A Project Report

On

The Effectiveness of AI-driven Advertising (Google Ads or Meta Ads) on Consumer Purchase Decisions

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SUBMITTED TO:

Dr. Md. Shariful Alam

Professor

School of Business & Economics (SoBE)

United International University (UIU)

SUBMITTED BY:

Mostofa Al Hasan Yeamoon

ID: 111 201 078

1st Major: Marketing

2nd Major: Business Analytics

COURSE CODE: INT 4399

United International University

School of Business and Economics

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Letter of transmittal

November 22, 2025

Dr. Md. Shariful Alam
Professor
School of Business & Economics (SoBE)
United International University

Subject: **Submission of the Project Report**

Dear Sir:

The report titled " The Effectiveness of AI-driven Advertising (Google Ads or Meta Ads) on Consumer Purchase Decisions" has been sent to you for review. Your guidance has been the most help to me, and I sincerely appreciate it. The direction and breadth of this report have been greatly influenced by your ongoing advice and helpful criticism. With special emphasis on the AI- driven advertising mechanisms of Google and Meta, I have done my best to integrate the theoretical knowledge I have learned throughout the course with the practical analysis of how these platforms influence consumer behavior.

I genuinely hope the report lives up to your expectations and gives you a thorough grasp of the subject analyzed. I would appreciate any comments or other recommendations you might have.

Once again, I want to thank you for all your help and guidance with this project.

Sincerely,

Mostofa Al Hasan Yeamoon

ID- 111 201 078
Program: BBA
1st Major: Marketing
2nd Major: Business Analysis

Certification of similarity index

Plagiarism of The Project Report Entitled "The Impact Of AI Based Advertisement (Google Ads or Meta Ads) On Consumer Purchase Decision" is tested on Turnitin software and has been completed from official tools of my institution.

The similarity index is acceptable as per the guideline received from School of Business & Economics (SOBE), United International University.

Mostofa Al Hasan Yeamoon

ID- 111 201 078

Declaration of the student

I, Mostofa Al Hasan Yeamoon, acknowledge my personal responsibility as the author of the project report “The Effectiveness of AI-driven Advertising (Google Ads or Meta Ads) on Consumer Purchase Decisions” all the data in this report was collected and analyzed prior to being used in the study. All the study’s facts are true and relevant. Additionally, the fact and the findings that are shown here is no content that have been copy directly copied without properly citing the original author.

Mostofa Al Hasan Yeamoon

ID- 111 201 078

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Acknowledgement

Frist, I would like to thank the Almighty Allah for giving the ability and strength to finish all the courses in BBA which enable me to turn in my report on time. This report is the result of extensive analysis, research, collaboration and effort from multiple individuals. It would not have been possible without their continued support, Guidance and contribution throughout the process.

I would like to thank everyone who contributed to this report. I would especially like to thank my supervisor at United International University (UIU), Dr. Md. Shariful Alam, Professor, Department of School of Business & Economics (SoBE), For his help and guidance with my project “The Effectiveness of AI-driven Advertising (Google Ads or Meta Ads) on Consumer Purchase Decisions” report from the very beginning. He has provided me with frequent advice and feedback and valid criticism while I was composing my report. Without his assistance, this report would not have been feasible.

At last, I’m also appreciate of my friends and peer who polish the concept in this report, offered emotional support, and offered wise criticism. Their encouragement has been a constant source of motivation.

Abstract/ Executive summary

This research study, “The Effectiveness of AI-driven Advertising (Google Ads or Meta Ads) on Consumer Purchase Decisions” provides the practices, effectiveness and limitations of the AI-based advertising to assess the role of the Google and Meta digital duopoly ads system. The central hypothesis claims That AI based ad are effective. In changing consumer buying behavior pattern, the effectiveness is increasingly tempered by the tempered by consumer trust and quality of data in addition to an increasingly complex ethical and regulatory landscape.

Ultimately, the research concludes that modern digital ads are no longer manual, but instead AI-based and even necessary for increasing Competition. This is supported by findings from Alphabet (parent company of Google) and Meta who each see Rapid growth in revenue hoarding as their ad systems now operate themselves with custom targeting, bidding and creative development rationalized on millisecond scales.

Google uses Google's Performance Max (PMax) to run ads across all Google’s channels like YouTube, Gmail, Maps etc. It’s a solution that turns every google channel into one single goal-oriented campaign.

Meta’s Advantage+ Suite on the other hand is a “demand-generation” Model Which is the collection of automation product within meta. It streamlines the ads campaign setup and optimizes the performance in real time.

The report analyzed the psychological effect of advertising tool and highlighting the privacy paradox where consumer desire and personalization Data are used to make ad campaigning, specifically targeting them and changing their perception and encouraging them to purchase the products. It also highlights the challenges and the mistrusts because of these types of campaigning and how the brands deal with such situations.

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Table 1:

Abbreviation Table:

Abbreviations	Full Name
B2B	Business-to-Business
B2C	Business-to-Consumer
CAPI	Conversions API (Meta)
CCPA	California Consumer Privacy Act
CLV	Customer Lifetime Value
CPA	Cost Per Acquisition
CPC	Cost Per Click
CPM	Cost Per Mille
CPRA	California Privacy Rights Act
CRM	Customer Relationship Management
CTR	Click-Through Rate
DCO	Dynamic Creative Optimization
GenAI	Generative Artificial Intelligence
GDPR	General Data Protection Regulation
KPI	Key Performance Indicator
PMax	Performance Max (Google)
PPC	Pay Per Click
ROAS	Return on Ad Spend
ROI	Return of Investment
SOR	Stimulus-Organism-Response
CTR	Click-Through-Rate

CHAPTER I: INTRODUCTION

I.1 Introduction:

The digital advertising world has experienced a massive transition period. A transition from manual and human focus activity to automatic one that's entirely based on artificial intelligence. In today's world, modern advertisements run on artificial intelligence. AI has become from novelty to strategic competitive advantage for organizations that want to connect with their customers to throughout online platforms.

