

Impact of Artificial Intelligence in Digital Marketing on Students' Psychology Seeking University Admissions

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ABSTRACT

Digital marketing methodologies supported by AI are altering how universities connect with prospective students. This research investigates the impact of Artificial Intelligence (AI) in Marketing, particularly for students seeking admission to universities in Pune, India. We aim to understand how psychological factors are impacted through the use of Artificial Intelligence in Digital Marketing Strategies, including but not limited to targeted advertisements, chatbots, predictive analytics, and/or personalized recommendation systems, on the decision-making process of students, perceptions of University Brands, and emotional connections they form with their selected University. Based on this, it is hypothesized that AI-driven personalized advertising and chatbots significantly increase students' trust and perceptions of university accessibility, as well as the use of predictive analytics, thereby creating a stronger emotional connection. The study also examines how students perceive these new AI-based digital marketing techniques across various demographic factors (age, course of study, and prior exposure to AI Technology). It will also consider challenges that may arise from over-reliance on AI in digital marketing, which could erode trust and undermine the credibility of the digital marketer. Ultimately, the findings of this research provide actionable insights for universities that can lead to improvements in how they develop AI-based marketing strategies that take into account the emotional and psychological needs of prospective students

Keywords: Artificial Intelligence, Digital Marketing, University Admissions, Students' Psychology, Personalized Advertisements, Chatbots, Predictive Analytics, Emotional Engagement, Trust, Demographic Variations

INTRODUCTION:

The rise of digital marketing as an area of research has made it arguably one of the most relevant subjects to researchers and practitioners alike in recent years (Harbi & Ali, 2022). The academic literature surrounding this research field has been referred to as "online marketing," "internet" or "web" marketing (Harbi & Ali, 2022). In general, the primary focus of digital marketing is to promote and sell products or services using various forms of electronic media (including mobile applications, unique websites, computer devices and various smart devices), whereby the internet is the primary vehicle through which all marketing occurs today (Harbi & Ali, 2022). By leveraging the power of these electronic mediums, digital marketers can better reach their prospective customers on all electronic devices, such as mobile devices, desktops, tablets and other mobile computing devices. Digital marketing - or the process of providing individuals and businesses the opportunity to create a win-win situation when exchanging resources;

includes the term "digital media," which encompasses any type of electronic information (data), application (program) and technology (hardware and software); and; includes the act of marketing using the output generated from these pieces of information and tools - strives to accomplish the goals and objectives of both the consumer and the business (Strauss & Frost, 2001). When successfully used, digital marketing enhances an organization's reach and the amount of product sales generated for the organization by building consumer awareness of a organization's brand equity and corporate identity. In addition to building customer relationships and improving how customers interact with and communicate with organizations via digital channels, digital marketing has revolutionized how organizations create (i.e., produce) goods and services, and it fosters demand for those products by creating new and innovative ways for consumers to fulfill their demand for goods and services digitally (Stokes, 2013). The digital marketing paradigm has been developed in three distinct directions, including: decentralized market systems; collaborative (or

partnership) market systems; and: democratically based marketplace systems (Busca & Bertrandias, 2020) . Digital marketing is also increasingly being accepted by many organizations because of its role in developing customer relationships and building brand equity. Digital marketing has become an essential tool for educational institutions (also known as "Income organizations") in connecting with prospective students to generate greater enrollment across multiple academic programs (Kannan, 2017). Educational institutions have accomplished this by developing and implementing a variety of methods such as: affiliate and distributor marketing programs; digital content marketing; e-mail marketing; social networking; search engine optimization (SEO); and online public relations (PR) (Kannan, 2017). In addition to providing students with an opportunity to learn from a more engaging and effective experience via the use of digital technologies, digital marketing has created relationships and fostered loyalty and trust between students and their families, the school and the university as an institution. Digital marketing has become even more critical due to the COVID-19 pandemic (2020–2023), during which institutions were compelled to quickly adopt digital marketing practices for their institutions, and subsequently, convert traditional teaching methods to online learning and delivery, in response to the market changes (Smith & Chaffey, 2005).

The aim of this work is to analyze the current knowledge on Artificial (AI) in the digital marketing and relation with students and Higher Education Institution (HEIs). It will investigate different AI-based digital marketing approaches that HEIs use, e.g. personalized adverts, chatbots, predictive analytics, and recommendation systems and how they influence potential students from a psychological perspective. The research also looks into how these approaches impact students' choices, trust, emotions and perceptions of university brands. Furthermore, it discusses how AI-powered digital marketing is affecting the global HEIs' enrolment trends based on age group, over subject or degree type preferences and previous knowledge of AI-enabled technology when it comes to reaching future student. This study aims to address the use of AI in digital marketing to better develop and execute marketing strategy aimed at engaging students--consequently helping universities recruit more effectively.

Scope of the study

This research focuses on how artificial intelligence applied to digital marketing influences how students consider applying to university in Pune, India. Research was conducted to assess what effect various types of AI-powered digital tools like AI-assisted advertisements, chatbots, predictive analytics, and AI-based recommendations have on students' decision-making processes, emotions, level of attachment to university brands and perceptions of those brands. In addition to looking at all the demographic characteristics of students that make up the population (age, course preferences, experience with AI-related applications) that shape how students interact with AI-based Marketing strategies, this study also evaluated whether or not students view AI as beneficial or harmful to the decision-making process and

what role AI should play in determining students' actions. The results are designed to provide higher education a concrete approach for developing digital strategies that are not only more powerful, but congruent with the psychology of their prospective students in order to increase engagement and enrollment. Geography- This is a one-site study and students are from Pune only which allows delving depth into the context of this city.

