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The Role of AI-Powered Search in Shaping Consumer Search Behaviour: An Empirical Study among Students in Private Universities in AP.

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ABSTRACT

This study examines the role of AI-powered search in shaping consumer search behaviour among students in private universities in Andhra Pradesh. AI-powered search tools such as ChatGPT, Google Gemini, Microsoft Copilot, and Perplexity are changing how users find, evaluate, compare, and use information. The study focuses on students' awareness and usage of AI-powered search, its influence on information-search habits, perceptions of usefulness, convenience and relevance, trust and verification of AI-generated information, and its effect on product and service comparison and purchase-related decision-making.

A quantitative, descriptive, cross-sectional research design was used. The empirical analysis was conducted using 84 valid questionnaire responses collected via Google Forms. The collected data were analysed using frequency and percentage analysis, mean and standard deviation, Cronbach's Alpha, Pearson correlation analysis, and multiple regression analysis. The study provides insights into changing consumer information-search patterns in the AI era and offers useful implications for digital marketers seeking to adapt content, search visibility, and consumer-engagement strategies to AI-mediated search environments.

KEY WORDS: *AI-powered search, consumer search behaviour, artificial intelligence, university students, digital marketing, consumer decision-making.*

Introduction

Artificial Intelligence (AI) has become an important part of the digital environment and is changing the way people search for, evaluate, and consume information. Traditional search engines generally present users with a list of webpages, while AI-powered search tools can provide conversational responses, summaries, recommendations, and context-aware information. Tools such as ChatGPT, Google Gemini, Microsoft Copilot, and Perplexity have made AI-assisted information retrieval increasingly accessible and convenient.

Consumer search behaviour refers to the process through which consumers recognize an information need, search for relevant information, evaluate available alternatives, and use the information to support a decision. In the digital age, consumers can obtain information from search engines, websites, social media, online reviews, and AI-powered search tools. AI-generated responses may alter the amount of time consumers spend searching, the number of sources they consult, and the way they compare and evaluate alternatives.

University students represent an important group for studying this transformation because they are active users of digital technologies and online information sources. Students may use AI-powered search for academic purposes as well as for everyday consumer activities, such as comparing products and services, checking prices and reviews, obtaining recommendations, and making purchase-related decisions. However, the usefulness, convenience, accuracy, trustworthiness, and perceived risk of AI-generated information may influence how students use these tools.

Therefore, this study examines the role of AI-powered search in shaping consumer search behaviour among students in private universities in Andhra Pradesh, using primary data from a structured questionnaire on awareness and usage, search habits, verification of AI-generated information, and consumer decision-making.

Problem Statement

The rapid adoption of generative AI and AI-assisted search is changing the traditional process of information retrieval. Consumers can now obtain summarized answers and recommendations without necessarily visiting several websites. Although this can improve speed and convenience, it may also create concerns regarding information accuracy, trust, verification, and over-reliance on AI-generated responses. There is a need to understand how these changes are reflected in the consumer search behaviour of university students, particularly in the context of private universities in Andhra Pradesh.

Scope of the Study

The study is limited to students enrolled in private universities in Andhra Pradesh. It focuses on AI-powered search usage, consumer information-search behaviour, trust and evaluation of AI-generated information, comparison of alternatives, and consumer decision-making. The study is positioned within the broader field of digital marketing and consumer behaviour.

Significance of the Study

The study is significant because consumer search is an important stage of the digital decision-making process. Understanding how students use AI-powered search can help digital marketers anticipate changes in how consumers discover brands, evaluate information, compare alternatives, and make purchase decisions. The study may also provide a useful academic foundation for future research on AI-assisted search and consumer behaviour in India.