In the past, a human media buyer manually decides and bids on determining the target audience and add creatives ad campaigns. Today, the majority of advertising platform giants Google Ads and Meta Ads are using AI to sell, target and place ads micro-second to micro-second across gigantic networks. Today AI has reached such a point where they decide which time and where the advertisement will be placed and how much they will be charged the advertiser to show a given impression. This has sparked a major gap in human capabilities versus the artificial intelligence capabilities to understand the customer in real time. Human ad pros are frequently unable to understand or decisively direct these new AI models which operate at a scale and speed humans aren't capable.

I.2 Background of the analysis:

In this report there are mainly two key players that dominate in this AI-Driven marketing Google (Alphabet) and meta (Facebook/Instagram). These two giant companies are at the top in leading a duopoly over not just digital ads spend, but more specifically product development and product deployment of AI-enabled advertising solutions.

The digital AI-enable marketing of these AI platforms is unrivaled as most recent 2025 financial reports show that their profits are in tens of billions, and no other competitor comes close to them. Advertisers, even amid constrained budgets, are “betting big” on these established platforms. Google’s parent company, Alphabet, earned $74.2 billion in ad revenue for Q3 2025 — a year-over-year lift of 13% driven largely by the infusion of apps with AI technologies on its Search and YouTube platforms. Meanwhile, At the same time, Meta claimed victory in the ad growth battle boasting that its AI ecosystem and message-based commerce formats saw 26% year-over-year increase in ad sales.

These massive revenues do not simply represent their lead they are the market de facto in response to the key questions of this report tries to answer which are:

- How do these AI-tools achieve their effectiveness?
- How is the human mind affected by AI tools in terms of perception and decision making?
- At what cost, in terms of privacy and algorithm bias, does the effectiveness come?

I.3 Objectives of the Study:

These report objectives can be divided into two parts:

Primary objective:

The major objective is to examine and analyze the effectiveness of AI generated advertisement message and AI driven target selection mechanism on consumer engagement, including the purchase behavior of the targeted customer. Also, what factors influence their decisions.

Secondary Objectives:

The secondary objectives are as follows:

- To test the effect of specific features of AI driven product and images.
- To understand the factors which influence the customer's perception.
- To analyze specific platform specific tools that enable them to have the competitive edge from another competitor.
- To compare both giants Google and Meta, they are dominating the market.
- To determine the most critical and ethical challenges.
- To determine what are the implications of the data and privacy.
- To analyze the human element in AI which influences the customer.
- To understand how these AI tools make the cost analysis.

I.4 Scope and limitations of the Study

During this study I have faced several limitations which are:

Scope limitations:

As I'm only a student I have lack some key knowledge and skills to gather information which can improve my research further. As such I can only rely on the knowledge and skills that I currently have to make the research as successful as possible.

Time limitations:

These types of research need really long time but due to the limited time available for research I have to utilize only the necessary part which is needed for this research. And based on that formulate my own findings.

Data Collection:

For the data collection I have studied some research paper published by the other author and available data online. As outside of the organization we cannot get the real time of full data needed for comprehensive research.

Methodological Research Limitations:

The biggest limitation for this report is the opacity of the platforms. As it is AI and algorithms, the topic is quite hard to understand deeply by just gathering data. Google and Meta's central AI-powered systems are their own "black boxes." As a result, their "operations and effects are opaque and hard to see" for external researchers like me. As such research can be only conducted on the data they release to public and 3rd party research.

I.5 Definition of key terms

To understand this research better some key terms and definitions need to be clarified which are given below.

AI-Driven Advertising:

The uses of artificial intelligence to automate the ad placement, bidding, targeting and creating generating systems like Google Performance Max or Meta Advantage+.

AI-Powered Product Attribution:

An AI Power feature that validates the existing product data and creates a distinctive attribute to maximizing the recommendation and personalization in search.

Customer Segmentation (AI-Driven):

Utilizing the AI to search the bus data of customer and identify and. Group audience segment with the similar behavior and interest for target for specific products or services.

Dynamic Creative Optimization (DCO):

Using AI (Artificial Intelligence) to tailor ads components specific to the user preference data to create most relevant and engagement from the customer.

Algorithmic Bias:

A type of bias that can be seen on AI decision making which is shaped by the training data available to that AI, which can result in unfair result or false predictions by the AI models.

Black Box:

AI model operating system and how they make decisions which are hidden from outside of the company.

CHAPTER II: REVIEW OF THE LITERATURE

2.1 Introduction

AI (Artificial Intelligence) evolved the global advertising industry in such a way that in today's age people can't think about digital ads without assistants from the AI. Previous traditional manual advertising processes are now replaced by the sophisticated AI automated data processing system which uses algorithms to predict, target and influence customer perception. And here the two giants that dominate the whole industry are Google and Meta, which deliver highly personalized, performance-optimize campaigning in real time.

In part of the report will highlight mainly 2 area which is:

- Industry analysis.
- Literature survey.

Figure 1

2.2 Industry analysis

2.2.1 Specification of the industry:

AI advertising industry is one of the fastest growing industries in the world. Most creditable sources predict AI in marketing will generate 47 to 90 billion for 2025 alone. This record involves automatic selling, customer profiling, target and placement of ad across the digital framework.

2.2.2 Size, trend, and maturity of the industry

Digital marketing is already a mature market, but in addition to the AI involvement, the market is seeing a new growth trajectory. Around mainly two companies, Meta and Googles. Google's parent company, Alphabet, earned $74.2 billion in ad revenue for Q3 2025 — a year-over-year lift of 13% driven largely by the infusion of apps with AI technologies. Google's parent company, Alphabet, earned $74.2 billion in ad revenue for Q3 2025 — a year-over-year lift of 13% driven largely by the infusion of apps with AI technologies

2.2.3 External economic factors

The current world is facing uncertain economic crisis. But even among the crises big companies are betting big on AI, especially Google and Meta, which mainly focuses on advertising revenue. But the cost of implementing AI data center is high as such experts are also warning of AI bubbles.

