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The Human Side of AI in E-Shopping: Individual Differences Among College Student Consumers in the Nilgiris

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ABSTRACT:
Artificial intelligence (AI) has become a crucial part of e-commerce platforms through chat bots, automated decision support systems, and personalized recommendations,. Although AI improves efficiency and convenience, its human-centric implications need to be carefully considered, especially for younger consumers. By examining individual variations among college student customers, the current study investigates the human aspect of AI in e-commerce. A structured questionnaire was used to gather primary data from 125 college students. The data was interpreted using percentage analysis. The results show that although most students agree that AI can improve product discovery and shopping efficiency, privacy, over-personalization, and diminished freedom of choice are still major concerns. The study comes to the conclusion that improving user trust and satisfaction in AI-driven e-commerce platforms requires striking a balance between technological advancement and human control.

INTRODUCTION:
The rapid growth of Artificial Intelligence has transformed the digital commerce landscape, particularly in the domain of e-shopping. AI-enabled tools such as recommendation engines, chat bots, and predictive analytics have redefined the way consumers search, evaluate, and purchase products online. These technologies aim to enhance convenience and efficiency; however, they also influence consumer perceptions, emotions, and decision-making processes.
Understanding the human side of AI—trust, comfort, control, and concern—is therefore essential. This study aims to examine how individual differences among college students shape their perceptions and experiences with AI in e-shopping environments. College students represent a technologically proficient and influential consumer segment, and their interaction with AI-driven shopping platforms reflects not only technological adoption but also psychological and behavioural responses.

SCOPE OF THE STUDY:
This study studies how the human side of AI in E-shopping affects individual differences among college student consumers. It examines both the positive and bad sides of using AI in E-shopping.

REVIEW OF LITERATURE:
Pragathi Prakash, Truptha Shankar, Samira AlKhayari, and Roohi Kursheed Khan (2024) conducted a study titled “Influence of AI on the Impulsive Buying Behaviour of Gen-Z.” The purpose of the study was to analyze the impact of artificial intelligence on impulsive buying behaviour among Gen-Z

consumers in online shopping. The study used a descriptive research design and collected primary data from 181 undergraduate students using a structured questionnaire, with analysis carried out through Structural Equation Modelling. The findings revealed that AI attributes such as accuracy, interactivity, and insights significantly influence impulsive purchase decisions. The study concluded that AI strongly affects cognitive and emotional responses of young consumers during online shopping. However, the study focused only on Gen-Z and impulsive buying behaviour and did not examine individual differences or the human-centric aspects of AI among college students, leaving scope for further research.

Kartheek Sankranthi (2025) conducted a study titled "AI and Human Collaboration: Creating Personalized Shopping Experiences." The objective of the study was to understand how AI and human collaboration enhances personalized online shopping experiences. The study adopted a conceptual and analytical approach by examining AI-human interaction frameworks in e-commerce. The findings indicated that while AI enables data-driven personalization, human involvement adds emotional intelligence, creativity, and ethical judgment. The study concluded that effective personalization in e-shopping depends on the integration of AI efficiency with human empathy. However, the study did not empirically analyze college student consumers or individual behavioral differences, indicating a research gap in student-focused AI shopping behaviour.

STATEMENT OF THE PROBLEM

Consumer responses to AI's growing integration in e-commerce platforms are still conflicting. Some users express discomfort with privacy, manipulation, and loss of autonomy, while others value personalized experiences. Due to their frequent online shopping, college students are particularly affected by these issues. Therefore, it is necessary to investigate how individual differences affect how they perceive AI in online shopping.

OBJECTIVES OF THE STUDY

1. To know the demographic profile of college student consumers.
2. To know the usage of AI features and chat bots in online shopping.
3. To examine students trust and comfort levels towards AI-driven suggestions.
4. To examine concerns related to privacy and over-personalization of student consumers.
5. To examine future acceptance of AI in e-shopping platforms and its reliability.

RESEARCH METHODOLOGY

Research Design: Descriptive research
Source of Data: Primary data
Sample Size: 125 college students
Sampling Technique: Convenience sampling
Tool for Data Collection: Structured questionnaire
Statistical Tool Used: Percentage analysis

LIMITATION OF THE STUDY:

1. The study is limited to college student consumers, so the findings cannot be generalized to all the categories of online shoppers.

2. Convenience sampling was adopted as which may not accurately represent the entire population of e-shopping users.
3. The analysis is based only on percentage method, which does not allow for further analysis of relationships between the variables.

