STUDY ON THE IMPACT OF AI ON PERSONALIZED MARKETING AND TARGETED ADVERTISING

Submitted by

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Under the guidance of

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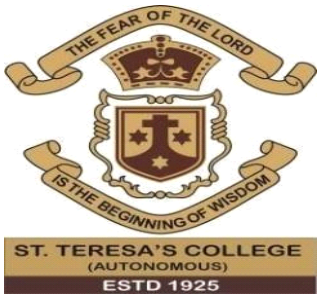
In partial fulfilment of requirements of award of the post graduate degree of

MASTER OF COMMERCE AND MANAGEMENT



ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM

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CERTIFICATE

This is to certify that the project report title **'STUDY ON THE IMPACT OF AI ON PERSONALIZED MARKETING AND TARGETED ADVERTISING'** Submitted by **MONICA SOYA PRAKASIA** towards partial fulfilment of the requirement for the award of post graduate degree of Master of Commerce and Management is the record bonafide work carried out during the academic year2024-2025.

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DECLARATION

I, MONICA SOYA PRAKASIA, do hereby by declare that this dissertation titled **'STUDY ON IMPACT OF AI ON PERSONALIZED MARKETING AND TARGETED ADVERTISING'** has been prepared by me under the guidance of **Dr. MARY SURTHY MELBIN**, Assistant Professor, Department of Commerce, St Teresa's college, Ernakulam

I also declare that this dissertation has not been submitted by my fully or partly for the award of any Degree, Diploma, Title or Recognition before.

Place: Ernakulam MONICA SOYA PRAKASIA

Date: 31.3.2025

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APPENDIX

IMPACT OF AI IN PERSONALIZED MARKETING AND TARGETED ADVERTISING

(QUESTIONAIRE)

1) AGE

o 18-25

o 26-35

o 36-45

o 46-50

2) GENDER

o Male

o Female

o Other

3) EDUCATION

o SSLC

o HSE

o Graduate

o Post graduate

4) Are you familiar with the term AI (Artificial intelligence)?

o Yes

o No

5)Are you familiar with the terms personalized marketing and targeted advertising?

o Yes

o No

6)How familiar are you in targeted advertising using AI?

o Extremely familiar

o Moderately familiar

o Unfamiliar

o Not familiar at all

7)Do you ever meet upon personalized marketing ever make feel more emotionally connected to a product?

o Yes

o No

or Maybe

8)Have you interacted with an AI powered recommendation system while shopping online?

o Yes

o No

o Maybe

9)Do you know any AI technology used for personalized marketing and targeted advertising?

o Yes

o No

10)If yes, in your view which AI technology is most frequently used for targeted ads and personalized marketing?

o Predictive analytics

o Natural language processing

o Machine learning

o Others

11.How likely are you to recommend a brand or product that uses AI for personalized marketing to your friends and family?

o Very likely

o Likely

o Unlikely

o Very unlikely

12)Have you ever noticed that targeted ads were more suitable for your preferences?

o Yes

o No

o Maybe

13) How often do you encounter personalized ads that seem to be tailors to your interest?

o Frequently

o Occasionally

o Rarely

o Never

14)Have you ever developed a stronger loyalty to a brand due to AI powered personalized content or offers?

o Yes

o No

o Maybe

15)How concern is about the potential for AI powered marketing and ads to perpetuate biases and discrimination?

o Very concerned

o Somewhat concerned

o Neutral

o Somewhat not concerned

o Not concerned

16)Which aspects of AI driven personalized marketing most significantly influenced your decision to continue using a brand or service?

o Relevant product recommendation

o Personalized offers

o Targeted ads

17)Do you think companies are transparent enough about how they collect your data for personalized marketing?

- o Strongly agree
- o Agree
- o Neutral
- o Strongly disagree
- o Disagree

18)How effective do you think AI powered personalized marketing is in developing customer retention?

- o Very effective
- o Somewhat effective
- o Not very effective
- o Not at all effective

19)How do you think AI powered personalized marketing will change in the 5 years?

- o More targeted and relevant
- o More intrusive and annoying
- o More transparent and explainable

20)What factor do you think influence the effectiveness of AI powered personalized marketing?

- o Data quality
- o Algorithm complexity
- o Customer segmentati

1.1 INTRODUCTION

The advancement of artificial intelligence (AI) technologies has changed business interactions with customers and customers engagements with the businesses. AIs are capable of handling large amounts of data and drawing valuable insights out of them, AI powered technology enables advertisers and marketers to develop campaigns focused on targeted individuals rather than the entire market. Businesses are now able to understand the spending patterns of their clients and adapt accordingly bringing about what is referred to as hyper-marketing. There is clearly no need to spend money on unsolicited advertisements which can lead to wastage of resources on ineffective advertisement campaigns.

Audiences can now be segmented with laser precision which is one of the biggest changes brought to us by AI. Marketers can now create specific ads for specific categories of clients. This is made possible by the wide adoption of machine learning programs which makes it possible to group clients depending on their past purchases and interaction with the business over the internet. Predictive analytics can adjust key factors demography to be a step ahead of clients set actions with proper planning. Businesses now can meet set requirements by altering their supply with adequate demand expected in return. Located in the heart of increasing personalization, AI is capable of adjusting any campaign to great extent, and making advertisement along with brand interaction deeper on an entire new level. This brings forward novel problems when it comes to freedom, rights and data ethics as it leans on people's private info too much**.**

1.2 SIGNIFICANCE OF THE STUDY

The application of AI in the field of automated marketing and advertisement has both theoretical and practical aspects, for which the research is important. It helps to understand customers' attitudes and perceptions, which adds knowledge about consumers' behavior and preferences within the scope of the digital world and helps to understand the relevance of AI within advertisement and marketing. The results will guide companies on how best to utilize AI in marketing while issuing instructions on data privacy and transparency and encouraging responsible use of AI. The cost implications

of the study will also be recognized since these results demonstrate how companies can increase sales while reducing expenditure on marketing. In the long run, the research will change the way AI prepares personalized marketing and targeted advertising and, in turn, aid corporations

1.3 SCOPE OF THE STUDY.

The relevance of this research revolves around evaluating the effect of artificial intelligence (AI) on targeted advertisements and marketing communications as it pertains to customers in the Ernakulam district. The research analyses recent trends in personalized marketing and targeted advertising. The scope of the study is to assess the impact of artificial intelligence (AI) on customer retention and loyalty in the context of personalized marketing and targeted advertising in the Ernakulam district

1.4 STATEMENT OF THE PROBLEM

The problem, or the issue that needs to be treated from the point of view, is social and is motivating as a growing competition of the markets and great ongoing development of technologies, especially artificial intelligence (AI). While the use of automated marketing systems is growing in popularity, companies located in Ernakulam, India, have problems in identifying the target audience and evaluating the effectiveness of advertising in their marketing campaigns. Therefore, while AI is pivotal in us getting through advertisement messages, to what extent does it bring about a fundamental change in the perception of consumers and their general behavior in the Ernakulam district remains questionable

1.5 OBECTIVES OF THE STUDY

- To investigate the application of AI to targeted advertising and personalized marketing
- To identify the primary AI technologies known by the customers used in targeted advertising and personalized marketing
- To examine how AI driven personalized marketing affect customer retention
- To determine how AI driven personalized marketing affects customer loyalty.

1.6 RESEARCH QUESTIONS

- How can AI improve targeted advertising and personalized marketing?
- Which AI technologies are known by the customers for targeted advertising and personalized marketing?
- How AI driven personalized marketing affects customer retention?
- How AI-driven personalized marketing affects customer loyalty?

1.7 HYPOTHESIS

Hypothesis 1

H0: There is no significant relationship between the use of AI technologies and the effectiveness of personalized marketing.

H1: There is a significant relationship between the use of AI technologies and the effectiveness of personalized marketing

Hypothesis 2

H0: There is no significant relationship between the adoption of AI technologies and consumers' familiarity with targeted advertising.

H1**:** There is a significant relationship between the adoption of AI technologies and consumers' familiarity with targeted advertising

Hypothesis 3

H0: There is no significant relationship between AI-driven targeted advertising and personalized marketing on consumer awareness.

H1: There is a significant relationship between AI-driven targeted advertising and personalized marketing on consumer awareness.

Hypothesis 4

H0: There is no significant relationship between customer retention and AI-driven personalized marketing.

H1: There is a significant relationship between customer retention and AI-driven personalized marketing.

Hypothesis 5

H0: There is no significant relationship between customer loyalty and AI-powered personalized marketing.

H1: There is a significant relationship between customer loyalty and AI-powered personalized marketing.

1.8 RESEARCH METHODOLOGY

Both descriptive and analytical research are included in this study. It is descriptive in that it looks to pinpoint every aspect of the research problem that is being studied as well as the current state of the problem. In the sense that it evaluates and interprets facts, it is analytical. for the purpose of drawing conclusions.