Review of Literature

Existing literature shows that AI-powered search can influence search motivation, search intensity, usefulness, ease of use, satisfaction, trust, and information-search behaviour. The five key studies reviewed for the present research are summarised below:

Spatharioti et al. (2023): Spatharioti, Rothschild, Goldstein, and Hofman (2023) compared traditional and LLM-based search in a randomized experiment on consumer product choice. LLM-based search led to faster task completion, fewer but more complex queries, and higher satisfaction, but users could over-rely on incorrect AI answers. **Research gap:** It was a controlled experiment on assigned product-choice tasks and did not examine everyday search habits, trust and verification among university students in India.

Pham et al. (2024): Pham, Pham Thi, and Duong (2024) examined information search behavior using AI chatbots on online shopping platforms, highlighting the role of search motivation and ability. **Research gap:** It focused on chatbots inside online shopping platforms, not on general-purpose AI search tools or on students in Andhra Pradesh.

Garlough-Shah et al. (2024): Garlough-Shah, Park, Hayati, Kang, and Huh (2024) examined consumers' choice between AI-powered and traditional search engines, their motivations for using each, and the differences in search behaviour, along with implications for search advertising. **Research gap:** It centred on engine choice and search advertising and did not study trust, verification or purchase-related decision-making of university students in India.

Xia et al. (2026): Xia et al. (2026) investigated users' continuance intention toward AI-assisted search tools through the Expectation Confirmation Model (ECM) and Technology Acceptance Model (TAM). **Research gap:** It explained continuance intention, not actual search habits, verification practices or purchase-related decision-making.

Allawati et al. (2026): Allawati et al. (2026) conducted eye-tracking research on AI Overviews and user engagement on search results pages. **Research gap:** Its eye-tracking evidence on results pages does not capture trust, verification or purchase decisions, and it did not cover students in India.

Research Gap

Overall Research Gap: Taken together, the reviewed studies focus on controlled product-choice tasks, chatbots within shopping platforms, general consumer engagement, continuance intention, or eye-tracking of search results pages. None of them specifically examines how general-purpose AI search tools shape the actual search habits, trust, verification practices, and purchase-related decision-making of students in private universities in Andhra Pradesh. The present study addresses this gap through a structured survey of students in this setting.

Objectives of the Study

To determine the level of awareness, adoption, and frequency of use of AI-powered search tools (e.g., ChatGPT, Google Gemini, Microsoft Copilot, Perplexity) among students in private universities in Andhra Pradesh.

To examine students' perceptions regarding the functional benefits of AI-powered search, specifically its perceived usefulness, convenience, speed, and information relevance.

To analyze the level of consumer trust and the extent of information verification practiced by students when evaluating AI-generated search outputs.

To investigate the impact of AI-powered search on students' consumer information-search habits, including time spent searching, query complexity, and shift away from traditional search engines.

Hypothesis

H01 (Null): There is no significant relationship between the perceived usefulness of AI-powered search and students' consumer information-search habits.

Ha1 (Alternate): There is a significant positive relationship between the perceived usefulness of AI-powered search and students' consumer information-search habits.

H02 (Null): Perceived search convenience and speed of AI tools do not significantly reduce the search effort and time required by students to evaluate consumer alternatives.

Ha2 (Alternate): Perceived search convenience and speed of AI tools significantly reduce the search effort and time required by students to evaluate consumer alternatives.

Research Methodology

Research Design

The study adopts a quantitative, descriptive, and empirical survey design with a cross-sectional approach. This design measures respondents' perceptions, usage patterns, and search habits at one point in time. Because the design is cross-sectional and uses convenience sampling, findings are interpreted as associations rather than causal effects.

Sample Design

Target Population: Students currently enrolled in private universities in Andhra Pradesh.

Sampling Technique: Convenience sampling (non-probability sampling). Accessible and willing students were invited to participate.

Sample Size: The planned target was approximately 208 respondents; however, 84 valid responses were available for analysis. The smaller convenience sample limits generalisability, and the results should be interpreted as exploratory evidence from the respondents surveyed.

Data Collection

Primary Data: Primary data were gathered directly from student respondents using a structured online questionnaire administered through Google Forms.