2.0 Literature Review

2.1 Foundational Concepts

Digital marketing is an essential part of the marketing effort to provide products and services using multiple digital technologies, including the Internet and mobile devices, display advertising and other forms of digital media (Rajkumar et al., 2022). Digital marketing has become widely accepted throughout nearly all sectors of business, impacting customer engagement and market dynamics. Digital media has also forced businesses to discover new methods of marketing products and services, thus leading to new opportunities and new challenges (Arora & Sanni, 2019; Dwivedi et al., 2015; Dwivedi et al., 2017; Hossain et al., 2019; Nisar et al., 2018; Wang & Herrando, 2019). Digital marketing utilises Internet-based, social media, email, mobile, and other online media as platforms through which businesses can interact with customers in real-time. An effective digital marketing strategy will result in numerous positive measurable results: 1. Co-creation is a mechanism for businesses and their clients to work collaboratively to deliver mutual value to each other (Kamboj et al., 2018; Rathore et al., 2016; Zhang et al., 2017). 2. Value Perception and Customer Loyalty have a positive effect on the purchase decision for each product/service (Chen et al., 2019; Pacauskas et al., 2018) and are essential for establishing lasting Brand Loyalty (Laroche et al., 2013). 3. Customer Satisfaction plays a major role in total customer satisfaction (Shareef et al., 2018). With the use of digital marketing, Consumer Behaviour will change as consumers interact with and understand their Products, Services, and Brands through digital channels. More and more customers use Online Sources of Information to make Purchasing Decisions about important areas in their lives, such as Health, Education, and Personal Finance. This has resulted in the growing Effectiveness of Recommendation Engines (Ismagilova et al., 2019) as an influencer in the Purchasing Decision Process and the creation of a Customer Preference based on the perceived Credibility of Reviews from Other Users (Srivastava et al., 2019) and also by the enhanced Effectiveness of Newer Recommendation Systems.

The imminent digital revolution will disrupt traditional higher education institutions' structure, redefine the way they create value for their customers and their business, and create entirely new delivery methods for them (Crittenden & Peterson, 2019). Universities have developed an association between how students determine what they want to do with their education (i.e., decide which college/university to attend) and how they access information and materials about it through social media (Alnaser et al., 2020). As the number of universities

continues to rise and competition becomes more intense, there is an increasing urgency for universities to develop their recruitment policies to utilise social media and other digital media in efforts to attract prospective students. With growth in enrolment becoming the prime driver, and survival and sustainability of universities depending upon it, a significant structural change is occurring in the higher education industry (Crittenden & Peterson, 2019). Therefore, as the predominant vector of growth continues to shift from product-driven to market-driven with more focus on increasing enrolments, enrolment growth has become the driver of success and survival for every higher education institution.

2.2 Digital Marketing in the Universities

Through Digital Marketing HEIs have an enhanced capacity to reach out to possible students. Through the different platforms that digital marketing provides, they will have access to a larger quantity of prospective students. This role as a leader in the use of engagement with digital media compared to other industries is evidenced by the number of HEIs that were using digital channels to communicate with prospective students (i.e., blogs) that grew to 30% from 2009 through 2010 (Barnes et al., 2010). This represents an increase of over four times in less than a decade compared to Fortune companies, where only 8% at that time utilized a blogging model to communicate to their target audience. When first developed, these digital platforms allowed institutions of higher education to see possible ways to use a number of digital marketing techniques and a variety of different types of digital marketing platforms. The authors of this study looked at university marketing strategies in the Asian, African and European regions to give researchers insight on how the use of social media for marketing is a critical element of effective communication with target audiences for HEIs (Kuzma and Wright, 2013). HEIs are increasingly recognizing the value of social media in building an online community for the recruitment and retention of prospective students (Faculak, 2012). While the potential for using social media is recognized by HEIs, HEIs also face challenges with respect to organizational readiness and recognizing the ongoing evolution of the existing power dynamics between users and content creators.

Organizations are generally reluctant to take action or have an inability to create and implement the appropriate strategies to allocate resources to support the development of an effective digital marketing strategy (Oliveira & Figueira, 2015). Additionally, institutions of higher learning may not sufficiently recognize or address the significant and growing number of content creators using social media, which are referred to in this model as the "new empowered role of social media users" (Oliveira & Figueira, 2015). While a plethora of positive or negative comments from the masses can impact the overall institutional image/reputation both positively and negatively. Recognizing the importance of utilizing digital marketing avenues, researchers started developing theoretical models that will help analyze quantitatively the effect of these outlets and the way they are used during the process of selecting a specific Higher Education Institute (HEI). Singh et al. (2019) created a model to study how

specific demographic factors and social media consumed by the user had an effect on the decision-making processes to attend an HEI. The evidence provided by this study shows that development of informed strategies and public policies pertaining to HEIs must be further explored by researchers. Digital marketing has proven to be effective to many markets, but there continues to remain a major gap between empirical studies that focus on how digital marketing can be used as an outreach method to prospective students and the ability of individual students to psychologically make decisions about their enrollment in HEIs (Barnes et al., 2020). Although researchers have established techniques regarding the use of digital marketing, and understand that HEIs must embrace this approach; the exact linkage between "exposure" to digital marketing and an individual student's decision-making process related to enrollment into an institution of higher education remains to be rigorously tested further.