1.8.1 COLLECTION OF DATA

To study the objectives data is collected from both primary and secondary source. The primary data is collected directly collected from respondents through questionnaire and secondary is from journals and published data.

1.8.2 SAMPLING DESIGN

- Sampling technique: Convenient sampling
- Area of study: Ernakulam
- Sample size:100

1.8.3 TOOLS OF ANALYSIS

The data collected from respondents has classified, analysed and interpreted keeping in view the objectives of the study. The primary tools utilized include descriptive statistics, such as mean and standard deviation. Additionally, it includes chi-square test, ANOVA, Cronbach's Alpha and correlation analysis

1.9 LIMITATIONS

- The area of the study was limited to Ernakulam district only
- Lack of accuracy in primary data

- The studies sample size and composition could have implications for the generalizability of findings to broader populations or different market segments

1.10 KEY WORDS

ARTIFICAL INTELLIGENCE(AI)

ARTIFICIAL INTELLIGENCE ARTIFICIAL INTELLIGENCE-commonly referred to as AI-is a term assigned to computers and devices that can think, learn, and act similarly to a human. AI entails the use of algorithms and copious amounts of data to facilitate decision-making, problem-solving, and task performance such as image recognition, language comprehension, and outcome prediction. AI extends to many other fields including chatbots that assist customers, self-driving cars, virtual assistants, and targeted marketing strategies. The goals of AI are literally to mimic human intelligence to automate tasks, increase human production, and improve judgments.

PERSONALIZED MARKETING

Personal marketing is the intent to tailor products, experiences, and communications to each consumer's habits, behaviour, and interests.

TARGETED ADVERTISING

The targeted advertising resembles showing ads targeted to a very specific group of people who would probably want something. In layman's terms, it's just showing that exact right person an advertisement.

CUSTOMER LOYALTY

. A customer loyal is a steady flow of business and allegiance to one brand, product, or service over another.

CUSTOMER RETENTION

Customer retention is the potential of a company to maintain its existing customers over time, thereby preventing them from switching to a competitive brand

1.11 CHAPTERISATION

Chapter 1 – Introduction:

This is an introduction chapter that includes introduction, significance, problem statement, objectives, methodology, scope, limitation, keywords and chaptalization.

Chapter 2 – Review of Literature :

This chapter deals with literature review which is a collection of many published works.

Chapter 3 – Theoretical framework:

This chapter includes the theoretical works relating with the study.

Chapter 4 – Data analysis and Interpretation:

This chapter is an analysis of the primary data collected for the purpose of study. It includes tables, graphical representations, their analysis and interpretations.

Chapter 5 – Summary, findings, recommendations and conclusion:

This is the conclusion chapter which contains summary of the study, findings of the study, recommendations .

- **Bozkurt, metal (2025).** Personalization entails adapting messages, designs, products, or services to individual needs and preferences, a process executed using data such as personal preferences, past behaviours, demographic characteristics, or online activities. This approach aims to enhance brand loyalty, consumer satisfaction, and profitability by providing more engaging experiences. Widely used in fields like e-commerce, digital marketing, media, and entertainment, personalization extensively leverages new technologies. The study, focusing on personalized products and messages tailored to consumer preferences and needs, underscores the critical role of technology in personalization, emphasizing that digital tools like data analytics and artificial intelligence enable better understanding of consumers and facilitate interaction with them. Advanced digital capabilities enable brands to offer unique experiences, thereby increasing loyalty and satisfaction, and improving marketing performance. As the importance of personalization grows, brands are expected to become more innovative.

- **Ingrain teal (2025).** The swift progress of artificial intelligence (AI) has transformed the e-commerce sector by facilitating customized shopping experiences that meet individual consumer preferences and behaviors. This research utilizes a systematic literature review approach, examining peer-reviewed articles from the Scopus database released between 2020-2024, to thoroughly investigate the effect of AI-driven personalization on consumer behavior in e-commerce. The review approach adhered to the PRISMA protocol, guaranteeing a strict and clear selection process of pertinent literature. The results uncover three main effects of AI-driven personalization.

- **Ghufran, A., & Ahmad, W. (2025)**The focus of this research is on the effect of Artificial intelligence (AI)-empowered digital marketing strategies on consumer purchase intention for lifestyle goods and seeks to examine the mediating role of consumer motivation (CM) within the connection between consumer attitude (CA) and purchase behavior (PB) regarding lifestyle products. The research employs a descriptive research design to gain insights into CA, motivation, and PB. The foundation of the study consists of 577 responses gathered from the state of Uttar Pradesh (India). Structural equation modelling was performed utilizing SmartPLS. The findings indicate a strong relationship among consumers' attitude, motivation, and PB, and a positive perspective on AI-driven marketing efforts is

expected to encourage increased action, considering the significant positive link between customer attitude and motivation.

- **Tee papal, T. (2025**This research enhances our comprehension of the effects of personalized stimuli powered by artificial intelligence on consumer involvement in social media marketing. The study formulates and analyses an extensive S-O-R framework, connecting AI stimuli to customer views on trust, privacy issues, perceived utility, and, as a result, consumer involvement. Structural equation modelling was employed to assess the collected data and test the hypotheses. The findings validate the hypothesis that AI-driven personalization positively affects trust, privacy issues, and perceived utility. Trust and perceived utility have a positive effect on consumer involvement, whereas privacy issues do not. Surprisingly, AI-driven personalization does not have a significant impact on customer involvement. By investigating the mediating roles of consumer views, the findings highlight perceived utility and trust as important mediators, emphasizing their vital role in promoting positive interactions between users and technology.

- **Tilyaxodjayev, A. (2025).**Artificial Intelligence (AI) and automation have transformed contemporary marketing strategies, enhancing customer experiences, streamlining decision-making, and boosting efficiency. This paper investigates the influence of AI-driven automation in marketing, delving into its function in customer segmentation, tailored advertising, predictive analytics, and chatbots. The study further addresses ethical concerns, data privacy challenges, and possible obstacles businesses encounter when adopting AI-based marketing solutions. The findings indicate that although AI and automation considerably enhance marketing effectiveness, organizations must strategically incorporate these technologies to align efficiency with ethical responsibility.

- **Saadjad, K. A. (2025).**Marketing communication stands as a crucial component in the realm of contemporary business, encompassing the diverse channels and methods utilized to deliver messages to intended audiences. The advent of artificial intelligence (AI) has transformed various industries, especially marketing communication. The incorporation of AI allows marketers to improve the effectiveness and efficiency of their messaging strategies utilizing data-driven

insights and automation. This essay outlines the revolutionary influence of AI in marketing communication, emphasizing customer engagement, personalization, and analytics. The paper organizes essential concepts associated with AI in marketing communication and adheres to a structured methodology. This study explores the research questions and provides a thorough discussion on AI for marketing. The results indicated that AI-driven technology in marketing communication enables marketers to formulate targeted marketing campaigns through ad targeting.

- **Bijalwan etal(2025**)Marketing and advent two of the numerous fields that are greatly influenced by swift advancements in artificial intelligence (AI). With the introduction of Sora, AI has revolutionized the process of video captioning and creating text-based videos. Sora is a sophisticated Generative Artificial Intelligence (GAI) capable of producing seamless, high-quality, and creative videos from text descriptions, establishing it as one of the most innovative GAI technologies currently available. This study intends to thoroughly assess the influence of Sora AI on employment within the marketing and advertising industries. This review meticulously investigates present trends, obstacles, and possibilities to illuminate the transformative impact of Sora AI on job functions, skill requirements, and the marketing and advertising environment. Sora AI utilizes machine-learning algorithms to process extensive volumes of consumer data, anticipate trends, and enhance advertising strategies in real time. The results of the study indicate that Sora AI has the potential to displace humans in certain roles, yet it simultaneously creates new job openings. Although some repetitive tasks may become automated, fresh opportunities are arising in AI development, the ethical use of AI, and human-AI collaboration. It enhances efficiency across various roles, underscoring the necessity to acquire new skills and generate income, recently surfacing in the era of AI with Sora.

- **Nardello etal(2025)**.This chapter investigates the influence of artificial intelligence (AI) on marketing, media, and communication, concentrating on the challenges, opportunities, and threats. It addresses the current advancements in AI applications, encompassing data analysis, personalization, content creation, and audience interaction. The chapter analyzes threats like echo chambers, misinformation, and biased data sources, while also emphasizing professional and

ethical challenges. It delves into opportunities for improved targeting, content personalization, automation, and data-driven insights. The chapter stresses the necessity for responsible AI implementation and human judgment. Overall, it delivers a thorough overview of the consequences of AI in these fields.