DATA ANALYSIS AND INTERPRETATION:

TABLE 1: DEMOGRAPHIC PROFILE OF THE RESPONDENTS

S.No	PARTICULARS		PERCENT	FREQUENCY
1	**Gender**	Male	48	60
		Female	52	65
		TOTAL	**100**	**125**
2	**Age**	Below 18	4	5
		18-21	85.6	107
		22-25	10.4	13
		TOTAL	**100**	**125**
3	**Year of study**	I UG	20	25
		II UG	40	50
		III UG	40	50
		TOTAL	**100**	**125**

From the above table, it is observed that 52% of the respondents are Female. 85.6% of the respondents are in the age group of 18-21. 40% of the respondents are in their II and III year of UG.

TABLE 2: USAGE OF AI FEATURES AND CHAT BOTS IN ONLINE SHOPPING

S.No	PARTICULARS		PERCENT	FREQUENCY
1	**Average monthly shopping expenditure**	Below 500	61.6	77
		500-1000	30.4	38
		1000 and above	8	10
		Total	**100**	**125**
2	**Frequency of online shopping**	Rarely	56	70
		Occasionally	28	35
		Frequently	14.4	18
		Very frequently	1.6	2
		Total	**100**	**125**
3	**Level of technology familiarity.**	low	14.4	18
		Medium	75.2	94
		High	10.4	13
		Total	**100**	**125**
4	**Platform preferred for online shopping**	Mobile apps	92	115
		Websites	8	10
		Total	**100**	**125**

From the above table, it is observed that 61.6% of the respondents spend below 500 as their average monthly expenditure. 56% of the respondents rarely shop online. 75.2% of the respondents have a medium level of technology familiarity. 92% of the respondents prefer mobile apps for online shopping.

TABLE 3: USE OF CHATBOTS DURING ONLINE SHOPPING

S.No	PARTICULARS		PERCENT	FREQUENCY
1	**Interaction with AI chatbots while shopping online**	Yes	58.4	73
		No	41.6	52
		Total	**100**	**125**
2	**Frequency of receiving AI-based product recommendations.**	Never	29.6	37
		Occasionally	17.6	22
		Sometimes	47.2	59
		Often	4.8	6
		Always	0.8	1
		Total	**100**	**125**
3	**Recommendation of AI during purchase.**	Yes	40.8	51
		No	59.2	74
		Total	**100**	**125**
4	**Overall experience with AI feature in shopping**	Very poor	4.8	6
		Poor	14.4	18
		Average	52.8	66
		Good	27.2	34
		Excellent	0.8	1
		Total	**100**	**125**
5	**Does AI makes online shopping easier and faster**	Yes	69.6	87
		No	30.4	38
		Total	**100**	**125**

From the above table, it is observed that 58.4% of the respondents agree to the statement that Interaction with AI chatbots while shopping online. 47.2% of the respondents sometimes receive AI-based product recommendations. 59.2% of the respondents does not recommend AI during purchase. 52.8% of the respondents have a average experience with AI feature in shopping. 69.6% of the respondents agree to the statement that Does AI makes online shopping easier and faster.

TABLE 4: CONCERNS RELATED TO PRIVACY AND OVER-PERSONALIZATION AND FUTURE ACCEPTANCE OF AI IN E-SHOPPING PLATFORMS.

S.No	PARTICULARS		PERCENT	FREQUENCY
1	Trust towards AI recommendations regarding shopping.	Strongly Agree	25.6	32
		Agree	48	60
		Neutral	6.4	8
		Disagree	14.4	18
		Strongly Disagree	5.6	7

		Total	**100**	**125**
2	AI helps me discover products I might not have found otherwise.	Strongly disagree	3.2	4
		Disagree	17.6	22
		Neutral	28	35
		Agree	49.6	62
		Strongly Agree	1.6	2
		Total	**100**	**125**
3	I feel comfortable when platforms personalize offers	Strongly disagree	2.4	3
		Disagree	17.6	22
		Neutral	44	55
		Agree	33.6	42
		Strongly Agree	2.4	3
		Total	**100**	**125**
5	I prefer human assistance over AI chatbots when resolving shopping issues.	Strongly disagree	4	5
		Disagree	13.6	17
		Neutral	25.6	32
		Agree	49.6	62
		Strongly Agree	7.2	9
		Total	**100**	**125**
6	I believe AI improves the overall customer experience in online shopping.	Strongly disagree	4	5
		Disagree	13.6	17
		Neutral	28	35
		Agree	51.2	64
		Strongly Agree	3.2	4
		Total	**100**	**125**
7	I worry about my privacy when AI uses my personal data.	Strongly disagree	7.2	9
		Disagree	15.2	19
		Neutral	41.6	52
		Agree	24	30
		Strongly Agree	12	15
		Total	**100**	**125**
8	I feel AI makes online shopping too manipulative or persuasive	Strongly disagree	3.2	4
		Disagree	14.4	18
		Neutral	28.8	36
		Agree	51.2	64
		Strongly Agree	2.4	3
		Total	**100**	**102**
9	I am concerned that AI might recommend products I don't really need.	Strongly disagree	4	5
		Disagree	13.6	17
		Neutral	26.4	33
		Agree	52	65
		Strongly Agree	4	5