2.3 Impact of Digital Marketing on Student Decision-Making

Numerous investigations have been performed on the impact of digital media use on the admissions process of College and University (CU) applicants. In 2015, Dhote et al. conducted a study in Pune, India that discovered that CU applicants had extensive knowledge about the use of digital media. The increased number of CU applicants who were aware of digital media is a result of the ease with which they can acquire information through digital means, as well as the ability of CU applicants to use digital media while applying. CU applicants now have access to the websites of College and University (CU) institutions, as well as digital media platforms (e.g., social networking), to network with their peers and representatives of CU institutions and to identify a personal identity connected to their academic experience, resulting in a more successful transition into an educational environment. The role of social media in helping students stay connected with potential institutions and each other is likely to grow as social media becomes an even more popular and accessible tool for communicating with external audiences throughout the decision-making timeline (Stageman, 2011). For example, in a case study by Stageman (2011), a prospective student was able to use social media to:

1. Establish friendships with other prospective students.
2. Communicate back and forth with representatives of the institution using social media as a two-way communication vehicle.
3. Create an identity that related to being a student of the institution.
4. Transition to the academic environment in a successful way.

The continued reliance on social media as a means of adapting to changing environments and providing greater visibility into the behaviours of the student throughout the student life cycle will play a large role in determining how successful HEIs will be in attracting and retaining quality students. Accordingly, this research aims to examine the effectiveness of digital marketing by examining the role

of digital media on students' final choices regarding where to attend college or university in the Higher Education sector. To be competitive, HEIs worldwide are faced with a unique set of complex and increasingly interconnected challenges, including changes in the needs and wants of students, increased global competition for limited financial resources (Simoes & Soares, 2020), and the need to attract the best students and resources to their campuses. Therefore, the primary focus of HEIs is to attract the most qualified students and resources to their campuses. To do this, students must fully understand the financial and resource obligations associated with their educational experience (Dhaliwal et al., 2019). Consequently, the way that students perceive the recruitment practices of the institution will guide institutions when determining how best to allocate their marketing dollars toward informing and enhancing the effectiveness of recruiting efforts (Dhaliwal et al., 2019).

Research Questions

1. How do AI-driven personalized advertisements affect students' trust in the brand of universities?
2. What ways do students believe Chatbots Enhance Availability and Response to Universities?
3. What involvement do Predictive Analytics and Personalization Play in a student's Decision-Making Process?
4. How do Student Demographics, e.g., Age, Program of Study, and Experience with AI Tools Impact Student's Trust and Their Views About Universities?
5. Do Students Who Depend Too Heavily on AI-Based Digital Marketing Strategies Experience Increased Doubts or Galvanized Decreased Levels of Trust with Their Experience of Universities?

The study's objectives include the following:

1. To determine if by using artificial intelligence (AI) to make personalised ads for individual students will enhance or create trust in how students think about a university's branding and profile.
2. To determine how AI technologies (including the use of chatbots) influence students' feelings toward their institution and the level of trust students feel in terms of their university's ability to respond to their immediate needs and provide them information when they ask for it.
3. To determine the impact that predictive analytics generated by AI can have on the emotional connection that students build with their university while they are making decisions about where to attend university.
4. To determine how various socio-economic factors (such as age, type of programme selected, etc.) influence students' perceptions of their university and ultimately their level of trust in that university.
5. To identify areas of concern (e.g., scepticism or distrust) that may arise from over-reliance on AI-to-AI interactions (i.e., using AI within digital marketing).

Null Hypothesis (H₀₁): Gender has no significant effect on Demographics.

Alternative Hypothesis (H_{a1}): Gender has a significant effect on Demographics.

Null Hypothesis H₀₂: University Rankings has no significant effect on the preferred course of study.

Alternative Hypothesis H_{a2}: University Rankings has a significant effect on the preferred course of study.

Null Hypothesis (H₀₃): AI-powered features, tools, and their influence on accessibility, effectiveness, and preference alignment have no significant impact on AI in digital marketing.

Alternative Hypothesis (H_{a3}): AI-powered features, tools, and their influence on accessibility, effectiveness, and preference alignment have significant impact on AI in digital marketing.

Null Hypothesis (H₀₄): There is no significant effect of the overall experience with AI in university digital marketing campaigns on students' psychology.

Alternative Hypothesis (H_{a4}): The overall experience with AI in university digital marketing campaigns significantly affects students' psychology.

3.0 Research Methodology

3.1 Research Design and Framework

This research paper is a quantitative in nature and aims to study the effect of AI in digital marketing on students psychology while applying for university admissions of Pune. The research investigates how AI-based technologies such as personalized advertisements, chatbots, predictive analytics and recommendation systems impact on students' decision-making mechanisms trust in universities, their perception of universities and their emotional engagement. It also examines the moderating role of demographic variables such as age, preference for course and prior exposure to AI tools in these relationships.

The study employed the use of descriptive and correlation researches, apart from causal-explanatory designs Aim or Objective: To achieve the goals of the study a combined methodology are appropriate done. The Independent variables (IVs) for the current research are as follows: AI-driven personalized ads, chatbots based on AI, predictive analytics and recommendation systems — VSs; the Dependent variables (DVs) for the current study are students' trust in universities, emotional involvement during decision-making process and perceptions of university brand. It further seeks to investigate whether demographic factors (e.g., age, course preference) moderate the effects of AI in digital marketing on students' psychology.