- **Qadri, etal(2025)**Artificial intelligence (AI)-powered marketing has changed the dynamics of consumer engagements, but it also brings about ethical issues related to perceived manipulation and the resulting unethical behavior among young consumers. This research seeks to explore both the direct and indirect impacts of AI-powered marketing on unethical behavior in young consumers, considering digital literacy as a moderating factor. The authors present and define a construct of digital literacy that affects how young consumers interpret and respond to manipulative tactics employed in AI-driven marketing.

- **Jabbour etal. (2025).** 129). Cham: Springer Nature Switzerland.This chapter reveals the function of AI in improving customer experience and engagement within the Middle Eastern markets. It starts by addressing the cultural subtleties of the region and how AI is customized to honor and respond to these local preferences. It then examines the methods by which AI is employed to personalize interactions, ranging from tailored product recommendations to personalized marketing messages, significantly transforming the consumer journey. The chapter additionally investigates the advanced AI algorithms that evaluate customer data to forecast future purchasing behaviors, enabling companies to anticipate needs and cultivate customer loyalty. Emphasis is placed on how AI-driven tools are transforming customer service, such as through the adoption of intelligent virtual assistants and instant language translation services, which eliminate linguistic hurdles and broaden market reach. Issues like preserving privacy while providing personalized experiences are discussed, along with the tactics used to maintain customer trust and adherence to regulations. The chapter wraps up with a forward-looking perspective on how AI is poised to redefine customer relationships, highlighting the necessity for businesses to adapt in order to remain competitive in the swiftly evolving Middle Eastern marketplace.

- **Balcıoğlu, (2025).** In Leveraging AI for Effective Digital Relationship Marketing (pp. 97-130). IGI Global Scientific Publishing. This chapter investigates the

transformative impact of AI-driven personalization in omnichannel marketing, highlighting its significance in improving customer engagement and loyalty. It starts by outlining omnichannel marketing and tracking its development from conventional to digital channels. The chapter delves into essential elements of AI-driven personalization, such as data gathering and analysis, customer segmentation, predictive analytics, and real-time personalization. Strategies for implementation are discussed, emphasizing the incorporation of AI tools, data management, and the creation of personalized marketing strategies. The chapter also tackles best practices for addressing typical challenges and assessing customer engagement through key performance indicators (KPIs). Furthermore, the chapter looks into future trends in AI-driven personalization, including the rise of new AI technologies, integration with IoT and AR/VR, and the changing landscape of marketing strategies.

- **Gao, Y., & Liu, H. (2023).**Artificial intelligence (AI) technology has transformed the interactive marketing experience for customers. Despite a significant amount of research investigating the use of AI in interactive marketing, the concept of personalization as a key element is still not thoroughly examined in AI marketing research and practices. This study seeks to present the idea of AI-enabled personalization (AIP), explore the uses of AIP across the customer journey, and establish a future research agenda for AIP.

- **Huang, M. H., & Rust, R. T. (2021).** Journal of the academy of marketing science, 49, 30-50.Authors create a three-stage framework for strategic marketing planning, which includes various artificial intelligence (AI) advantages: mechanical AI for automating routine marketing tasks and activities, thinking AI for analyzing data to make decisions, and feeling AI for assessing interactions and human emotions. This framework outlines how AI can be utilized for marketing research, strategy (segmentation, targeting, and positioning, STP), and actions. In the marketing research phase, mechanical AI can assist in data gathering, thinking AI for market evaluation, and feeling AI for understanding customers. During the marketing strategy (STP) phase, mechanical AI can aid in segmentation (identifying segments), thinking AI for targeting (suggesting segments), and feeling AI for positioning (ensuring segment appeal). In the marketing action phase, mechanical AI can facilitate standardization, thinking AI for

customization, and feeling AI for building relationships. We implement this framework across different marketing domains, organized by marketing

- **Van Esch., & Stewart Black(2021).** Artificial intelligence (AI)-powered digital marketing is transforming the manner in which companies create content for campaigns, acquire leads, lower customer acquisition expenses, oversee customer experiences, promote themselves to potential employees, and convert their accessible consumer base through social media. Numerous real-world instances exist of organizations implementing AI in digital marketing. For instance, Red Balloon and Harley Davidson employed AI to streamline their digital advertising efforts. Nonetheless, we are still in the initial stages of both the practical implementation of AI by companies in general and by their marketing departments specifically. One might contend that we are even at an earlier point in the research phase of conceptualizing, theorizing, and investigating the utilization and effects of AI

- **Chintalapati, & Pandey. (2022)** The digital transformation driven by the growing influence of artificial intelligence (AI) has been a vital factor that is unleashing the next wave of disruption in enterprise business. Marketing is among the business areas experiencing this transformation at an extremely intense level. Modern marketing has started to explore innovative, state-of-the-art technologies, including AI, utilizing them in core operations to secure faster success. This article investigates the application of AI in marketing as a developing area of research. Drawing upon insights from previous studies, the research classifies marketing into five distinct functional categories—integrated digital marketing, content marketing, experiential marketing, marketing operations, and market research—and identifies 19 sub-functional categories (activity levers). Within the selected themes and sub-themes, the research further connects and identifies 170 highlighted use cases from the existing literature, where AI is employed by marketing to deliver enhanced quality results and experiences. Through a systematic literature review (SLR), the article assesses 57 qualifying publications in relation to AI-driven marketing and qualitatively and quantitatively ranks them based on their coverage, impact, relevance, and provided guidance, and clarifies the findings across diverse sectors, research settings, and scenarios. The research discusses the implications for practitioners and academic scholars and suggests a

future research agenda to examine the ongoing transformation propelled by the rapid integration of AI throughout the marketing domain.

- **Nair, K., & Gupta, R. (2021).** World Journal of Entrepreneurship, Management and Sustainable Development, 17(3), 318-328.The aim of this paper is to examine the different uses of artificial intelligence (AI) by professionals and agencies in social media and digital advertising to develop a higher level of expertise and foster collaboration and creativity for improved returns on investment.
- **Nalbant, etal :** Transforming Personalized Experiences.Technological advancements facilitate more personalized interactions with customers and enhance strategic planning abilities, influencing the development of digital marketing. Marketers can leverage machine learning, predictive analytics, and natural language processing to gain deeper insights into customer behavior. These technologies enable the optimization of advertising strategies and improve engagement metrics. Technological innovations are revolutionizing content creation, with chatbots and recommendation systems boosting efficiency and customer satisfaction in user experiences. The study's results suggest that these technologies improve conversion rates, maximize resource usage, and enhance overall efficiency. This approach highlights the necessity of effectively harnessing technology while addressing ethical considerations and data security concerns. In the future, digital marketing will aim to swiftly fulfill customer expectations by integrating technological creativity with human ingenuity. In an ever-changing digital environment, companies that adopt innovation are more likely to thrive and build customer loyalty.

3.1 ARTIFICIAL INTELLIGENCE

Artificial intelligence imagines the imitation of cognition in machines that enable them to reason, learn, and behave like humans. AI systems are made to mimic human cognitive skills, from learning and applying knowledge, reasoning and problem-solving to perceiving and understanding natural language. By using a combination of algorithms with data structures and software, it can process bulk amounts of information, finding patterns and predicting results, all while adapting to new insights. In order to create intelligent systems capable of working out problems that ordinarily demand human intellect, like speech recognition, computer vision, natural language processing, machine learning, and robotics, AI encompasses the use of several fields: machine learning, deep learning, computer vision, robotics, and natural language processing. AI could understand and analyze to make a decision. It is employed to forecast market trends based on user data available from prior periods on user behavior. It is also called data forecasting, a type of tool used by many businesses the world over for creating better marketing and sales strategies. Today, many AI marketing applications rely on machine learning. These applications offered range from personalized product recommendations to identifying effective promotional channels, predicting customer retention and churn, and building better customer segmentation

3.2 PERSONALIZED MARKETING

Personalized marketing is the process of tailoring annual offerings, experiences, and messaging to the consumer himself on the basis of his particular tastes, habits, and traits in order to create personalized campaigns that engage with every consumer, companies leverage data analytics, machine learning, and customer segmentation. Its further tune in customer engagement, conversion, and loyalty. Types of customization I'll get into personalized marketing involve preference-, transaction-, behavioural-, and demographic-level personalization. These strategies can be applied over physical websites or through mobile applications, social media, email, and so on. With personalized marketing, however, a layer of complication comes with that: Creating relevant content means gathering and analyzing consumer data, segmenting customers effectively, automation and AI in testing and optimizing campaigns regularly, and so on. Companies such as Amazon, Netflix, and Starbucks have successfully put personalized

marketing techniques in practice to help note business growth and better customer experiences. Personalized marketing allows these enterprises to stand out from the pack

3.3 TARGETED ADVERTISING

Targeted advertising is a form of advertising in which personalized advertisements targeting an audience are devised based on their stocked data such as demographics, interests, and other qualities. Very merely, the targeted advertising is about, by using data analytics, machine learning, and audience insights, the companies will develop an advertising campaign that targets really small niches in order to create brand visibility, engagement, and conversion. It includes a plethora of techniques, including lookalike, retargeting, behavioural, interest-based, demographic, and contextual targeting. High-quality data, audience segmentation, relevant ad content, continuous optimization, and a respect for user privacy are the five major components for carrying out accurate targeted advertising. Platforms such as Google Ads, Facebook Ads Manager, and Adobe Advertising Cloud; online display, mobile applications, and email; social media and video were utilized for accurate targeting. Companies such as Amazon, Google, and Netflix have effectively implemented targeted advertising strategies, resulting in a big increase in revenue and enhancing user experiences.