Secondary Data: Secondary insights were sourced from peer-reviewed academic journals, published literature, and theoretical models (TAM, ECM, and Consumer Decision-Making Theory).

Questionnaire Preparation

The research instrument was a structured questionnaire consisting of 30 items divided into distinct sections:

Section A (Questions 1–8): Categorical questions covering demographics (age, gender, study level, university type) and AI tool usage/awareness.

Sections B–F (Questions 9–30): 22 statements evaluated on a 5-point Likert Scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree).

Operationalization Matrix

Table 1: Operationalization Matrix of the Study Variables

Variable Classification	Construct / Dimension	Survey Mapping	Operational Definition
Independent Variable (IV)	Perceived Usefulness & Speed	Q9, Q10, Q11, Q21, Q23	Degree to which AI search provides fast, relevant, and comprehensive information.
Independent Variable (IV)	Convenience & Query Efficiency	Q16, Q18, Q19, Q20	Reduction in cognitive effort and search duration through natural conversational querying.
Independent Variable (IV)	Recommendation & Comparison	Q12, Q13, Q27	Ability of AI to synthesize multiple brand attributes, pricing, and product trade-offs.

Intervening / Moderating	Trust & Information Verification	Q17, Q22, Q24, Q25	User trust in AI output vs. perceived hallucination risk and subsequent cross-checking.
Dependent Variable (DV)	Consumer Behaviour & Decision	Q14, Q15, Q26, Q28, Q29, Q30	Shifts in search patterns, consideration set formation, decision confidence, and purchase choices.

4.1 Demographic Profile Analysis (N = 84)

The demographic and AI-usage profile of the 84 respondents, including the most used AI tools and the frequency of AI usage, is summarised in Tables 2 and 3 and illustrated in Figures 1 and 2.

Table 2: Demographic Profile of Respondents (N = 84)

Variable / Category	Frequency (n)	Percentage (%)
Age Group		
18–20	44	52.4
21–23	20	23.8
24–26	14	16.7
Above 26	6	7.1
Gender		
Male	45	53.6
Female	37	44.0
Prefer not to say	1	1.2
Other	1	1.2
Level of Study		
Undergraduate	59	70.2
Postgraduate	23	27.4
Other	2	2.4
University Type		
Private University	62	73.8
Deemed/Private Institution	17	20.2
Other	5	6.0

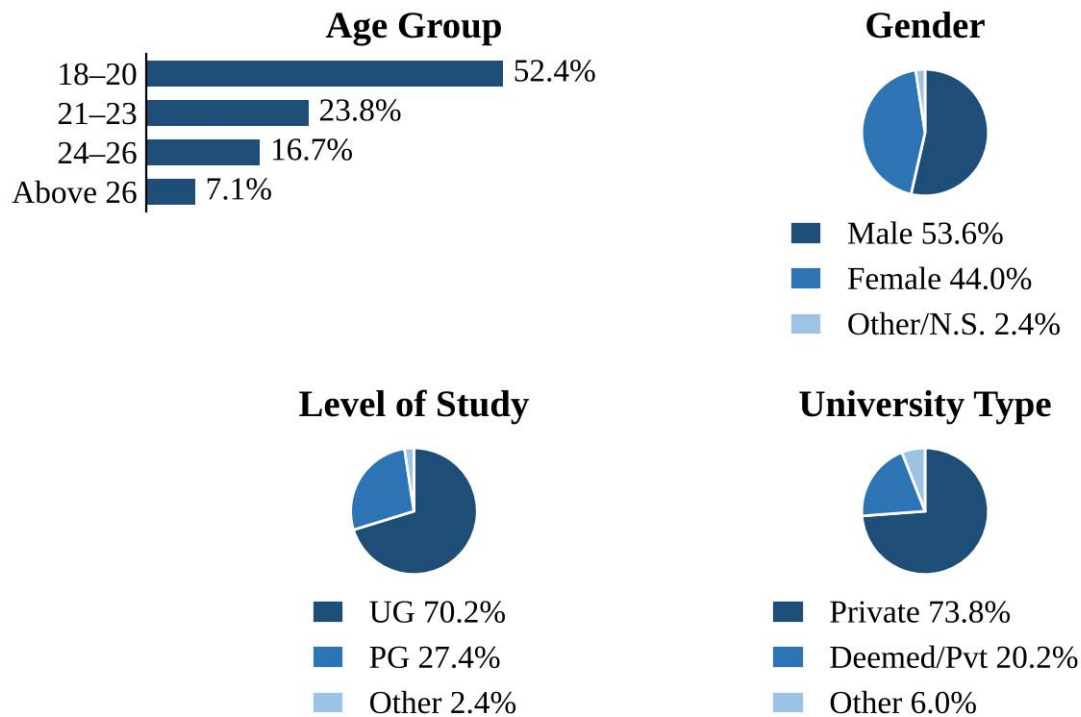
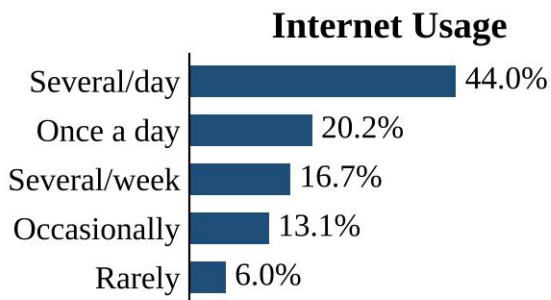