The research adopts survey technique to gather primary data from students based in Pune, who are about to join the universities. A structural questionnaire will be administered for students using a sample size expectedly exceeding 150 respondents, which will be selected by stratified random samplings to enable demographic variance. Likert scales of the questionnaire will imply the

variables associated with trust, emotion involvement, decision-making and perception.

Data will be analyzed using descriptive statistics (i.e., means, standard deviations to describe the sample demographics and response central tendencies. Hypotheses will be tested and the independent variables with the dependent variable identified using inferential statistics by means of multiple regression analysis, and Pearson correlation. We will use SPSS PROCESS for mediation analysis to examine the possible mediating role of emotional engagement in decision-making. The effects of demographic variables will be investigated by one-way ANOVA.

The conceptual model acknowledges the nature of the relationships between independent, dependent, mediating and moderating variables. The main independent variables are AI personal ads, chat-bots, predictive analytics and recommendation system online services were found to affect students trust level perception and emotional connection. The outcomes reflect students' trust in the university brand, emotional involvement of their decision-making process and general perception of the university. We will research the mediating process for emotional engagement in students' reception of AI in digital marketing and investigate how demographic factors moderate its effects on their psychological reaction to AI in digital marketing.

This study is expected to enhance knowledge about the role AI tools in DM play in influencing the perception and decisions students make when selecting universities as well as how demographic characteristics moderate such relationships.

3.2 Sampling Strategy and Data Collection

For this study on the impact of Artificial Intelligence (AI) in digital marketing on students' psychology when seeking university admissions in Pune, a stratified random sampling technique is employed to ensure a diverse and representative sample of participants. Students are grouped by demographic characteristics such as age (18-24, 25-34, 35-44) and preferred courses (undergraduate/postgraduate), which may have an effect on how they psychologically view their different ways of obtaining university admissions. A subgroup of students are classified by levels of experience with AI tools (e.g., personalized advertisements, chatbots, recommendation systems), since this might have an influence on their decision-making process. After the participants have been categorized, a random selection of individuals will be made from each of the demographics to minimize any bias and ensure there are equal representations from each demographic group. To determine the target sample size for this study, a statistical power analysis was performed for an 80% statistical power to find the significant effects. A sample size of 150+ students was determined based on the results from the statistical power analysis. The target sample size provides sufficient numbers to allow for meaningful statistical comparisons across all demographic groups and offers strong statistical support for this study. A target sample size of at least 150+ will create a diverse population upon which the results from this survey will be based and thus will allow for the

findings to be generalized. Before distributing the survey to the entire student population, a small pilot test of the accuracy of the survey was conducted with a small group of participating students. The data collected from the pilot test provided information about the survey and the information provided will be used to refine the survey as necessary. The survey is planned to be administered over a four- to six-week timeframe to encourage students to complete the survey. During the four- to six-week data collection period, reminders to complete the survey will be sent to participants and responses from this study will not identify individuals; therefore, their anonymity will be guaranteed. The data collected through this research will remain confidential and securely stored. The research will adhere to ethical guidelines and was approved by an ethics committee before conducting this research to maintain its integrity in accordance with the ethical requirements for social science research. Using a complete and systematic sampling procedure, as well as a systematic and rigorous manner of collecting data, this study will provide a comprehensive database that reflects the diversity of the complete student body seeking university admission in Pune, India. Therefore, the material presented in this research will provide valid and reliable results, while also adhering to the ethical standards associated with conducting social science research.

3.3 Variable Measurements

This research analysis examines how Artificial Intelligence (AI) affects student psychology in regards to the university admissions process in Pune. The study used structured questions that asked respondents to indicate their level of agreement or disagreement with the statement using a Likert scale from 1 (strongly disagree) to 5 (strongly agree). The use of structured questions and a Likert scale will allow for the systematic measurement and/or statistical evaluation of each respondent's perception of and/or feelings about AI in digital marketing. The following metrics were utilized to develop the variables in this study:

1. Independent Variables (Aspects of AI in Digital Marketing)

- a) Personalized Advertising: The study will investigate how AI-generated personalized advertising may be perceived as relevant based on statements like "I find my online personalized ads to be related to my interests and preferences".
- b) Chat Bots: The measurement instrument for chat bot effects will include statements such as "I find the chatbot responses I get from universities to provide a more streamlined way to obtain the information I am looking for".
- c) Predictive Analytics/Recommendations: Statement such as "The personalized recommendations I receive from universities assist me in making more educated decisions" will be utilized in

order to determine how predictive analytics may influence student choice.

- d) Trust in AI Tools: In order to evaluate student perceptions about trustworthiness with regards to AI tools, statements like "I have faith that the AI systems offered by universities provide accurate and pertinent information" was employed.
- e) Emotional Connection: Statement like "The interactions I experience through AI tools provide a greater sense of being connected to my university" were used for the purpose of determining the degree of emotional connection to AI tools in the context of marketing.