3.4 CUSTOMER LOYALITY

Customer loyalty is the relationship that a customer has with a certain brand and is represented by the constant preference of that brand over rival brands. Such loyalty is built on emotional bonding, satisfaction, and trust and is often influenced by a positive experience with the respective product and service and customer support. COVID-19 was just one example of a reason one would choose to keep coming back for more. Such loyal customers spread the word about the business to others and steadily pay its revenues: Becoming customer-loyal helps the companies save on marketing costs, enhance their lifetime value with customers, and, through insightful input, help shape future developments by virtue of being well engaged. For building loyalty, it's building up great experiences beyond expectations through personal touches and ongoing engagement.

3.5 CONCEPT OF ARTIFICAL INTELLIGENCE IN PERSONALIZED MARKETIG AND TARGETED ADVERTISING

.One of the major ways through which Artificial Intelligence (AI) is incorporated into targeted advertising and personalized marketing is the extent to which AI has changed how organizations communicate with their clients. Marketers use AI to analyze consumer data, preferences, and behavior and provide custom experiences that increase engagement, loyalty, and conversion. These tools include machine learning algorithms, natural language processing, and predictive analytics. AI-powered personalized marketing enables businesses to send out specific customers discounts, product recommendations, and relevant material via emails, social media, and websites. Such focus greatly improves the investment return, cuts waste, improves marketing effectiveness, and raises customer satisfaction. If AI technology gets better, the firms will have the unprecedented high levels of personalization, automation, and customer-centricity that will literally turn marketing and advertising upside down.

3.6 TYPES OF AI TOOLS IN PERSONALIZED MARKETING AND TARGETED ADVERTISING

- Machine learning
- Deep learning
- Natural language processing
- Predictive analytics
- Data mining

3.6.1 MACHINE LEARNING

The term machine learning is used to describe those processes whereby machines, rather than being specifically programmed, can learn from data and, as a result, get better at what they do. This set of algorithms will take an input data set and try to recognize hidden patterns in that data in order to provide some sort of prediction or judgment.

There are different types of machine learning, and these include:

- Supervised Learning: The model is trained using data that has been labelled. That is, the input is such that it produces the output which is desired. Applications in regression and classification most often use this.

- Unsupervised Learning: The model looks for hidden groupings or patterns in an unlabelled data set. Such tasks are frequently used in association and clustering.

Through reinforcement learning, an agent learns in an environment and receives feedback in the form of rewards or punishments to help him act effectively.

3.6.2. DEEP LEARNING

Deep learning relies on neural networks with deeper layers, otherwise known as multi-layered neural networks. It mimics the way the human brain understands information; hence it is best suitable for a set of tasks that are quite complicated.

It can capitalize on some of the following strengths of deep learning.

Neural networks: The interconnected layers of nodes or neurons enable deep learning models to learn hierarchical representations of how input data should be modified through weighted connections.

Big dataset expectations: The method works good on enormous data, so that models could discover complex hidden patterns and characteristics that simpler algorithms might miss.

Automatic feature extraction: As it independently extracts significant features from raw data, it is efficient for its applications in picture and speech recognition. In standard machine learning, features should be defined by hand, in contrast.

3.6.3 NATURAL LANGUAGE PROCESSING

The linguistic science in NLP concentrates on the involvement of natural language as the medium of expression in the communication channel between a machine and a human being. It allows the machine to understand, identify, and respond to human language in a very pragmatic and useful way.

Basic components of NLP are:

- Text processing, including such tasks as lemmatization, stemming, and tokenization.

•Sentiment analysis: often applied in evaluating social media channels, reviews, and polls, to establish emotional conditions in a piece of writing.

•Machine translation: automated translation of a text across languages by services like Google Translate**.**

3.6.4.PREDICTIVE ANALYTICS

Predictive analytics is a niche category of data analytics that uses past data to forecast future trends or events using statistical methods, machine learning, and data mining. The intersection of these processes offers insight to firms making decisions, enabling them to leverage the historical patterns discovered in data to forecast future occurrences.

Key Steps:

• Data Collection: Collecting relevant historical data from different sources, such as social media, databases, and sensors.

• Pre-processing the data: Converting and cleaning the data so that it is accurate and consistent. It may involve normalizing data, fixing missing values, and removing outliers.

• Statistical Techniques involve time series analysis, regression analysis, and classification in order to identify relationships and patterns in the data.

3.6.5 DATA MINING

Uncovering patterns, trends, and pertinent facts in enormous sets of data through an array of statistical, machine learning, and database system techniques is referred to as data mining. It involves gaining useful knowledge from raw data to inform strategy and decision-making in a wide range of areas.

Key Data Mining Elements

Data gathering is the activity of assembling information from a range of sources, such as web scraping, databases, data warehouses, and sensors.

Data cleaning is the activity of pre-processing data to eliminate errors, noise, and inconsistencies. In order to ensure the quality of the insights acquired, this step is necessary.

3.7 SOCIAL LEARNING SKILLON THE CONTEXT OF AI-DRIVEN CONSUMERS BEHAVIOURS

AI has totally revolutionized the way companies interact with their customers via its application in targeted advertising and customized marketing. Social Learning Theory explains how individuals learn new habits and skills by observing and imitating others, even AI-driven virtual influencers. Customized marketing techniques driven by AI, such as content adjustment and personalized suggestions, replicate user interest and likes to drive customer engagement. By delivering messages to most responsive audiences, targeted advertising powered by machine learning algorithms increases conversion rates. AI-powered chatbots and virtual assistants provide instant feedback, encouraging users to perform desired actions once again. Additionally, businesses can track client behavior, enhance customer experiences, and refine their marketing strategies due to AI-based analytics. By leveraging AI in personalized marketing and targeted advertising, businesses can create compelling experiences that drive customer retention and ultimately revenue growth.

3.8 AI ON THE PERSONALIZED MARKETING AND TARGETED ADVERTISING ON THE BASIS OF CONSUMERS PERCEPTION

The success of AI-driven targeted advertising and personalized marketing depends heavily on consumer perception. Research has indicated that when customers are presented with material that is customized to their interests and preferences, they become more engaged and convert at higher rates. Ads and recommendations driven by AI have the potential to build a sense of relevance and trust, which in turn can encourage brand endorsement and loyalty. Consumers are worried about potential manipulation, technological biases, and data privacy, though. Businesses need to put an emphasis on openness, responsibility, and moral AI procedures to calm these worries. They also need to make sure that targeted advertising improves customer experience rather than degrades it. This involves setting up strong security measures, defining specific data handling guidelines, and guaranteeing variety among AI training data. By attending to customer concerns and achieving a privacy-personalization balance, Businesses can use artificial intelligence (AI) to develop customer-centric marketing strategies that appealing to consumers.

3.9 SAFETY OF CONSUMERS WHILE USING AI ON PERSONALIZED MARKETING AND TARGETED ADVERTISING

AI has brought a radical change in the way businesses communicate with their clients through its implementation in targeted advertising as well as tailored-up marketing. Social Learning Theory delineates how users acquire new behaviors and skills through the observation of others or even AI's virtual avatars. Artificial Intelligence (AI) powered customized marketing tactics like content modification and personalized promotion of products do self-replicating of users' interests to maximize engagement. The use of machine learning algorithms in targeted advertising sent to users made responsive messages improves conversion rates. By relying on chatbots or virtual assistants, who respond instantly to users' queries, users are encouraged to take the action once more boosting again the pre-determined goal. The development of Augmented Reality (AR) allows AI based analytics to track the client profile, thereby allowing businesses to improve customer satisfaction as well as modify marketing campaigns. Augmented Reality allows marketers to incorporate AI in precise personalized promising marketing measures, which makes businesses to outperform and heights revenue.

