups.

The study emphasises the significance of preserving credibility, openness, and trust in AI-driven advertising from a strategic and policy standpoint. Businesses should make sure that algorithms provide accurate and useful product information because customers value AI-generated recommendations for improving convenience and saving time. In order to prevent opposition or scepticism regarding AI-based marketing strategies, it is crucial to address the concerns of the minority segment that has unfavourable opinions. Consumer confidence can be further bolstered by improving ethical data usage, privacy protection, and transparent communication about personalisation mechanisms. All things considered, the favourable effects of AI-driven advertising on customer satisfaction, brand preference, and purchase decisions highlight its potential as a potent instrument for gaining a competitive edge in the online market.

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