Figure 1: Demographic Profile of Respondents (Pie Charts and Bar Graph)

Table 3: AI-Usage Profile of Respondents (N = 84)

Variable / Category	Frequency (n)	Percentage (%)
Internet Usage		
Several times a day	37	44.0
Once a day	17	20.2
Several times a week	14	16.7
Occasionally	11	13.1
Rarely	5	6.0
Familiar with AI-Powered Search		
Yes	62	73.8
No	22	26.2
Most Used AI Tool		
ChatGPT	36	42.9
Google Gemini	17	20.2
Microsoft Copilot	14	16.7
Perplexity	10	11.9
Other	4	4.8
Non-users	3	3.6
AI Usage Frequency		

Variable / Category	Frequency (n)	Percentage (%)
Very frequently	35	41.7
Frequently	22	26.2
Sometimes	14	16.7
Rarely	11	13.1
Never	2	2.4



Familiar with AI Search

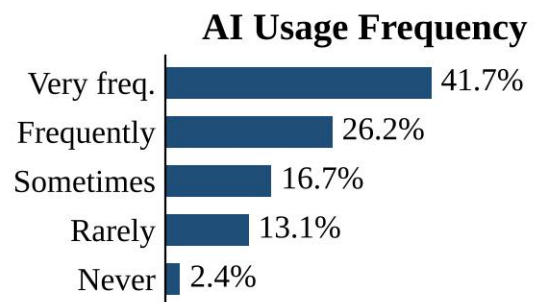
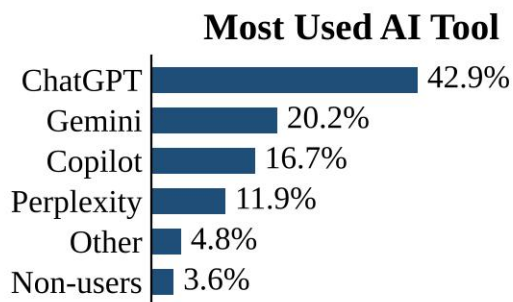
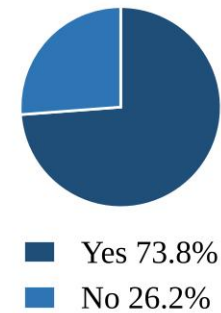


Figure 2: AI-Usage Profile of Respondents (Pie Chart and Bar Graphs)

ChatGPT is the most used AI tool (42.9%), and 67.9% of respondents use AI-powered search very frequently or frequently. Over half of the respondents (52.4%) are aged 18–20, 70.2% are undergraduates, and 94.0% study in private or deemed/private institutions, which matches the scope of the study. Further, 64.3% are online at least daily and 73.8% (n = 62) are familiar with AI-powered search, while 26.2% (n = 22) are not, indicating scope to increase awareness among students.