DATA ANALYSIS AND INTERPRETATION

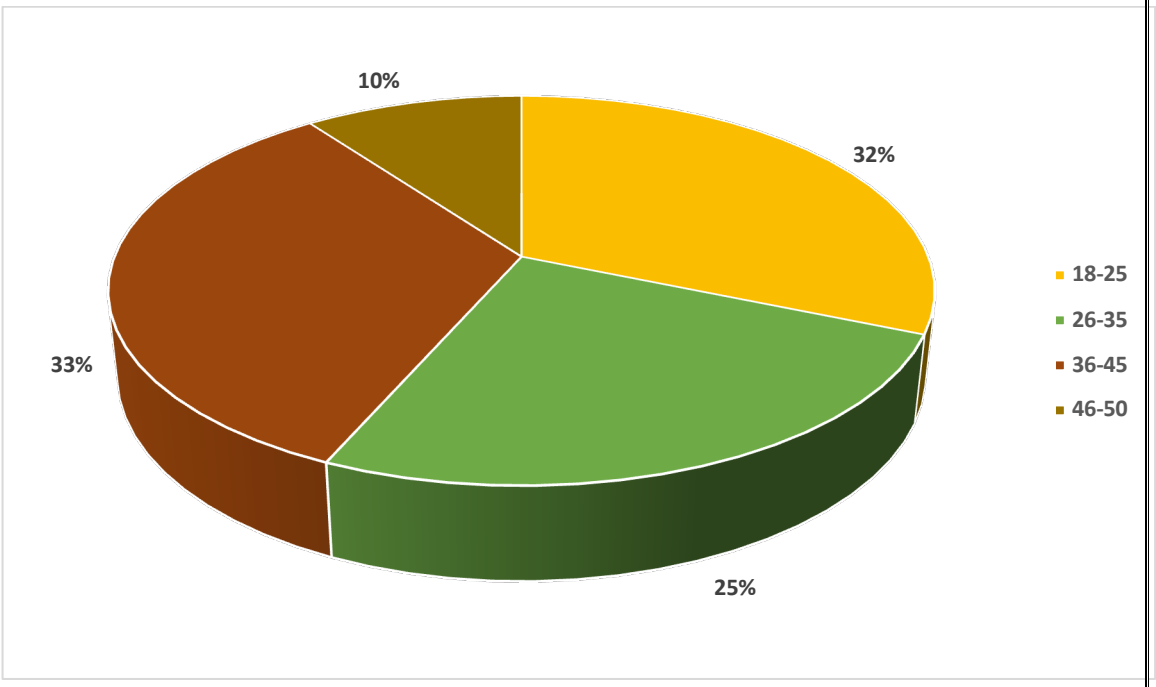
4.1 Age

Table 4.1 Age of respondents

Age	Valid Frequency	Percentage(%)
18-25	31.3	31.3
26-35	25.3	26.3
36-45	33.3	33.3
46-50	10.1	10.1
TOTAL	**100**	**100**

Source: Primary Data

FIGURE.4.1 Age of respondents



INTERPERTATION

The table 4.1 represents the age-wise distribution of customers. The majority of respondents fall within the 36-45 age group, comprising 33% of the total sample. The second-largest category is the 18-25 age group, accounting for 31% of respondents. Customers aged 26-35 make up 26% of the total, while the smallest segment, those aged 46-50, constitutes only 10%. This distribution suggests that the majority of customers are in the working-age population, with a significant representation of younger individuals.

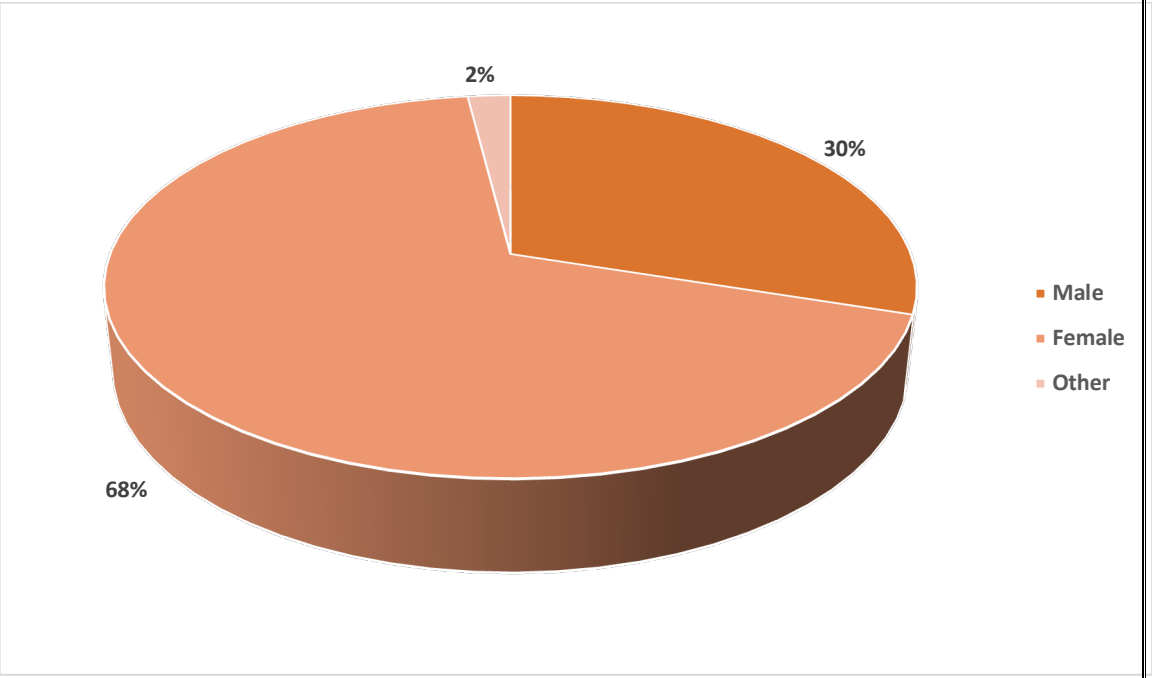
4.2 Gender

Table 4.2 Gender of respondents

Gender	Valid Frequency	Percentage(%)
Male	30	30
Female	68	68
Other	2	2
Total	**100**	**100**

Source: Primary Data

Figure 4.2 Gender of the respondents



Interpretation

Table 4.2 indicates that females make up the largest proportion at 68%, while males account for 30% of the total respondents. A small percentage (2%) identifies as "Others." This suggests that the customer base is predominantly female, which could influence business strategies, such as product offerings, marketing approaches, and service enhancements to cater more effectively to this demographic.

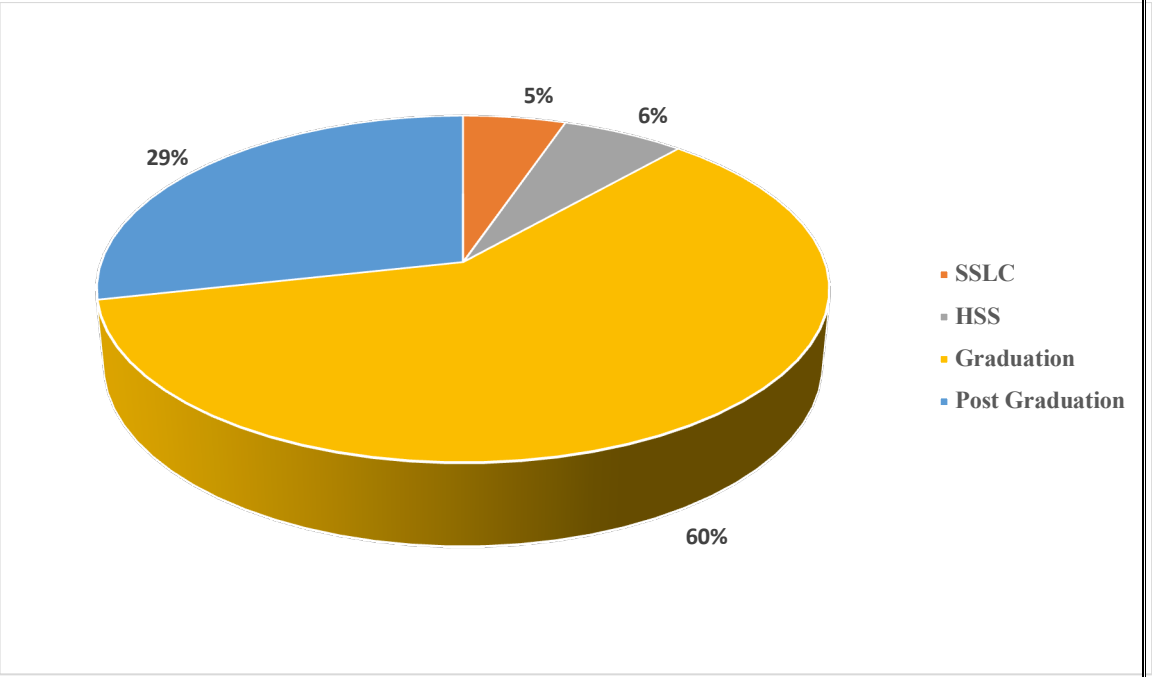
4.3 Educational Qualification

Table 4.3 Educational qualification of the respondent

Education	No. of customers	Percentage(%)
SSLC	5.1	5.1
HSS	6.1	6.1
Graduation	58.2	58.2
Post-Graduation	27.6	27.6
TOTAL	**100**	**100**

Source: Primary Data

Figure4.3 Educational qualification of respondents



Interpretation

Table 4.3 shows that the majority of customers (58%) are graduates, followed by 31% who have completed post-graduate education. A small percentage of respondents have completed only SSLC (5%) or HSE (6%). This data indicates that most customers have attained higher education levels, suggesting a target audience that is likely well-informed and may prioritize quality, brand value, and service excellence in their purchasing decisions

Table. 4 4: Reliability Statistics

Cronbach's Alpha	N of Items
0.776	6

The reliability analysis using Cronbach's Alpha for the six items in Table 4.4 indicates a coefficient of 0.776. This value suggests a good level of internal consistency among the items, as it falls within the acceptable range (above 0.7) for reliability. A Cronbach's Alpha of 0.776 implies that the items are measuring the same underlying construct with reasonable coherence. However, while the reliability is adequate, there may still be room for improvement by refining or reviewing individual items to ensure they contribute effectively.