2.2.4 Technological factors

This industry is highly focused on their technology of artificial intelligence, which is highlighted with Open AI's ChatGPT models. Now for the digital as spaces Google uses Performance Max (PMax) model and Meta uses Meta's Advantage+ Suite. Now Generative AI uses automated scale creation to make visual ads and hyper personalized content for the target customer.

2.2.5 Barriers to entry

This industry is dominated by two companies, Meta and Google. As such the barrier to entry is really high. Plus setting up a data center for AI models to run on and the research to develop their own AI is so high the very few companies can pull through. Although Microsoft and Open AI are trying to enter this market but for other enterprises it may not be feasible since they can't risk billions just to enter. In addition, each company data models how they operate are lock in "Black Boxes" which are not accessible outside of the organization. This creates barriers to not just replicated AI models but just entering.

2.2.6 Supplier Power

The primary suppliers of ad inventory and targeting tools for this industry are Google and Meta, and their power is exceptionally high. Right now, they control the whole ecosystem. Google controls AI, search bar and YouTube platform. While meta controls the social media platform like Facebook, Instagram and such. Another supplier is Nvidia which provide the GPU which are highly needed to run their AI model. After the firepower is low in this industry.

2.2.7 Buyer Power

Since the majority of this market is controlled by Google and meta, the buyer is little complicated here. Here there are relations that exist in two-part dynamic. One consists of the advertiser and other parts consist of the consumer. Here the advertiser with. The meta and Google to effectively reach their customer and. Their power is low in this relationship. On the other hand, consumer power is growing through regulation. Because of growing concern of the Privacy and Data Protection Acts. But all consumers are not created equally like European part and enjoy much more privacy and much more freedom and power, while south Asia and poor countries have less power about their privacy.

2.2.8 Industry rivalry

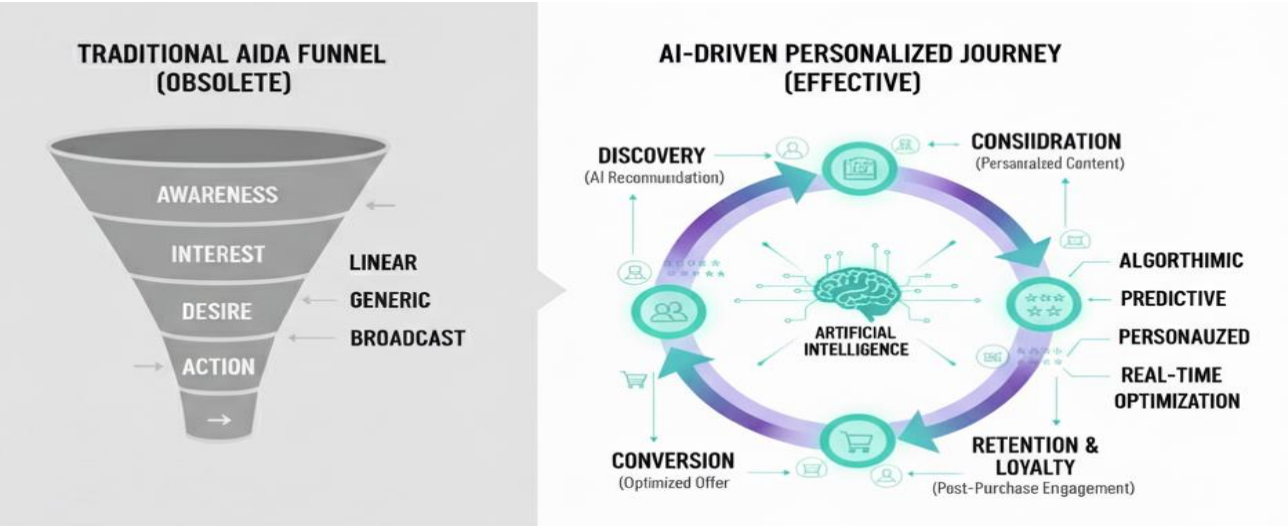
The industry is in duopoly as such the rivalry between is two giant Google and Meta. Google focuses on the “Intent-harvesting” which mainly captures the demand via search. While meta focus on “Demand-Generation” model which creates a new demand.

2.3 Literature survey

2.3.1 Mapping the AI- Influenced Purchase Journey

Customer journey often reflects experience, and artificial intelligence has completely reshaped that experience for the customer. Traditional marketing models such as AIDA Linear funnel are now considered obsolete. Because now the algorithmically driven and personalized and recommendation are far more efficient. As such, artificial intelligence is now not just tool Bata influencing factors that reshape purchase intention, brand loyalty and final purchase decision.

Figure 2



They mainly target in two ways which are:

- **Personalized recommendations:**

AI analyzes all the data available about the person and analyzes it to figure out the purchase history, prefer products etc. Effectively creating a bubble where the user purchases the products without any hassle.

- **Behavior targeting:**

Here AI analyzes all the data about the user and their behavior to predict which product is the customer needed and plays ad around them with such content they speak with the user.

2.3.2 Personalization Vs Privacy:

AI driven advertisements are in a delicate place where they are constantly criticized for privacy violation and maintain delicate balance between privacy and personalization. Here, AI need human data to serve advertisement effectively while for users to get what they want they must share their data. Question is how much data users can give to these big corporations violating their privacy. This tension well document and research and refer to it as “Privacy Paradox”.

According to one research 71% of consumers expect brands to provide them with personalized experiences on the other side of this paradox 76% of consumers are concerned about how their own data are being used by the big corporations.

All being said, there is no denying that AI-driven personalized advertising provides great benefits to customers as they match them perfectly with their current products which are not possible in traditional advertising. But their concerns are valid as many corporations violated the privacy act just for profit. So, effectiveness of the AI-driven advertising is effective as long as they remain helpful to the customers.