2. Dependent Variables (Students' Psychology)

- a) Trusting in the University Brand: Students respond to statements regarding trust in the university, such as "I trust the university because of the information I received from AI tools."
- b) University Perception: An example of how students perceive the university: The use of AI Marketing [leads students to view the university as] more modern and trustworthy.
- c) Confidence in Decision-Making: Measurements of how students feel about their decision-making was taken by answering questions like: "I have more confidence to make an informed choice about attending the university because I was exposed to AI-generated advertisements."
- d) Emotional Engagement: Students' emotional attachment to the university is measured using the question, "I feel I have an emotional connection to this university due to the use of AI-generated communication."
- e) Skepticism Toward AI in Marketing: Students are asked to respond to the statement "I feel doubtful about the use of AI in marketing or admissions for universities." This statement was used to measure the potential negative effects of AI-driven marketing strategies on how students psychologically respond to universities.
 - o Trust in University Brand: For measuring trust in the university, students respond to statements like "I trust the university based on the information provided by AI tools."

An in-depth look at the psychological processes such as trust, emotional engagement, decision-making, and perception of universities) involved in AI-driven digital marketing will be facilitated through structured questions

and Likert scale. Using statistical analysis, the correlations between these constructs will allow for an understanding of the impact of AI on students' university admissions decision making.

3.4 Data Collection Methods

This research used a newly developed self-reported leisure activity survey to examine how university admission-related AI digital marketing is viewed and reacted to by applicants. Online surveys are especially suited for the purpose of obtaining a geographically representative sample of students from across Pune, since the study population comprises prospective university applicants. For this reason, the use of an online survey allows for speedy and efficient data collection of a large number of individuals who comprise a tech-savvy student population. The survey contained structured response sets that measured mental models and constructs of AI in Digital Marketing including, but not limited to, what it means to a student audience; perception of personalisation, AI chatbots, predictive analytics, emotional involvement with an AI-generated interface, as well as trust associated with AI tools. Additionally, the study also explored components of students' psychological reactions to AI through examining university brand trust, perception of university image, and emotional association with AI Communications Systems.

The survey's representativeness and accuracy will be maintained through the distribution of the survey to university mailing lists, academic forums, and social media channels that students interested in pursuing postsecondary education in Pune most frequent.

3.5 Data Analysis

The aim of this research is to determine how AI-powered digital marketing techniques affect students' minds when applying to universities. We have developed a systematic method for analyzing our gathered information by looking at how different AI-powered digital marketing techniques are related to students' perceptions and their demographic moderators. We will prepare and clean the data and create descriptive statistics to help identify trends and potential outliers. To test the hypotheses and to understand how AI-driven digital marketing techniques impact students' psychological response (trust and confidence in making their college choice), we use inferential statistical techniques. To determine how AI-powered digital marketing techniques impact students'(a) trust in universities and (b) confidence in making a decision, we use multiple regression models. To determine the strength of the correlation between students' likelihood to recommend a university or to continue pursuing admissions based on their psychological responses (trust and confidence) and the relationship between AI-driven digital marketing techniques and students' psychological responses, we use Pearson correlation. To examine how demographic factors (age, education level, prior exposure to AI technologies) factor into the relationship between AI-driven digital marketing techniques and students' psychological response, we use one-way analysis of variance (ANOVA). To determine if emotional engagement is a mediation factor between AI marketing strategies and students' psychological responses (trust and

decision-making confidence), we perform mediation analyses using the PROCESS macro for SPSS. All statistical analyses were conducted using SPSS and tested at a significance level of 0.05 to support the credibility and reproducibility of these results. By conducting a carefully and methodically executed statistical analysis of our data, the authors believe that they can provide credible, practical, and useful recommendations for enhancing AI-based digital marketing techniques in higher education.

Regression

- **Null Hypothesis (H₀1): Gender has no significant effect on Demographics.**
- **Alternative Hypothesis (H_a1): Gender has a significant effect on Demographics.**

Table- 1 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.681 ^a	.464	.453	.373
a. Predictors: (Constant), Gender				

Model Summary in Table1 Model summary gives the details of performance and explanatorily to a regression model. Below is how the output based on given values is interpreted: The correlation coefficient R (0.681) shows that a moderate significant positive relation exists between predictors (Gender, Male, Female and Other) and the response variable. This indicates that there is a lot of common variance among the predictors themselves, and this common variance accounts for much of the variability in the dependent variable. The R Square (0.464) suggests that 46.4% of the variance in dependent variable is accounted for by predictors included in the model. This suggests moderate explanatory power. The Adjusted R Square (0.453) considering the number of predictors in the model, corrects for overfitting. It indicates that 45.3% of the variance in the dependent variable is accounted for, based on model complexity; a somewhat more modest calculation.

The standard error of the estimate (0.373) represents the average difference between observed and predicted values, indicating how precisely predictions are made by the model. A lower standard error is indicative of a better fit in this case, the value indicates an acceptable level of precision.

Table - 2 ANOVA

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
a. Dependent Variable: Demographics					

1	Regression	23.488	4	5.872	42.201	.000 ^b
	Residual	27.132	195	.139		
	Total	50.620	199			
a. Dependent Variable: Demographics						
b. Predictors: (Constant), Gender						

Table 2 ANOVA table It tests the overall significance to the regression model. The R² and the adjusted R² are respectively 70.54% and 66.13%, whereas the regression sum of squares (23.488) and residual sum of squares (27.132), capture variance explained by model and unexplained variance of the data, respectively. The Total Sum of Squares (50.620) indicates the total amount of variance present in the dependent variable (Demographics).