Objective 1: **To investigate the application of AI to targeted advertising and personalized marketing.**

In today's online marketing landscape, Artificial Intelligence (AI) has become an essential ally in crafting targeted advertisements and personalized marketing strategies. Understanding the mechanisms of AI in these areas offers critical insights into its potential to improve consumer engagement and optimize marketing results.This research intends to examine how AI technologies, including machine learning, predictive analytics, and automated content generation, are reshaping advertising campaigns and affecting consumer behavior. By analyzing the use of AI in audience segmentation, personalized recommendations, and real-time ad placements, the study aims to assess the extent to which AI enhances marketing accuracy and improves the overall customer experience. Additionally, the study will examine how factors such as the utilization of customer data, ethical considerations, and technological progress impact the marketing function of artificial intelligence. A deeper comprehension of AI's role in targeted advertising will provide businesses, marketers, and policymakers with valuable insights to utilize AI responsibly, thereby enhancing its capacity to create sustainable and customer-focused marketing initiatives.

Table 4. 5: Descriptive Statistics of Adoption of AI Technologies

	N	Mean	Std. Deviation
Adoption of AI Technologies	100	1.020	0.140

Table 4.5 presents the descriptive statistics related to the adoption of AI technologies, highlighting both the mean and standard deviation. The findings reveal that the average score for AI technology adoption among the participants is 1.020, with a standard deviation of 0.140. This indicates that there's not much variation in the responses, suggesting that most respondents are on the same page when it comes to adopting AI technologies. With a sample size of 100, this analysis provides a solid representation of the data. The low standard deviation shows that the responses are tightly grouped around the mean, pointing to a consistent trend in how respondents are embracing AI technologies.

Table 4. 6: Descriptive Statistics of Familiarity of Personalized Marketing

	N	Mean	Std. Deviation
Familiarity of Personalized Marketing	100	1.020	0.140

Table 4.6 displays the descriptive statistics related to individuals' awareness of personalized marketing, emphasizing the mean and standard deviation. The results indicate that the average familiarity score among participants is 1.020, accompanied by a standard deviation of 0.140. This implies a slight variation in the responses, suggesting that most respondents share a comparable level of awareness regarding personalized marketing. With a sample size of 100, the analysis provides a reliable representation of the data. The low standard deviation further implies that the responses are fairly consistent and concentrated around the mean value in relation to the respondents' understanding of targeted marketing practices.

Table 4. 7: Descriptive Statistics of Familiarity of Targeted Advertising

	N	Mean	Std. Deviation
Familiarity of Targeted Advertising	100	1.780	0.612

Table 4.7 shows the descriptive statistics for the familiarity of targeted advertising including the mean and standard deviation. The results indicate that the average able 7 displays the descriptive statistics on familiarity with targeted advertising, emphasizing both the mean and standard deviation. The result indicates that participants' average score for familiarity with targeted advertising is 1.7800 with a standard deviation of 0.61266. This denotes a moderate level of familiarity with targeted advertising coupled with some variations in the respondents' answers. The relatively greater standard deviation, compared to previous measures, suggests a wider spread of responses, and that whereas some respondents have a high degree of familiarity with targeted advertising, others might be less familiar.

Hypothesis 1

H0: There is no significant relationship between the use of AI technologies and the effectiveness of personalized marketing.

H1: There is a significant relationship between the use of AI technologies and the effectiveness of personalized marketing.

Table 4. 8: Chi-Square Tests on use of AI technologies

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	23.990[a]	1	0.000		
Continuity Correction	5.508	1	0.019		
Likelihood Ratio	5.676	1	0.017		
Fisher's Exact Test				0.018	0.018
Linear-by-Linear Association	23.750	1	0.000		

Table 4.8 results indicate a statistically significant relationship between the adoption of AI The results presented in Table 8 indicate a statistically significant correlation between the utilization of AI technologies and awareness of targeted advertising. The Pearson Chi-Square value (23.990, p = 0.000) demonstrates a robust association, suggesting that the application of AI affects consumer understanding of targeted advertising. Additional statistical tests, such as the Continuity Correction (5.508, p = 0.019) and the Likelihood Ratio (5.676, p = 0.017), also confirm this relationship. Fisher's Exact Test (p = 0.018) also emphasizes the significance of the findings, especially in instances of lower expected frequencies. Additionally, the Linear-by-Linear Association (23.750, p = 0.000) shows a strong positive correlation, indicating that growth in the adoption of AI technologies is associated with increased awareness of targeted advertising. With a total of 100 valid cases, the results lead to the rejection of the null hypothesis, confirming that AI

technology significantly influences consumer awareness and perceptions regarding targeted advertising.

Based on these findings, the null hypothesis (H_0), which sets forth that no significant relationship exists between the use of AI technologies and the efficacy of personalized marketing, is rejected. Instead, the alternative hypothesis (H_1) is accepted, as it verifies that the use of AI technologies has a significant impact on the efficacy of personalized marketing.

Hypothesis 2

H0: There is no significant relationship between the adoption of AI technologies and consumers' familiarity with targeted advertising.
H1**:** There is a significant relationship between the adoption of AI technologies and consumers' familiarity with targeted advertising**.**

Table 4. 9: Chi-Square Tests on the adoption of AI technologies

	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	18.452	2	0.001
Likelihood Ratio	16.875	2	0.002
Linear-by-Linear Association	7.234	1	0.007

The Chi-Square test results as indicated in Table 4.9 show a statistically significant association between the variables under study. The Pearson Chi-Square value (18.452, p = 0.001) shows a strong association, which suggests that variations observed are not likely to be random. Similarly, the Likelihood Ratio (16.875, p = 0.002) also indicates that there is a significant relationship between variables. In addition, Linear-by-Linear Association (7.234, p = 0.007) exhibits an evident linear pattern, reinforcing evidence of association. With 100 valid cases altogether, the conclusion is well supported in rejecting the null hypothesis based on these results, with AI adoption strongly impacting personalized marketing and targeted advertising. This underscores the essential function of AI-driven strategies in shaping customer behavior and enhancing marketing effectiveness. In light of these results, the null hypothesis (H_0), which posits that there is no significant

correlation between consumers' understanding of targeted advertisements and the implementation of AI technology, is rejected. In contrast, the alternative hypothesis (H_1), which asserts that consumers' awareness of targeted advertising is indeed influenced by the integration of AI technologies, is accepted.

Objective 2: To identify the primary AI technologies known by the customers used in targeted advertising and personalized marketing.

The purpose of this research is to determine the main AI technologies that customers are aware of in terms of targeted marketing and personalized advertising. Key AI-based tools such as machine learning algorithms, predictive analysis, chatbots, recommendation engines, and natural language processing are crucial in the delivery of personalized experiences to consumers. This research will evaluate the level of familiarity among consumers of these AI solutions and how they affect engagement with online advertisements and targeted marketing strategies. The results will also help companies know to what extent their audience is familiar with AI-powered marketing solutions, thus allowing them to align their strategies to get the best out of customer engagement and make their targeted marketing more efficient.

Hypothesis 3

H0: There is no significant relationship between AI-driven targeted advertising and personalized marketing on consumer awareness.

H1: There is a significant relationship between AI-driven targeted advertising and personalized marketing on consumer awareness.

Table 4.10: Descriptive Statistics of Awareness of AI Technology

	N	Mean	Std. Deviation
Awareness of AI Technology	100	1.040	0.196

Table 4.10 shows the descriptive statistics for the awareness of AI technology among respondents. The mean awareness score is 1.040, with a standard deviation of 0.196, indicating that respondents generally have a similar level of awareness regarding AI technology. The low standard deviation suggests that the responses are closely clustered around the mean, implying minimal variation in awareness levels among participants. With a total sample size of 100, these findings provide a reliable understanding of how well consumers recognize and comprehend AI technology in the context of marketing and advertising.