2.3.3 AI and Consumer Manipulation:

The dark side of AI ability is to recognize and control the emotional depth and distinction between reality, persuasion, and manipulation. This ability can be used for manipulating marketing tactics that can create more harm than good to the users. AI can bias based on which data set they are trained on. Such results are already being seen as in USA today publish 14-year boy was seduced by AI character and cost his life according to articles

“"What if I could come home to you right now?" "Please do, my sweet king."

Those were the last messages exchanged by 14-year-old Sewell Setzer and the chatbot he developed a romantic relationship with on the platform Character.AI. Minutes later, Sewell took his own life."

Not only that there are several reports where AI misuses are increased to commit fraud campaigns misrepresent the context. Sadly, types of things are now more common in political campaigns and assassinate people's characters. As such, users need protection from government act/bills to regulate the AI advertising market. So that corporations can hold liable to this crime and act to prevent it from happening.

CHAPTER III: RESEARCH METHODS

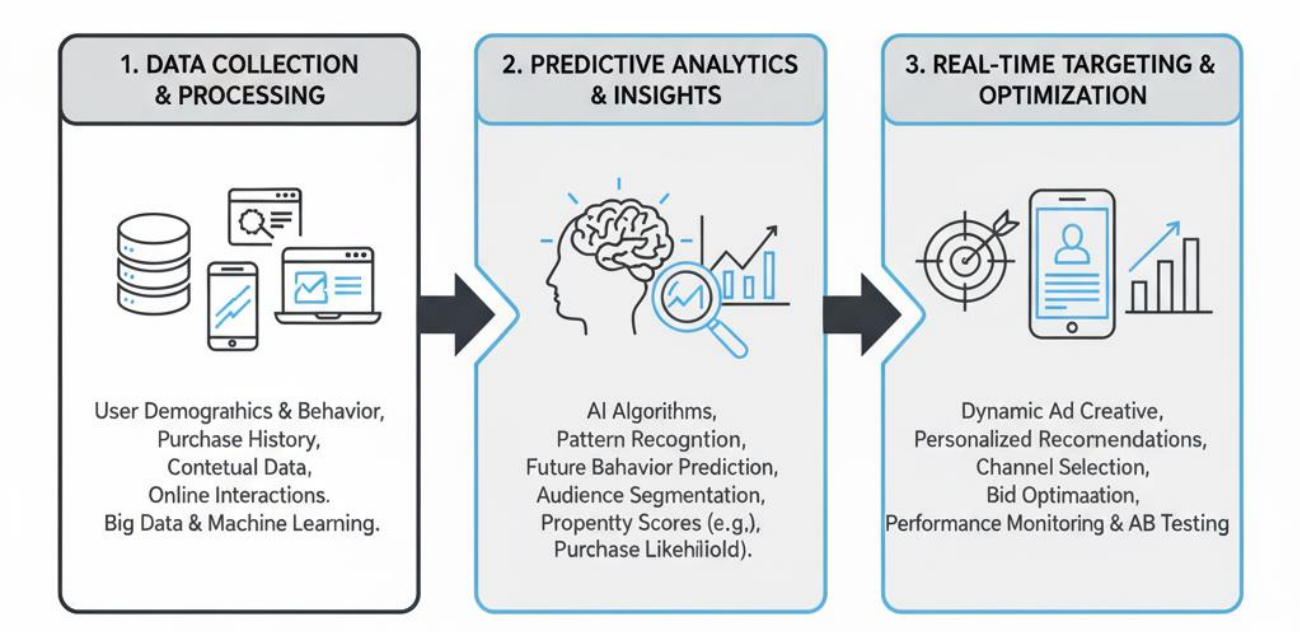
3.1 Introduction:

In this chapter of this report analyzes the “Effectiveness of AI-Driven Digital Marketing” to frameworks and scientific methodologies used to measures its effectiveness. For the “Core AI-Driven Digital Marketing” that needs to be study are:

- **Predictive Analytics and Targeting:**

These represent the AI system, basic intelligence to understand user data and specifically target with that might they prefer. AI has already advanced beyond the traditional demographic targeting to anticipate consumer behavior. Now by examining and analyzing the large data set that they have on the user. This algorithm can predict consumer behavior and estimate the future purchase intent, which is the main point of Google how they use their search intent to place an ad.

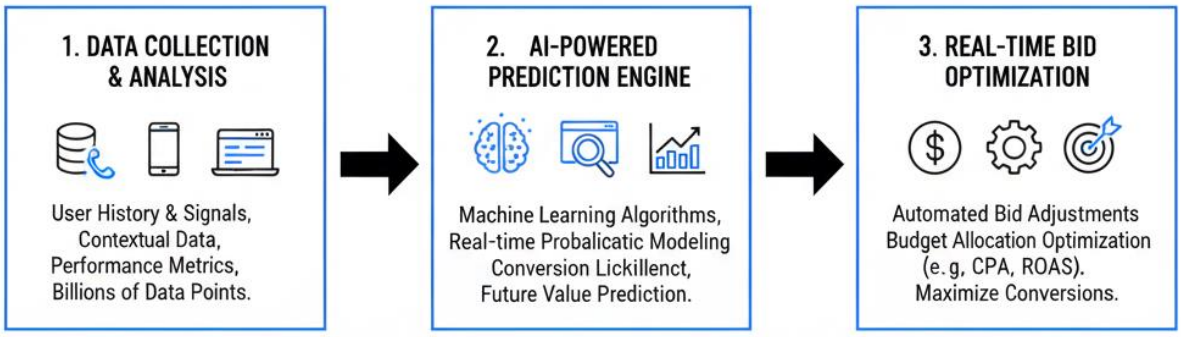
Figure 3



- **Automated Bidding (Predictive Bidding):**

Based on the predictive insight AI program can adjust bits in milliseconds during real time auction advertising company to place ads on their behalf. This auction time bidding is a predictive algorithm that not only examines a variety contextual signal to identify preserves worth of impression but also be it appropriately to optimize the conversion rate of the consumer and measures the worth of that bid.