Construct Descriptive Statistics & Reliability Analysis

Table 4: Descriptive Statistics and Reliability of the Constructs

Construct	Items	Mean	Std. Dev.	Cronbach's Alpha	Internal Consistency
Perceived Usefulness & Speed	5	3.240	0.954	0.761	Adequate
Convenience & Query Efficiency	4	3.449	1.043	0.771	Adequate
Recommendation & Comparison	3	3.405	1.067	0.678	Moderate
Trust & Information Verification	4	3.351	1.039	0.723	Adequate
Consumer Behaviour & Decision	6	3.440	0.905	0.786	Adequate

Table 4 shows that all constructs have mean scores above the neutral point of 3, with Convenience & Query Efficiency the highest (3.449) and Perceived Usefulness & Speed the lowest (3.240), indicating generally positive perceptions of AI-powered search. Cronbach's Alpha is at or above

0.70 for four of the five constructs (0.723 to 0.786), while Recommendation & Comparison shows moderate reliability (0.678), slightly below the 0.70 threshold.

Hypothesis Testing (Pearson Correlation Analysis)

Table 5: Pearson Correlation Results for Hypotheses H1 to H3

Hypothesis	Variables Tested	Pearson r	p-value	Decision
H1	Perceived Usefulness & Speed -> Search Habits	0.669	< 0.001	Reject H01
H2	Convenience & Efficiency -> Effort/Time Reduction	0.908	< 0.001	Reject H02
H3	Trust in AI -> Purchase Recommendation Reliance	0.507	< 0.001	Reject H03

All three Pearson correlations are positive and significant ($p < 0.001$), indicating associations rather than causation. The very high correlation for Convenience & Query Efficiency ($r = 0.908$) may partly reflect conceptual overlap with the effort and time-reduction items and should be interpreted with caution.

Multiple Regression Analysis

Model Summary Statistics: $R = 0.880$, $R^2 = 0.774$, Adjusted $R^2 = 0.763$, $F(4, 79) = 67.82$, $p < 0.001$ ($N = 84$). The four predictors explain approximately 77.4% of the variance in Consumer Behaviour & Decision.

Table 6: Multiple Regression Coefficients of the Predictors

Predictor Construct	B Coefficient	t-statistic	p-value	Significance
Usefulness & Speed	0.128	1.638	0.105	Not Significant
Convenience & Efficiency	0.388	5.493	< 0.001	Significant ($p < 0.01$)
Recommendation & Comparison	0.139	2.313	0.023	Significant ($p < 0.05$)
Trust & Verification	0.233	3.172	0.002	Significant ($p < 0.01$)

Convenience & Efficiency is the strongest predictor ($B = 0.388$), followed by Trust & Verification ($B = 0.233$) and Recommendation & Comparison ($B = 0.139$). Usefulness & Speed is not significant in the combined model ($p = 0.105$), even though its bivariate correlation with search habits (H1) is significant; the two tests answer different questions.

Findings of the Study

Awareness and adoption of AI search tools are high among the students (73.8% familiarity; 67.9% use them frequently or very frequently), with ChatGPT the dominant platform (42.9%) followed by Google Gemini (20.2%) and Microsoft Copilot (16.7%) (Table 3).

The three null hypotheses (H01 to H03) were rejected on the basis of the reported Pearson correlations ($p < 0.001$), supporting statistically significant associations in this sample without establishing causal effects. The very high H2 correlation ($r = 0.908$) may partly reflect overlap between related items and should be interpreted with caution.