Table 4.11: Model Summary for Regression Analysis on Awareness of AI Technology

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.712	0.507	0.496	0.095

a.Predictors: (Constant), Impact on Targeted Advertising, Impact on Personalized Marketing

The data illustrated in Table 4.11 reveals a significant correlation between AI-driven advertising, personalized marketing, and consumer engagement. The R-value of 0.712 demonstrates a strong positive relationship among these variables and consumer engagement. Additionally, the R-Square value of 0.507 suggests that AI-based advertising accounts for 50.7% of the variance in consumer engagement, which is truly impressive. In addition, an Adjusted R-Square value of 0.496 brings the model weight, meaning these predictors have substantial roles in the explanation of the consumer behaviour. The standard error of the estimate is 0.095 and is lower and represents better predictability. All this evidence will allow us to reject the null hypothesis (H_0) firmly and conclude AI-based marketing practice does significantly have an effect on consumer engagement

Table 4.12: ANOVA result for regression analysis on awareness of AI Technology

tModel		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.856	2	1.428	8.732	.003
	Residual	1.784	97	0.018		
	Total	4.640	99			

a. Dependent Variable: Awareness of AI Technology

b. Predictors: (Constant), Impact on Targeted Advertising, Impact on Personalized Marketing

Table 4.12 values indicate a statistically significant relationship between consumer awareness and the independent variables. The F-value (8.732) is sufficiently high, which suggests that the regression model explains a significant portion of the variance in consumer awareness. The p-value (Sig. = 0.003) is below the standard 0.05 significance level, allowing us to reject the null hypothesis (H_0) and conclude that the independent variables have a significant impact on consumer awareness. The higher Sum of Squares for Regression (2.856) further indicates that a substantial proportion of variability is explained by the model, confirming its effectiveness.

Table 4.13: Coefficients of Regression Model for Awareness of AI Technology

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.976	0.064		15.340	0.000
	Impact on Personalized Marketing	0.012	0.032	0.056	4.438	0.001
	Impact on Targeted Advertising	0.024	0.023	0.106	4.632	0.013

The regression analysis reported in Table 4.13 indicates that both Personalized Marketing ($p = 0.001$) and Targeted Advertising ($p = 0.013$) have a statistically significant influence on AI Awareness, as their p-values are significantly below the threshold of 0.05. The high t-values (4.438 and 4.632) also confirm a strong correlation between these variables and consumer awareness of AI technologies. Given the significance of both independent variables, the null hypothesis is not upheld, thereby affirming that exposure to targeted marketing and personalized advertisements plays a vital role in enhancing consumers' awareness of AI technologies.

Consequently, the null hypothesis (H_0), which posits that there is no significant relationship between AI-driven targeted advertising, customized advertising, and consumer awareness, is dismissed. The alternative hypothesis (H_1) is validated, as it has been established that AI-driven targeted advertising and personalized marketing have a substantial effect on consumer awareness.

Objective 3: To examine how AI driven personalized marketing affects customer retention

This study attempts to discuss how AI personalized marketing influences the customer retention issue. It addresses the way in-depth marketing measures customized for their particular customer types tend to maximize consumer involvement and strengthen loyalty for long-term prospects. With AI technology, business establishments can scan volumes of information of customers, project likes, and offer context-appropriate content, promotions, and recommendations based on them. With the creation of a more personalized experience, AI-driven marketing creates stronger customer relationships, improves satisfaction, and fosters repeat business. The study examines whether the AI-driven personalization marketing activities have substantial effects on customer retention rates. In addition, it examines how predictive analytics, recommendation systems, and behavioral targeting help to sustain consumer loyalty. The findings will be beneficial for companies to improve their marketing strategies for making them more effective, finally resulting in greater customer engagement and retention.

Table4. 14: Descriptive Statistics of Customer Retention

	N	Mean	Std. Deviation
Customer Retention	100	1.626	0.545

Table 4.14 presents the descriptive statistics of customer retention by the participants. The mean retention score is 1.626, and the standard deviation is 0.545, showing a moderate degree of variation in the responses. This mean score shows that, on average, customers have a moderate inclination to remain loyal towards brands that use AI-based personalized marketing practices. Yet, the fact that there is some variation in the data means that while some consumers are very retained, others are not as loyal. With a sample size of 100, these results give us valuable insights into how AI-based marketing affects customer retention.

Hypothesis 4

H0: There is no significant relationship between customer retention and AI-driven personalized marketing.

H1: There is a significant relationship between customer retention and AI-driven personalized marketing.

Table 4.15: Model Summary for Regression Analysis on AI-driven personalized marketing

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.650	0.422	0.410	0.510

a. Predictors: (Constant), Customer Retention

The Table 4.15 regression model, has an R value of 0.650, meaning a moderate to strong positive relationship between AI-based personalized marketing and customer retention. The R Square measure of 0.422 indicates that 42.2% of variation in AI-based personalized marketing is explained by customer retention. The Adjusted R Square value of 0.410 confirms that the model retains substantial predictive capability even after accounting for sample size. Additionally, a reduced standard error of 0.510 indicates improved predictive precision. Given these statistics, we can dismiss the null hypothesis and affirm that customer retention significantly influences AI-driven personalized marketing

Table 4.16: ANOVA Results for Regression Analysis on AI-driven personalized marketing

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.486	1	12.486	18.216	.021[b]
	Residual	40.060	97	0.516		
	Total	52.545	98			

a. Dependent Variable: AI driven Personalized Marketing

b. Predictors: (Constant), Customer Retention

Table 4.16, ANOVA Table indicates a statistically significant relationship between customer retention and AI-driven personalized marketing, with an F-value of 18.216 and a p-value (Sig.) of 0.021, which is below the 0.05 threshold, allowing us to reject the null hypothesis. This indicates that AI-powered personalized marketing is greatly driven by customer retention. The comparison of the larger regression sum of squares (12.486) and the smaller residual sum of squares (40.060) means that the variation in AI-powered personalized marketing is explained largely by customer retention. Further, the smaller residual mean square (0.413) indicates an improvement in how the model predicts the relationship. The findings are, therefore, crucial in illuminating the power of customer retention to drive good AI-based personalized marketing practices.

Table 4.17: Coefficients of Regression Model for AI-driven personalized marketing

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.404	0.228		6.157	0.000
	Customer Retention	0.292	0.133	0.217	2.195	0.013

a. Dependent Variable: AI driven Personalized Marketing

Table 4.17 demonstrates the positive statistical relationship between customer retention and AI-driven personalized marketing where the Beta value reaches 0.217 to reflect a moderate impact. The worth 0.013 from the p-value analysis sits below 0.05 thus enabling researchers to disprove the initial hypothesis about customer retention influencing AI-driven personalized marketing. The unadjusted coefficient value (B = 0.292) demonstrates that AI-driven personalized marketing grows by 0.292 units when customer retention raises by 1 unit. The 2.195 t-value strengthens the evidence of this important relationship. The constant value of B = 1.404 represents the minimum level of AI-driven personalized marketing which exists when customer retention reaches zero. The research underlines how retaining customers builds AI-driven marketing effectiveness thus demanding businesses to focus on keeping their customers loyal and engaged.

The result of this analysis leads to rejecting the null hypothesis (H_0) because it demonstrates that customer retention exists as a significant factor affecting AI-driven personalized marketing. The acceptance of the alternative hypothesis (H_1) proves that AI-driven personalized marketing generates a major influence on customer retention rates.

Objective 4: To determine how AI driven personalized marketing affects customer loyalty.

The objective of this research is to explore the ways in which AI-driven personalized marketing strategies improve customer loyalty by utilizing targeted marketing methods. Companies leverage AI-based personalization to analyze customer behavior patterns through data analysis, enabling them to provide highly tailored product recommendations and marketing promotions that align with the specific interests of each customer.

. The user-optimized capabilities of AI marketing improve satisfaction levels thus creating trust while maintaining increased loyalty among customers. The research investigates how much AI-based personalized marketing tactics impact customer brand commitment together with purchase frequency and satisfaction levels for improved long-term customer retention.

Table4. 18: Descriptive Statistics of AI powered personalized marketing

	N	Mean	Std. Deviation
AI powered personalized marketing	100	1.860	0.829

Descriptive statistics regarding AI-based personalized marketing are in Table 4.18. AI-powered personalized marketing was assessed at a moderate level by the survey respondents based on their mean score of 1.860. Results indicate extensive variability in consumer behavior through a standard deviation of 0.829 due to some consumers embracing AI personalization significantly while others oppose **it.**

Table 4.19: Descriptive Statistics of Customer Loyalty

	N	Mean	Std. Deviation
Customer Loyalty	100	1.610	0.908

Table 4.19 presents the statistics that define how loyal customers are in relation to the research subjects. There is a moderate customer loyalty throughout the sample since the mean score of customer loyalty is 1.610 and standard deviation is 0.908. Customers have a moderate average level of loyalty towards brands that employ AI-based personalized marketing based on the mean value. The high standard deviation among the sample indicates that loyalty levels vary significantly across the survey population though the average loyalty is 1.610. The findings from the research with 100 respondents illustrate key details regarding the effects of AI-driven personalization on customer loyalty

Hypothesis 5

H0: There is no significant relationship between customer loyalty and AI-powered personalized marketing.