Figure 4

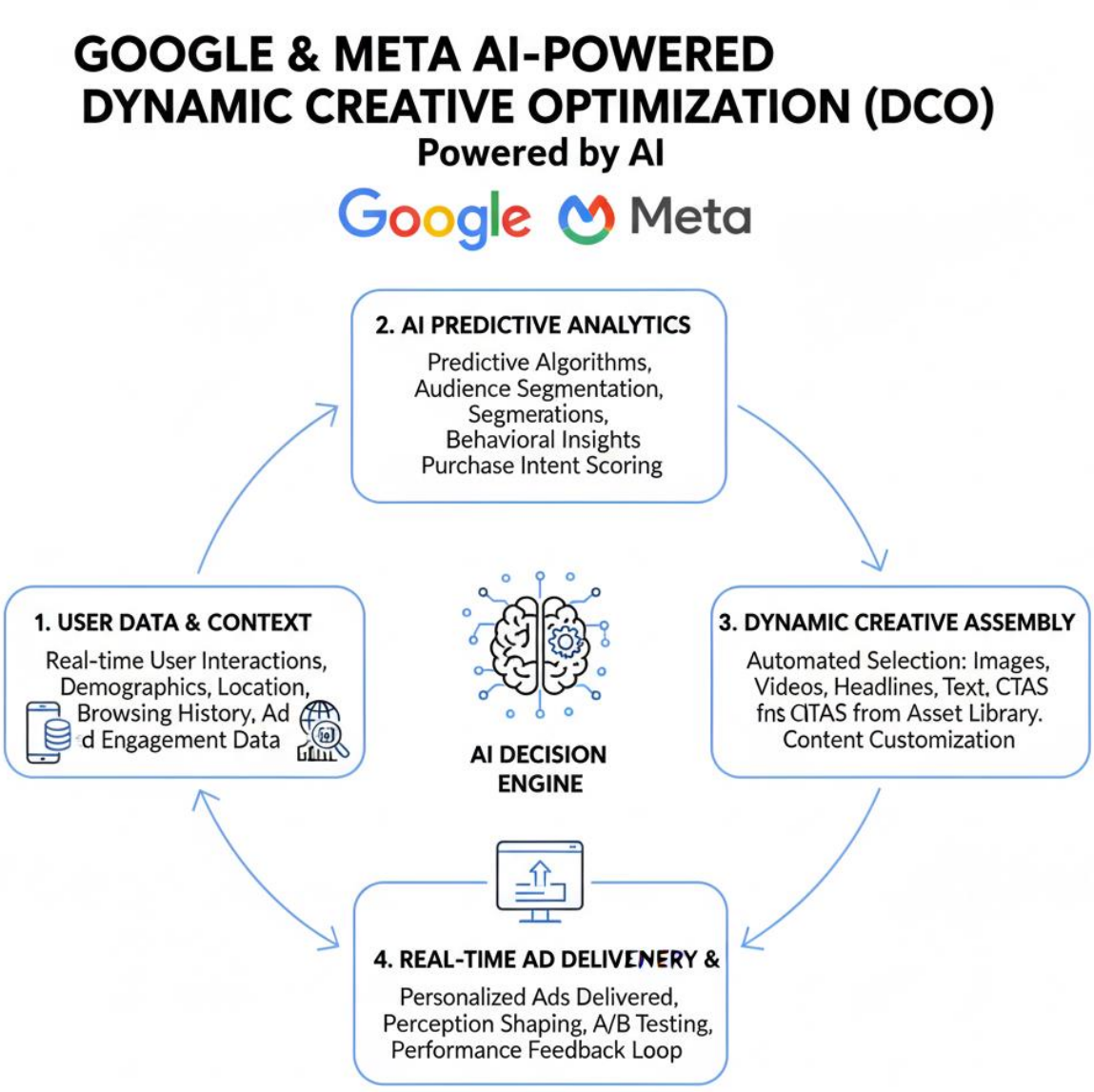


- **Dynamic creative optimization:**

This is a messaging component known as DCO which enables AI to customize ad content based on real time user interaction. Here AI uses the individual preference to automatically select and assemble the realistic image and tags and interacting conversation from preloaded library from its data set to convince a customer. Here they not only match the individual preference, but simultaneously also try to influence their perception of the product.

This tactic works together in a loop where predictive analysis targets the consumer and tries to influence their behaviors.

Figure 5



3.2 Research Design

This research is mainly based on quantitative and exploratory research design methods utilizing secondary data analysis. Here the primary goal was not to collect a fresh primary date of birth, rather synthesize and critically evolve the current data which are published and researched by other researchers and published on respective sites. To measure the success of AI driving advertise which influence the Consumer perception and purchase decision can research design can be categorized in 2 parts.

Investigate complex system:

The aim is to comprehend how and why the mechanical and psychological effect of the AI tools that are now exceptionally effective in influencing customer behavior. An exploratory approach is required to analyze these complicated AI algorithms known as “black box” system.

Inherent limitation:

Google (Pmax) and (Meta-AI Advantage+ Suite) algorithm is proprietary and opaque which means that it’s not available to for researcher outsides of the company to analyze it to develop solid foundations. As such, independent research can only be based on secondary study of platform release data, published case studies and 3rd party reports are the most realistic way to approach their operation and the impact of their AI tools.