The F-statistic with a significance level (p=0.000) of 42.201 shows that the model is statistically significant. This indicates that the predictors (Gender, Male, Female and Other) account for a substantial proportion of the variance in the dependent variable. The P-value is less than 0.05, which implies that the regression model is a good fit of the data.

Table-3 Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.351	.084		4.179	.000
	Gender	.336	.059	.367	5.748	.000
a. Dependent Variable: Demographics						

Table no.3 Coefficients of predicting variables and their influence on Dependent variable It can be observed from Table 3 that which predictor has how much impact on Dependent variable Demographics followed by R square (0.768 = 76.8 %), R² all in simple linear regression where independent/ethnic context variable, housing condition, electric back ground in family have maximum impact on dependent variable Demographics as compared to other predictor's discussed in table 3 which shows values r squared is lower than.06 overall predictors used in each simple linear regression that means there is very weak relationship between preferences and cola consumption.

The intercept: (B=0.351, P=0.000), is the level of dependent variable when predictors are zero. In the predictors included, Gender (B=0.336, P=0.000) is both the most important and influential factor as reflected by a β of 0.367 which indicates its strong positive contribution. Male (B=0.205, p=0.001) is also positively related to it and has a moderate effect on it ($\beta=0.255$). Female (B=0.051, p=0.184), however, has no significant association with the model and should be considered as a poor contributing factor to this model. While other (B=0.096, p=0.033) which bears the smaller, but also positive, standardized coefficient ($\beta=0.139$). In total, Gender and Male are the strongest predictors, zero effect is obtained for Female while there is a small impact of Other.

H02: University Rankings has no significant effect on the preferred course of study.

Ha2: University Rankings has a significant effect on the preferred course of study.

Regression

Table-4 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.705 ^a	.497	.490	.553
a. Predictors: (Constant)				

Have you applied to Universities in Pune? Model Table no.4: model summary This moderately strength relationship exists between the predictor ("Have you applied to Universities in Pune? and the response variable as evidenced by correlation coefficient (R=0.705). The R Square 0.497 indicates the proportion of variance in the dependent variable accounted for by predictor. The adjusted R Square (0.490) considers the degree of model complexity, suggesting fairly consistent explanation. The SE of the estimate (0.553) indicates the average difference in actual values from predicted estimates, indicating a reasonable precision in prediction. As a whole, the reliability of this model is low with only this one predictor.

Table-5 ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	59.285	3	19.762	64.652	.000 ^b
	Residual	59.910	196	.306		

Total	119.195	199			
a. Dependent Variable: Preferred Course of Study					
b. Predictors: (Constant)					

Table no.5: ANOVA table testing the significance of the regression model predicting preference in course using "Applied to Universities in Pune?" as predictor.. The regression sum of squares (59.285) shows the proportion of dependent variable variability explained by the model, and the residual sum of squares is an expression of unexplained variance (59.910). The value of TSS (119.195) is the total variance present in the dependent variable.

The F-value of 64.652 is significant (p=0.000), indicating that the model is statistically significant. This suggests that the predictor explains much of the variance in preferred course of study, and your model is a good fit to your data.

Table-6 Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.514	.126		4.073	.000
	University Rankings	.610	.045	.701	13.586	.000
	Rs.5 Lacs – Rs. 10 Lacs	.032	.078	.026	.411	.682
	Rs. 10 Lacs & Above	-.005	.069	-.005	-.072	.943
a. Dependent Variable: Preferred Course of Study						

Table no.6 coefficients provides insights into the contribution of each predictor to the dependent variable, "Preferred Course of Study." The constant (B=0.514, p=0.000) represents the baseline value of the dependent variable when all predictors are zero.

The predictor University Rankings (B=0.610, p=0.000) has a highly significant positive effect on the dependent variable, with a standardized coefficient ($\beta=0.701$) indicating it is the strongest predictor in the model.

Overall, the results highlight that University Rankings significantly influences the preferred course of study, while the specific categories of University Rankings do not independently contribute meaningfully to the model.

Null Hypothesis (H₀3): AI-powered features, tools, and their influence on accessibility, effectiveness, and preference alignment have no significant impact on AI in digital marketing.

Alternative Hypothesis (H_a3): AI-powered features, tools, and their influence on accessibility, effectiveness, and preference alignment have significant impact on AI in digital marketing.

Table-7 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.498 ^a	.248	.232	.587
a. Predictors: (Constant), Do you feel that AI-generated ads or recommendations match your academic preferences?				

Table 7 Model summary Measuring the impact of attitude on intention The relationship between Predictor (Do you feel that AI-generated ads or recommendations match your academic preferences?) and the dependent variable. The R value (0.498) is moderate positive relationship. Its R Square of 0.248 indicates that 24.8 percent of the variation in Y can be explained by X. The 'adjusted R Square' value (0.232) corrects for model complexity, and conveys a somewhat lower yet robust approximation to the explanatory power. Average error of 0.587 was used as the standard deviation and these are moderately accurate for prediction with deviation in the observed values from the predicted values. In total, the predictor accounts for a moderate amount of var in the dependent variable.

Table-8 ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22.159	4	5.540	16.060	.000 ^b
	Residual	67.261	195	.345		
	Total	89.420	199			
a. Dependent Variable: AI in Digital Marketing						
b. Predictors: (Constant), Do you feel that AI-generated ads or recommendations match your academic preferences?						