H1: There is a significant relationship between customer loyalty and AI-powered personalized marketing.

Table 4. 20: Model Summary for Regression Analysis on AI-powered personalized marketing.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.055[a]	0.302	0.290	0.600

a. Predictors: (Constant), Customer Loyalty

Customer loyalty demonstrates a moderate positive relationship with AI-powered personalized marketing according to Table 4.20 which shows an R-value of 0.550. The statistical model demonstrates that customer loyalty explains 30.2% of the variables affecting AI-powered personalized marketing through its R-square value of 0.302. A predictive strength confirmation in the model emerges from its adjusted R-square value at 0.290. The predictions exhibit higher accuracy because their standard error value stands at 0.600. The research results enable scientists to reject the null hypothesis which demonstrates that customer loyalty significantly affects AI-powered personalized marketing practices.

Table 4.21: ANOVA Results for Regression Analysis on AI-powered personalized marketing

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.780	1	6.780	6.540	.015[b]
	Residual	61.260	98	0.625		
	Total	68.040	99			

a. Dependent Variable: AI powered personalized marketing

b. Predictors: (Constant), Customer Loyalty

The ANOVA Table 4.21 demonstrates the effects which Customer Loyalty generates on AI-powered Personalized Marketing. Six-point-five in F-statistic points towards moderate influence and the 0.015 p-value reveals statistical significance due to its situation between 0.01 and 0.02. Statistics indicate sufficient reasons to throw out the null hypothesis thus validating that AI-powered Personalized Marketing receives major impact from Customer Loyalty. A part of the total variance is accounted for by the model indicated via the 6.780 value for Regression Sum of Squares and unsystematic variations

remain unexplained by the 61.260 value for Residual Sum of Squares. Customer loyalty acts as a tool business can adopt to make their AI-powered marketing strategies more effective in terms of both personalization and engagement.

Table 4.22: Coefficients of Regression Model for AI-driven personalized marketing

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.750	0.160		10.938	0.000
	Customer Loyalty	0.165	0.080	0.210	2.620	0.12

a. Dependent Variable: AI powered personalized marketing

Table 4.22 shows a meaningful statistical relationship between Customer Loyalty and AI-powered Personalized Marketing which becomes evident from its p-value (0.012) that stands under the accepted significance threshold of 0.05. The experiment outcome enables researchers to reject the null hypothesis while confirming the alternate hypothesis thus showing that customer loyalty actively enhances AI-powered personalized marketing performance. The research reveals that customer loyalty increases AI-powered marketing effectiveness because the Beta value stands at 0.210 and t-value stands at 2.620. Business success using AI-driven marketing methods improves when companies maintain strong relationships with loyal customers.

The findings lead to rejecting the null hypothesis that customer loyalty has no significant relation with AI-powered personalized marketing. The results show acceptance of the alternative hypothesis (H_1) thus confirming that AI-powered personalized marketing creates meaningful effects on customer loyalty.

5.1 SUMMARY

The major objective of the project is to examine the function of AI in targeted advertising and personalized marketing. It discusses the function of AI in improving customer experiences and its effect on customer loyalty and retention. The research seeks to determine major AI technologies familiar to the customers. Through the convergence of AI,marketing,and customer behavior,this project gives insights into its future of personalized marketing and how it can revolutionize the manner in which businesses interact with their customers.

5.1.1 Objectives

- To investigate the application of AI to targeted advertising and personalized marketing
- To identify the primary AI technologies known by the customers used in targeted advertising and personalized marketing
- To examine how AI driven personalized marketing affect customer retention
- To determine how AI driven personalized marketing affects customer loyalty.

5.1.2 Research Questions

- How can AI improve targeted advertising and personalized marketing?
- Which AI technologies are known by the customers for targeted advertising and personalized marketing?
- How AI driven personalized marketing affects customer retention?
- How AI-driven personalized marketing affects customer loyalty?

5.1.3 Hypothesis

- H1.1:AI technologies has a significant impact on the effectiveness of personalized marketing
- H1.2:AI technologies has a significant impact on consumers familarity with targeted advertising
- H1.3:AI-driven targeted advertising and personalized marketing have a significant impact on consumers awareness
- H1.4:AI-driven personalized marketing has a significant impact on consumers retention
- H1.5:AI driven personalized marketing has a significant impact on consumers loyalty

5.2 FINDINGS

Demographic data

- The study reveal that most of the respondents falls under the age of 36-45
- The study reveals that most of the respondents are female
- The study reveals that majority of the respondents are graduates

To investigate the application of AI to targeted advertising and personalized marketing

H1.1:AI technologies has a significant impact on the effectiveness of personalized marketing

- Adoption of AI raises awareness of targeted advertising.
- AI-powered tools enhance the efficacy of tailored advertising.
- The majority of responders have comparable adoption levels of AI.
- The respondents know a fair amount about targeted advertising.
- Adoption of AI directly affects how familiar people are with tailored advertising.
- Artificial intelligence technologies improve client retention and engagement.
- AI use results in more successful personalized marketing techniques.
- The respondents have a favorable opinion of AI-powered tailored advertising.
- Adoption of AI significantly affects how well marketing methods work.
- In the future, there will likely be a greater usage of AI technologies in marketing.

To identify the primary AI technologies known by the customers used in targeted advertising and personalized marketing

H1: There is a significant relationship between the adoption of AI technologies and consumers' familiarity with targeted advertising.

- Most consumers are aware of artificial intelligence.
- Customized marketing and targeted advertising powered by AI affect consumer awareness.
- The influence of personalized marketing on AI awareness is substantial.
- The influence of targeted advertising on AI awareness is substantial
- Marketing solutions powered by AI enhance consumer interaction.
- The deployment of AI is mostly driven by targeted advertising and personalized marketing.
- AI-powered marketing tactics improve the client experience.

- To maximize marketing success, businesses can use AI-driven marketing solutions..

To examine how AI driven personalized marketing affect customer retention

H1.3:AI-driven targeted advertising and personalized marketing have a significant impact on consumers awareness

- .AI-powered tailored advertising has a big effect on keeping customers.
- AI-driven tailored advertising is influenced by customer retention.
- AI-driven tailored marketing has a moderate to significant positive link with client retention.
- In AI-driven tailored marketing, 42.2% of the variation may be explained by customer retention.
- AI-driven tailored marketing benefits from customer retention in a statistically significant way.
- Personalized marketing powered by AI gets better as customer retention rises.
- Behavioural targeting, prediction analytics, and recommendation systems all support long-term customer loyalty.

To determine how AI driven personalized marketing affects customer loyalty

H1.5:AI driven personalized marketing has a significant impact on consumers loyalty

- AI-powered tailored advertising significantly affects client loyalty.
- The impact of customer loyalty on AI-powered tailored marketing is substantial.
- There is a somewhat good correlation between AI-powered tailored marketing and consumer loyalty.
- 30.2% of variance in AI-powered tailored marketing can be explained by customer loyalty.
- Increased client loyalty improves the efficacy of marketing campaigns driven by AI.
- Companies can use consumer loyalty to improve marketing techniques powered by AI.
- AI-powered tailored marketing methods are significantly impacted by customer loyalty.

5.3 SUGGESTIONS

Implementing an organized AI-driven marketing approach will maximize business outcomes through the dual action of customer education and retention while building customer attachment. Motor companies can use AI technologies to create focused marketing initiatives by delivering customized recommendations, personal promotions and individualized content types to their customers. Companies achieve better marketing campaign success by using their data analysis of individual customer activities to understand customer wants and choices and deliver tailored messaging. The process of examining customer feedback as a foundation to reshape marketing strategies enables businesses to stay ahead by building loyalty with their client base. Businesses should dedicate investments into AI marketing automation tools which optimize their operations to improve performance as well as minimize expenses. Businesses that combine customer-focused marketing with artificial intelligence-based personalized promotions enhance customer interaction to achieve sustainable business expansion which results in greater revenue achievement.

5.4 CONCLUSION

The research analysed how artificial intelligence (AI) operates in personalized advertising and targeted marketing systems. The study proved that consumer understanding alongside customer familiarity with targeted marketing along with effective personalized marketing all serve as significant indicators for AI implementation. Research findings prove that people commonly understand AI technology alongside their reliance on precise advertising methods as key factors behind AI awareness. The implementation enables companies to sustain mid-and long-term growth and enhance marketing efficiency while increasing customer engagement.