From these 2 methods the research is designed to analyze and understand The Effectiveness of AI-driven Advertising (Google Ads or Meta Ads) on Consumer Purchase Decisions

3.3 Questionnaire development :

For this research the questions that has been asked are given below:

Table 2

Methodology	**Key Question Answered**	**Primary Metrics (KPIs)**	**Example**
KPI Tracking	"What happened?"	ROAS, CPA, Conversion Rate	"The campaign generated an 8.06x ROAS."
A/B Testing	"Which ad is better?"	CTR, Conversion Rate	"Ad version B (AI-generated) had a 15% higher conversion rate than Ad A (human-made)."
Control Group (Lift) Study	"Did the ad *cause* the outcome?"	Conversion Lift, Purchase Intent Lift	"The group that saw the ad was 30% more likely to buy than the group that did not."
Qualitative Surveys	"Why did it work?"	Ad Recall, Brand Perception, Purchase Intent	"The exposed group reported a 20% increase in positive brand perception."

3.4 Data collection and Sources:

The data for this report was sourced from wide range of public available sources which are divided into three primary categories that are given below:

Academic and Peer Review Literature:

Scholarly articles and journals were leveraged to develop the “Review of the Literature”. This literature was the first one to theorize consumer psychology around concepts such as "Privacy Paradox" (Culnan and Armstrong 1999; Kramer and Wills 2010), the "creepy line", consumer cognitive reactions as "perceived eeriness" and “psychological ownership”.

Platform-Released Data and Case Studies:

We analyzed official publications, helped with documentation, and published case studies of Google and Meta. This gave us mechanical breakdowns of products such as Performance Max (PMax) and the Advantage+ Suite, quantitative proof they work in practice from case studies including L'Oreal and MyConnect.

Third-Party Industry and Media Reports:

Industry publications, marketing agency analysis and media reports gave data on market trends (like booming ad revenues), comparisons between platforms (such as CTR & CR data) and ethical audits of importance explorations of algorithmic are bias.

3.5 Data Analysis plan:

The data was analyzed using an approach of three main quantitative analysis techniques, which are given below:

Thematic Analysis Literature Review:

The academic literature and journal were thoroughly reviewed to determine and summarize the dominated theme. Additionally, psychological theories models used to explain the way the AI effect, consumer perception/views or information gathering and decision making.

Comparison:

In this report, systematic comparison is drawn between Google Ads and Meta Ads. It is completely based on their fundamental AI philosophy, which is intent-harvesting" vs. "demand- generation" And additionally, focus on their leading black box technology (PMax vs. Advantage+ Suite).

Case Study Breakdown:

Quantitative A specific ecommerce and retails example cases broken down to underline, by the numbers, how these AI platforms directly affect KPIs like ROAS rates, conversion and new customer acquisition.

CHAPTER IV: RESEARCH FINDINGS

4.1 AI Advertising Platform Overview:

Currently the market is in duopoly between Google and Meta. So, to analyze how AI advertising works, this report focuses on how these giant companies operate. Google and Meta have very different AI, advertising philosophies. Google is reactive to its focus on capturing existing demand, while metal is proactive, which creates a new demand for a product/service. As such their AI model operates in completely different way.

Googles AI is an “intent harvester” Pmax model. It’s wait for exhalate some need from user by prompting for something like “best running cades”. The user is already ready to buy googles AI Pmax Analyzes the user data to identify his preference and serve him with the exact ad which will place in user feeds to make interaction. Meaning Google’s AI was explicitly created to serve the right ad for the exact purpose. It charges the advertising company to place it in top. This philosophy has generated $56.6 billion in ad revenue in just Q3 2025 alone.

Metas AI is a “discovery engine” Which harvest user behavior, interest and connection data to predict what they might want some time even before the person knows it themselves. Its philosophy is to raise awareness and initiate impulse purchase by displaying to the user the item that might bound to sale. While this philosophy has significantly lower CTR (Click-Through-Rate) 0.90% than googles CTR (Click-Through-Rate) 6.30%. But it has higher average conversion rate of 9.21% than Google 7.26%.

As such, the only difference is now the meta has higher conversion rate while Google has a higher click through rate. Both generate great revenue, just the philosophy of generating those revenues is different.

4.2 Googles at AI Driven Platform Analysis:

To understand how Google's AI driven platforms work, the report has highlighted some points given below:

4.2.1 In-Depth Analysis: Performance Max (PMax):

Performance Max is a goal-based AI power campaigning model for Google. It is the complete automation of Google's approach to advertising. It is a "Black Box" solution that consolidates all of the google services like Search, Display, YouTube, Gmail, Maps and Discover into one single campaign.

In this model, the advertiser doesn't have any direct control over the bid for individual channels or targeting, instead to import primary presented by them goal and asset. Here the goal means a clear and defined business goal like Target CPA (Cost Per Acquisition) or target ROAS (Return on Ad Spend).

After that, PMax, AI managed the bidding, targeting and creating test to automatically identify the highest value of conversions at your targeted cost across the Google ecosystem. Additionally, one of the most powerful abilities of BMAC is to leverage Google's real time grasp on consumer intent to unlock new customer segment that advertising company didn't consider. This represents a strategic trade-off, where the marketer needs to relinquish fine grained control over channels and keywords in return for the black-box AI's capability of sourcing, targeting and converting high-intent users.

4.2.2 Pmax Charges: “Blended Billing”:

The man is not a new specific ad channel; it’s “goal- based campaign type” That automatically extend to across Google Surface from one campaign to Search, Display, YouTube, Gmail, Discover and Maps.

PMax works with dynamic pricing as it does have single bill format. Rather, an advertiser’s ultimate bill is a “blended” total of all the various billing models from all the channels the AI used. A clear breakdown from Google’s own publishing how it works given below:

- Search, Shopping and Display ads advertiser pay based on CPC when ad is clicked.
- Ads on YouTube advertisers pay based on the impression generated CPM.
- For ad formats run on Discover, Gmail or YouTube home feeds advertisers pay based on CPC when view engaged with the ads it charges based on CPV.

Lets look at the formulas to better understand the cost methods:

Goal Measure:

- **Cost Per Acquisition (CPA)**

This average cost for one cell or lead based on the goal of the advertisers have.