Table 8 The result of ANOVA Table (ANOVA) evaluation was conducted on the regression model to make prediction for "AI in Digital Marketing" using predictor "Do you feel that AI-generated ads or recommendations are consistent with your academic preferences?". The regression sum of squares (22.159) reflects the variance accounted for by the model, and the residual sum of square (67.261) reflects the variance unaccounted for by the predictor variable. The value of the total sum of squares (89.420) represents the overall variability in the dependent variable.

With a F-statistic of 16.060 (p=0.000) it can be ensured that the model is statistically significant. This means that the predictor accounts for a statistically significant portion of the variance in the dependent variable and it shows that our model is a good fit.

Table-9 Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.584	.158		3.687	.000
	How often do you interact with AI-powered features like chatbots or recommendation systems while researching universities?	.221	.066	.222	3.327	.001
	Rate the effectiveness of AI-driven digital marketing tools in providing	.146	.080	.158	1.819	.070

relevant information about universities					
How much do AI-powered tools, such as chatbots, influence your perception of a university's accessibility?	.196	.076	.220	2.575	.011
Do you feel that AI-generated ads or recommendations match your academic preferences?	.081	.049	.106	1.671	.096
a. Dependent Variable: AI in Digital Marketing					

Table - 9 coefficients highlights the individual contributions of various predictors to the dependent variable, "AI in Digital Marketing." The constant value (B=0.584, p=0.000) indicates the baseline level of the dependent variable when all predictors are zero. Among the predictors, Interaction with AI-powered features (B=0.221, p=0.001) has a significant and positive effect, with a moderate impact ($\beta=0.222$), indicating that more frequent interaction with AI tools positively influences AI in digital marketing. The effectiveness of AI-driven tools (B=0.146, p=0.070) is not statistically significant at the 0.05 level, suggesting it has a weaker or inconclusive effect. The influence of AI-powered tools on perceptions of accessibility (B=0.196, p=0.011) is significant, with a moderate positive impact ($\beta=0.220$), showing that AI tools can shape how accessible universities are perceived. However, AI-generated ads matching academic preferences (B=0.081, p=0.096) is not statistically significant, suggesting that this factor has little or no significant impact on AI in digital marketing. Overall, interaction with AI-powered features and the perceived influence on accessibility are key contributors, while the effectiveness of AI tools and alignment with academic preferences show weaker or uncertain effects.

Null Hypothesis (H₀4): There is no significant effect of the overall experience with AI in university digital marketing campaigns on students' psychology.

Alternative Hypothesis (H_a4): The overall experience with AI in university digital marketing campaigns significantly affects students' psychology.

Table-10 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.402 ^a	.162	.144	.977
a. Predictors: (Constant), Rate your overall experience with AI in university digital marketing campaigns				

The table no.10 infer weak to moderate association between Predictor ("Rate your overall experience With AI

in University digital marketing Campaigns") and dependent variable. The relationship is moderate in a positive direction as indicated by the R value of 0.402. With an R Square value of 0.162, we can say that about 16.2% of the variation in the dependent variable is explained by predictive variables. 240 The R Square adjusted value is only marginally lower but the same explanatory power is provided whilst accounting for the complexity of the model (adjusted R Square = 0.144). The standard error of the estimate (0.977) is relatively high, indicating a large amount variability around the predicted scores's model has poor predictive accuracy. In general, the model accounts for very little of the variance in the dependent variable.

Table-11 ANOVA

ANOVA ^a						
Model		Sum of Squares	df	Mean Squares	F	Sig.
1	Regression	35.873	4	8.968	9.392	.000 ^b
	Residual	186.207	195	.955		
	Total	222.080	199			
a. Dependent Variable: Students' Psychology						
b. Predictors: (Constant), Rate your overall experience with AI in university digital marketing campaigns						

Table no.11 ANOVA table for the significance of the regression model predicting "Students' Psychology" from the predictor "Rate your overall experience with AI in university digital marketing campaigns". The sum of squares of the regression (35.873) is the variance that has been explained by the model, while the sum of squares for error (186.207) is the variance that has not been explained. The sum of squares of total (222.080) represents the total variability in the dependent variable.

There is a significant model as indicated by the FFF-statistic of 9.392 ($p=0.000$). This means that the prediction had a robust impact explaining why students

differ in psychology and the model is a good fit to data. Thus, the holistic experience of AI in digital marketing campaigns is crucial in shaping students' psychology.

Table-12 Coefficients

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.904	.250		3.623	.000
	Do you perceive universities using AI-powered digital marketing as more advanced and credible?	.251	.121	.159	2.080	.039
	To what extent do AI tools emotionally engage you in the decision-making process?	.171	.113	.120	1.506	.134
	Have you ever doubted the authenticity of information provided by AI-powered tools during your research?	.026	.119	.019	.222	.825
	Rate your overall experience with AI in university digital marketing campaigns	.336	.124	.221	2.714	.007

a. Dependent Variable: Students' Psychology

Table no.12 coefficients reveals the impact of various factors on "Students' Psychology." The constant value ($B=0.904$, $p=0.000$) represents the baseline psychology score when all predictors are zero. Among the predictors, Perception of AI-powered marketing as advanced and credible ($B=0.251$, $p=0.039$) significantly influences students' psychology, with a moderate effect ($\beta=0.159$), indicating that students who view AI-driven marketing as credible and advanced are more likely to be positively impacted psychologically. Emotional engagement with AI tools ($B=0.171$, $p=0.134$) does not show a significant effect, suggesting it has less influence. Similarly, Doubts about the authenticity of AI-powered information ($B=0.026$, $p=0.825$) has no meaningful impact on

students' psychology. However, Overall experience with AI in digital marketing campaigns ($B=0.336$, $p=0.007$) significantly affects students' psychology, with a moderate positive effect ($\beta=0.221$), highlighting that positive experiences with AI in marketing strongly shape students' psychological responses. Students' perceptions of AI's credibility and their general experiences using AI for marketing have a significant influence on how they think about themselves. Emotional engagement and concerns regarding the authenticity of marketing are not as important to students' perceptions of how they view themselves.