The regression model explained 77.4% ($R^2 = 0.774$) of the variance in Consumer Behaviour & Decision. Convenience ($B = 0.388$), Trust/Verification ($B = 0.233$) and Recommendation/Comparison ($B = 0.139$) were significant predictors, while Usefulness & Speed ($B = 0.128$, $p = 0.105$) was not.

Suggestions

Educational institutions should conduct workshops on digital literacy and cross-source verification to prevent over-reliance on unverified AI outputs.

Digital marketers should adapt strategies from traditional SEO to Generative Engine Optimization (GEO) by providing clear, structured and easy-to-compare product information that AI models can digest easily. Convenience & Query Efficiency has the highest mean, the strongest correlation ($r = 0.908$) and the largest regression coefficient ($B = 0.388$) (Tables 4 to 6), so short and structured content suits conversational queries.

Because trust is a significant predictor ($B = 0.233$), brands should ensure accurate product details and transparent pricing, and support their claims with citations, reviews and consistent information across their website and other channels.

Scope For Future

1. Expand the geographical scope: Future studies can include students from government universities, autonomous colleges, and other educational institutions across Andhra Pradesh and other Indian states to compare differences in consumer search behaviour.
2. Increase the sample size: Future research can use a larger sample and probability-based sampling methods to improve the representativeness and generalizability of the findings.
3. Compare different AI-powered search tools: Further studies can compare ChatGPT, Google Gemini, Microsoft Copilot, Perplexity, and AI-generated summaries in traditional search engines to understand differences in usage and consumer responses.
4. Examine purchase behaviour: Future research can investigate whether AI-powered search influences actual purchase decisions, brand preferences, purchase intentions, and customer loyalty

Limitations of the Study

The study is based on a convenience sample of 84 valid responses, which is below the proposed target of approximately 208 respondents, so the findings cannot be generalised to all students in Andhra Pradesh or India. The data are self-reported and were collected at a single point in time, and correlation and regression analysis show association rather than causation. Future studies with larger, probability-based samples would strengthen the results. Future studies should use larger samples ($N > 200$) across public and private universities and refine the items of the Recommendation & Comparison construct ($\alpha = 0.678$).

Conclusion

This empirical study found that AI-powered search use and perceptions were associated with consumer information-search habits and evaluation processes among the surveyed university students in Andhra Pradesh. Convenience, query efficiency, and comparison-related perceptions were important in the reported analyses. Although usefulness and speed correlated with search habits, usefulness and speed was not a statistically significant independent predictor in the multiple regression model. Given the convenience sample of 84 respondents and the cross-sectional design, the findings should not be generalised to all students or interpreted as proof of causation. Digital marketers may consider making product information accurate, structured, comparable, and trustworthy in AI-mediated search environments.

ANNEXURES

Annexure A: Research Survey Questionnaire (30-Item Research Instrument)

The 30-item questionnaire (eight demographic and AI-usage questions and 22 Likert statements, Q9–Q30) is described in Section 3.3 and mapped to the constructs in Table 1.

Annexure B: Conceptual Framework Overview

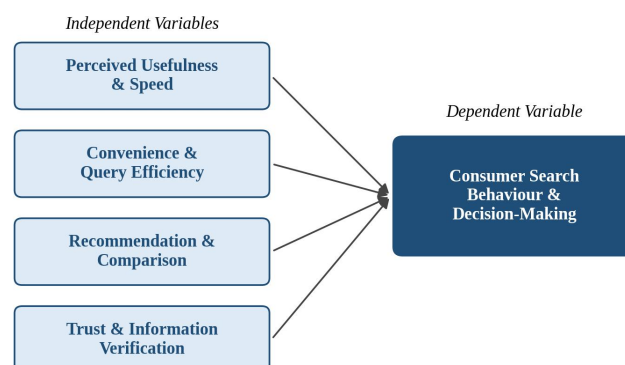


Figure 3: Conceptual Framework of the Study

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