		Total	**100**	**125**
10	I feel over-personalization by AI reduces my freedom of choice.	Strongly disagree	3.2	4
		Disagree	19.2	24
		Neutral	5.6	7
		Agree	36.8	46
		Strongly Agree	4.8	6
		Total	**100**	**125**
11	I am likely to continue using online platforms that employ AI features.	Strongly disagree	3.2	4
		Disagree	16.8	24
		Neutral	48.8	61
		Agree	26.4	33
		Strongly Agree	4.8	6
		Total	**100**	**125**
12	I would prefer online shopping platforms that allow me to control the level of personalization	Strongly disagree	4	5
		Disagree	13.6	17
		Neutral	34.4	43
		Agree	40.8	51
		Strongly Agree	7.2	9
		Total	**100**	**125**
13	I would recommend AI-driven shopping platforms to my friends	Strongly disagree	17.6	22
		Disagree	13.6	17
		Neutral	14.4	18
		Agree	48	60
		Strongly Agree	6.4	8
		Total	**100**	**125**
14	In the future, I expect AI to play a larger role in my shopping experience.	Strongly disagree	7.2	9
		Disagree	14.4	18
		Neutral	2.4	3
		Agree	52	65
		Strongly Agree	11.2	14
		Total	**100**	**125**

From the above table, it is observed that 48% of the respondents agree to the statement that they have trust towards AI recommendations regarding shopping. 49.6% of the respondents agree to the statement that AI helps in discovering the products that might not have found otherwise. 44% of the respondents agree to the statement that I feel comfortable when platforms personalize offers. 49.6% of the respondents agree to the statement that they prefer human assistance over AI chatbots when resolving shopping issues. 51.2% of the respondents agree to the statement that they believe AI improves the overall customer experience in online shopping. . 41.6% of the respondents agree to the statement that they worry about their privacy when AI uses their personal data. 52% of the respondents agree to the statement that they are concerned that AI might recommend products that they don't really need. . 36.8% of the respondents agree to the statement that they feel over-personalization by AI reduces their

freedom of choice. 48.8% of the respondents agree to the statement that they are likely to continue using online platforms that employ AI features. 40.8% of the respondents agree to the statement that they would prefer online shopping platforms that allow them to control the level of personalization. 48% of the respondents agree to the statement that they would recommend AI-driven shopping platforms to their friends. 52% of the respondents agree to the statement that, In the future, they expect AI to play a larger role in their shopping experience.

FINDINGS:

The findings indicate that most college students, especially those aged 18–21, are actively using AI-enabled e-shopping platforms and are reasonably comfortable with technology. Mobile applications are the most commonly used platforms, showing that students mainly interact with AI features such as chat bots and personalized recommendations through mobile apps. The study reveals that many students engage with AI chat bots and receive AI-based product suggestions, which they feel that it makes online shopping easier and faster. AI is generally viewed as helpful for discovering products and improving convenience, leading to a positive overall perception of its functional benefits in e-shopping. However, students do not completely depend on AI when making purchase decisions. Many still prefer human assistance for resolving shopping issues, highlighting the continued importance of human interaction. Concerns about privacy, over-personalization, and manipulation are also evident, as some students feel that AI reduces their freedom of choice. Despite these concerns, most students are willing to continue using AI-driven platforms and expect AI to play a greater role in their future shopping experiences, provided there is better transparency and user control.

SUGGESTIONS:

E-shopping platforms should design AI systems that are more user-friendly and transparent. Providing users with options to control the level of personalization can help reduce discomfort and increase confidence while shopping online. Clear communication about how personal data is collected and used will also help in addressing privacy concerns and building trust among college student consumers. Online shopping platforms should maintain a balance between AI-based assistance and human support. While AI chat bots improve efficiency and speed, human interaction remains important for handling complex issues and enhancing customer satisfaction. Educating users about how AI recommendations function can further improve acceptance and comfort with using AI-driven features.

CONCLUSIONS:

The study concludes that Artificial Intelligence plays a significant role in improving convenience and efficiency in e-shopping among college students. AI-driven features such as chatbots and personalized recommendations enhance product discovery and contribute positively to the overall shopping experience. However, the findings reveal that acceptance of AI is influenced by human factors such as trust, comfort, privacy, and control. Concerns related to over-personalization, data privacy, and reduced freedom of choice will continue to affect user confidence. Therefore, the successful adoption of AI in e-shopping platforms depends on balancing technological innovation with human control to ensure long-term trust and satisfaction of the consumer.

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