Summary

Table-13: Overall Research Summary

Objective	Hypothesis	Test Applied	Inference
Examine the impact of gender on demographics.	H ₀₁ : Gender has no significant effect on Demographics.	Regression Analysis, ANOVA	Gender significantly affects demographics, with differences in gender impacting university branding and demographic factors.
	H ₁₁ : Gender has a significant effect on Demographics.		
Analyze the effect of University Rankings on course preferences.	H ₀₂ : Ranking of Universities does not have any impact on Course Preference.	Regression Analysis, Coefficient Analysis	University Rankings significantly influences the choice of the preferred course of study, highlighting the importance of Income background in decision-making.
	H ₁₂ : The Ranking of Universities does impact on Course Preference.		

Evaluate the combined effect of AI-driven features on digital marketing.	H ₀₃ : AI based Functions, Tools and their use as a standard of measurement for Accessibility, Effectiveness and Preference Alignment do not impact on AI's role in Digital Marketing.	Regression Analysis, Statistical Significance	AI-powered features and tools, along with their effectiveness, significantly impact AI in digital marketing, highlighting their role in student engagement and decision-making.
	H ₁₃ : AI based Functions, Tools and their use as a standard of measurement for Accessibility, Effectiveness and Preference Alignment do impact on AI's role in Digital Marketing.		
Assess the impact of AI experiences on students' psychology.	H ₀₄ : The Overall Student Experience concerning AI in Digital Marketing Campaigns does not impact their Psychology.	One-Way ANOVA, Correlation Analysis	The experience with AI in digital marketing campaigns significantly affects students' psychology, demonstrating that positive AI experiences enhance their perceptions and engagement.
	H ₁₄ : The Overall Student Experience concerning AI in Digital Marketing Campaigns does impact their Psychology.		

Conclusion and Recommendations

In Pune, the use of AI (Artificial Intelligence) in Digital Marketing is growing rapidly and affecting how students view and evaluate various universities. Students are now guided by several advanced technology tools, including personalised advertisements, chatbots, and predictive analytics, when making their university admission decisions. Furthermore, personalised advertisements and chatbots with instant responses help students to develop a feeling that the university is approachable and current in its thinking. Moreover, predictive analytics provides students with recommendations that seem custom-made and relevant, giving them a higher degree of confidence and emotional connection to their university admission choices.

Demographic Influences

There is no uniform reaction among students to the use of AI-based tools. Age, course interest, and previous experiences with AI-based applications shape how students react to these apps. Younger students, along with students that are already accustomed to using AI-based apps, generally have a greater level of trust in AI-based communications. While students are familiar with the use of AI to interact and engage, their familiarity provides them with an easier time to engage and trust the information provided by AI-based systems. The above mentioned differences demonstrate that digital marketing strategies should be designed to accommodate differing expectations and levels of comfort across demographic segments.

Disadvantages of Over-Reliance on AI

While using AI-based tools can offer numerous advantages, over-reliance on these tools may provide some disadvantageous results. For example, when the nature of the communication seems overly automated or impersonal, students may feel a sense of doubt or disconnect with the educational institution. This suggests that while AI can aid in creating greater efficiency in the admissions process and a greater level of personalised touchpoints in the communications process, AI cannot completely eliminate the need for providing students with

the comfort, empathy, and credibility that result from personal contact with admissions staff. A balanced model in which AI aids and supports, rather than completely replaces, a student's opportunity to engage with admissions staff will lead to stronger and more trustful relationships between educational institutions and prospective students.

Influence of Demographic Factors

Demographic factors, including age, course preferences, and prior exposure to AI technologies, play a crucial role in shaping students' responses to AI-driven marketing. Younger students and those with greater familiarity with AI tools exhibit higher levels of trust and engagement. These variations underline the importance of designing strategies that cater to specific demographic segments.

Challenges of Over-Reliance on AI

Despite its benefits, excessive reliance on AI can lead to skepticism or reduced trust among students. This highlights the need for universities to adopt a balanced approach that combines AI-driven tools with human interaction, fostering a holistic and trustworthy engagement model.

Recommendations

When using Artificial Intelligence to support Digital Marketing, it is important for universities to focus on both "Transparency" and "Personalization". Universities can enhance their credibility by clearly explaining how AI tools operate (in addition to explaining this to students) and the best way to use AI tools can be through using demographic data taken from prospective students. Also, by incorporating human touch with AI tools, this will allow universities to provide a better overall experience for their current and prospective students. Universities should develop and implement continuous feedback mechanisms to refine their Digital Marketing strategies and build trust over time. Overall, the insights provided here illustrate how careful consideration of how the various elements of artificial intelligence will be integrated into the overall Digital Marketing Strategy will

best maximize opportunities while minimizing challenges to maximize trust and increase engagement.

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