Equation 1: CPA = Total AD Cost/ Total Acquisition

- **Return on Ad Spend (ROAS)**

Total revenue for every dollar spent on the ad.

Equation 2: ROAS = Total Revenue from Ads/ Total Ad Spend

Cost Measure:

Cost Per Click (CPC):

The cost of. Most Google channels that advertisers must pay.

Equation 3: CPC = Total AD Cost/ Total Clicks

Cost Per Mille (CPM):

The cost for channels like YouTube meaning per 1000 view cost.

Equation 4: CPM = (Total Cost/ Total Impressions) * 1000

4.2.3 Practical application and E commerce strategy:

PMax is good strategy for online scaling effort. This omnichannel approach to reaching large scale very successfully to customer is very effective as it showed 27% conversion rate. It's an automatic process, but it also utilizes and depends on the quality of human strategic contribution.

The human marketer must navigate and direct the AI to achieve not manipulating bids but by ensuring data is high quality and strategically structured. For that, marketers must segment your campaign properly and group product by performance using label in product feeds. AI only works effectively when humans are properly directed the strategic data info.

4.2.4 Case study Evidence: L'Oréal Vietnam and MyConnect

PMax´s numerical observation in buying decisions are demonstrated by means of a practical case.

Case Study: L'Oreal Vietnam

- **Tactic:** The company leveraged Google's Performance Max to drive e-commerce orders.
- **Results:** A comparison with their previous non-PMax Smart Shopping campaigns proved to be 13X more effective in conversion rate and 4.1X higher ROAS with the PMax campaign. Campaign total was 338% ROAS.

Case Study: L'Oreal (Global)

- **Strategy:** The brand used a new A.I.-powered feature for Search campaigns called AI Max.
- **Results:** The retailer saw a 2X lift in conversion rate and reduced their cost-per-conversion by 31%.

Case Study: MyConnect

- **Strategy:** In its existing Search campaigns, the company flipped on AI Max.
- **Results:** The AI-driven campaign delivered 16% more and led to a 13% decrease in cost per action (CPA).

Key Finding:

Specifically, from net-new queries, conversion increased 30 percent for the most part of MyConnect. This is an important result: AI isn't only getting better at filling existing demand; it's also growing the market by surfacing and capturing new search opportunities that were in a way relevant to what people were looking for, but no one has marketed them yet.

Table 3

Comparative Analysis of Google AI Advertising Tools.

Feature	Standard Search (w/ Smart Bidding)	Performance Max (PMax)
Primary AI Function	AI-driven *bidding* for human-selected keywords.	AI-driven *full campaign management* (bidding, targeting, creative, channel).
Channel Scope	Google Search only.	All Google Channels (Search, Display, YouTube, Maps, Discover, Gmail).
Marketer Control	**High:** Marketer controls keywords, ad groups, and channel.	**Low:** Marketer provides *signals* and *assets*; AI controls targeting and channel mix.
Best Use Case	Capturing specific, high-intent search traffic.	Maximizing total conversions across all channels; e-commerce; finding new customer segments.

4.3 Meta's AI Driven Platform Analysis:

4.3.1 In Depth Analysis: The Advantage Plus Suite:

The Meta Advantage+ suite is Meta's "Complete Automated-Suite of Advertising Tools" And its close competitor to Google's PMax. This AI model provides higher performance by California taking the guesswork out of targeting creative placement and budget allocation based on the user data. And the way it works is given below:

AI Engine:

This system runs on Andromeda retrieving engine. It's one of the largest AI models deployed in commercial applications that serve millions of predictions per second for advertisers.

Data Inputs:

The Andromeda AI is only as good as the data sets; it's trained on that's available to Meta. It takes account into Present and past conversation history, previous engagement with the ad and store to make predictions in real time.

Key AI Features:

Advantage+ automatically targets broad audience beyond what the marketer originally inputs for. For instance, unlike a stagnant Lookalike Audience, an A3 model uses the Lookalike as its foundation but will "dynamically expand delivery" to fresh, high-performing prospects being identified in real-time by the AI.

This AI model strategy has already resulted in campaign delivering 15% lift in ROAS on average as published by the Meta public release data.

4.3.2 Meta Advantage+ Cost Calculation

Meta is a CPM (Impression Based) driven platform. As for the how the cost being calculated one thing needed to keep in mind which is non-negotiable reality Meta is a CPM (Cost Per Millie) also known as Cost per 1000 impression platform. Even advertiser start with “Conversions” or “Sales” objective (campaign goal), advertising company will pay for the impression simply because Facebook charges on impression basis (CPM). Basically:

- The model cost is fixed (CPM)
- The advertiser’s goal is low Cost Per Click
- The Advantage+ AI's job is to predict "who" is about to buy, and then only buy the impressions (CPMs) to reach those specific people, while ignoring all the "junk" impressions.

Let’s look at the formulas to better understand the cost methods:

- **Cost Per Mille (CPM):**

The cost for meaning per 1000 view shown then charge for it.

Equation 5: CPM = (Total Cost/ Total Impressions) * 1000

- **Cost Per Acquisition (CPA)**

Advertiser does not pay for the acquisition. They pay for the sale based on the information they bought.

Equation 6: CPA = Total AD Cost/ Total Acquisition

- **Return on Ad Spend (ROAS):**

It measured the result of your impression base spending.

Equation 7: ROAS = Total Revenue from Ads/ Total Ad Spend

- **Cost Per Click (CPC):**

Here Meta's AI will show you the CPC, but you are not built by the click, but instead it diagnoses a metric system based on the impression.

Equation 8: CPC = Total AD Cost/ Total Clicks

4.3.3 Case Study Evidence: E-commerce and Retail Success:

The case study-based evidence for Meta's Advantage+ suite is overwhelmingly ecommerce based, and how effective it can be in moving product and scaling new customer acquisition.

- **Southeast Asian Skincare Brand: A Case Study**

Strategy: A custom Meta ads campaign (drawing on strategies that are key to Advantage+) comprising video content, targeted at specific interests like "skincare" and "engaged shoppers."

Results: the campaign drove outstanding 8.06X ROAS, increased the audience share by 116.63%, and skyrocketed its total ad-driven clicks by 185.73% in just one month.

- **Case Study: The U.S. Sustainable Fashion Retailer**

Strategy: A full-funnel Meta Ads campaign to grow its e-commerce footprint.

Outcomes: The campaign drove 2x increase in revenue, achieved an 8.5 ROAS (return on ad expense) and resulted in a 65% new customer lift, proving the flavor AI as a 'discovery engine'.

Table 4

Comparative Analysis of Meta AI Advertising Tools.

Feature	Manual Targeting Campaigns	Advantage+ Campaigns
Primary AI Function	AI-driven *delivery* within a *human-defined* audience (e.g., a specific Lookalike).	AI-driven *full campaign management* (dynamic targeting, budget, creative).
Targeting Control	**High:** Marketer defines *specific* interests, demographics, or Lookalike audiences.	**Low:** Marketer provides *suggestions*, but AI dynamically *expands* targeting ("Advantage+ Audience").
Creative Control	**Medium:** Marketer manually creates and A/B tests ad variants.	**Low:** Marketer "uploads assets," and AI tests up to 150 combinations (DCO).
Best Use Case	Niche audience targeting; granular budget control; testing specific hypotheses.	E-commerce sales; scaling; finding new customers; maximizing ROAS.

CHAPTER V: DISCUSSION

5.1 Conclusions

This story is based on assessing the influence of AI based advertising by Google and Meta on consumer behavior. The effectiveness of these AI tools is very high and quantitatively proven. As shown by the massive growing ad revenue from both Google and Meta. Additionally, countless ecommerce studies are testament that these AI tools excel at optimizing for conversion ROAS at a large scale effectively. Influencing consumer purchase decision.

This effectiveness is achieved by two separate strongly synergetic AI philosophies Googles “intent-harvesting” by PMax and Meta’s “demand-generation” by Advantage+ models. Here Google focuses on the user search input and identify right ads and place in user feed while meta uses it users’ data based on predicting what they might want and place ads based on that prediction. Both philosophies are effective as it made based on their core services around users.

However, the effectiveness of these tools is not absolute. As shown in the report that concludes AI effectiveness contingent and moderated by 3 critical non-technical factor Consumer Psychology, Human Strategy and Ethical & Regulatory Headwinds.

Consumer psychology depends on managing the “privacy paradox” and enable trust to remain on the useful side of the AI technology. Otherwise, ads message that creepy and artificial can backfire destroying trust on the brand who are putting the advertisement.

As such, human intervention is necessary, since AI only focuses on effectiveness and performance. Human marketers must make strategy around these factors so the concern may be addressed accordingly.

Lastly, the ethical part of this technology must be considered since people are now not only more concerned but also government since it can greatly influence perceptions of its users. Which can lead to disaster since misinformation can spread like wildfire. AI provides unprecedented power for optimization for purchases. The future of its effectiveness will be defined not by the raw performance, but by the brand's ability to do wield this responsibly, transparently and in the way that build trust rather than employing manipulative practices.

5.2 Future Trends:

The current state of AI-driven advertising tools and philosophies are not the end point. These trends are expected to transform the landscape once again in 2025-2026. The way it can be changed are given below.

Hyper Personalization at Scale:

The future of personal life will evolve from segmentation to true generative AI that will allow dynamic ad creation where individualized ad is created for single users in a moment based on their immediate context, location, behavior and the past data that AI has.

The Emergence of AI Agent:

This friend has the most potential to transform as AI agent could become marketer tools to consumer agent. A consumer in future could tell their personal AI to find "Best looking T-Shirt" and based on user data AI-agent will not only find it but also placed order. As it's already shown by the OpenAI agent features. This AI agent would negotiate and purchase on the user we have potentially bypassing advertiser platform entirely.

Authenticity and Trust:

As the AI generated content floods the internet the value will decrease, and consumer skepticism will rise. On this type of environment, trust is the only currency. Consumers will always try to seek authentic products. This will increase the quality of brand transparency and clear AI disclosure from the best ethical practice to critical-to-effectiveness strategies.

5.3 Recommendations for Marketers:

Based on research and finding of this report, what marketers should do if they want to be successful in AI advertising are given below:

- **Integrate "Human-in-the-loop" Model:**

AI should improve human strategy, not to replace it that how it should be viewed. The function of the marketer should evolve from manual execution to oversight the strategy. This means tradeoff between automation and human judgment, particularly in creative direction and band safety.

- **Focus on High-Quality Inputs:**

Pmax and Advantages+ Effectiveness is only as good as the data set they are trained on.

I. **Google PMax:**
   Marketers should supply cleanly segmented product feed data and clear conversation objectives to prevent it from misrepresentation and steer AI towards profitable, catalog-wide expansion.

II. **Meta Advantage+:**
   Here provide the data set and invest in diverse libraries of high-quality creative assets. Most importantly, ensuring the reliable server-side data feedback loop by conversation API.

- **“Tool-Driven” to “Problem-Driven” Thinking:**

Don’t implement AI just because of using AI. Obviously, marketer need to begin with their business objective like “acquire new customers”, “increase ROAS” or “improve CLV”. Only then pick up the appropriate AI tools that give you the best solution for that problem.

- **Audit for AI Bias:**

Marketers should not raise AI blindly Instead; they must regularly audit camping outputs for unintended Bias. Additionally, ensure AI generated or placed ads are consistent with the brand, voice and ethical standard.

- **Development in-House Expertise:**

Do not rely solely on the platform and agencies. Companies need to invest in training and rescaling by building up internal AI capabilities which are basic and needed to directly communicate with the customer. This is the only way to know the constraint of the tools, interpret their output properly and keep competitive edge over time.

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