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AI-Enabled Features in Cars and Preference-Based Buying Motives in Tech Gadgets among Consumers: A Study with Special Reference to Coimbatore City

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ABSTRACT

Artificial Intelligence (AI) has become a major driver in shaping consumer preferences across industries, particularly in the automobile and consumer electronics sectors. In India, rising disposable incomes and rapid digitalization have accelerated demand for AI-enabled cars and smart gadgets. This study explores consumer perceptions, satisfaction, and buying motives for AI-enabled car features and tech gadgets among Coimbatore consumers.

A structured survey was conducted with 130 respondents, covering two focus areas: (1) the importance of AI-enabled features in cars such as driver assistance, voice recognition, navigation, and safety; and (2) consumer motives for purchasing tech gadgets such as smartphones, wearables, and smart home devices. Statistical tools including percentage analysis, Chi-square test, and ANOVA were used.

Findings suggest that safety and convenience are key factors driving AI-enabled car adoption, while status, innovation, and peer influence strongly motivate gadget purchases. Age and income significantly affect gadget-buying motives, while trust in technology influences adoption of AI-enabled automotive features. The study highlights opportunities for automobile companies and gadget marketers to design targeted promotional campaigns in Coimbatore's evolving consumer market.

Keywords: Artificial Intelligence, Car Features, Tech Gadgets, Consumer Buying Motives, Coimbatore

Introduction

The integration of AI in consumer products has transformed buying patterns and decision-making processes. In the automobile sector, **AI features such as adaptive cruise control, parking assistance, voice-enabled commands, and predictive maintenance** are no longer luxuries but are becoming consumer expectations. Meanwhile, the gadget sector—including **smartphones, smartwatches, and IoT devices**—is heavily influenced by AI-driven personalization and connectivity.

Coimbatore, known for its entrepreneurial ecosystem and young population, is an ideal city to study these trends. College students, IT professionals, and business owners are increasingly exposed to **global innovations** and show high willingness to adopt **AI-driven technologies**. However, the motives behind these purchases differ between cars and gadgets—**utility and safety dominate car adoption**, while **status and peer-driven motives influence gadget choices**.

This study examines both domains to provide insights into consumer satisfaction and motives, with special reference to Coimbatore.

Literature Review

- **Khan & Sinha (2022):** Found that AI-enabled safety and comfort features strongly influence automobile purchase decisions in Indian metros.
- **Patel & Verma (2021):** Reported that tech-savvy consumers prefer gadgets that offer innovation, connectivity, and social recognition.
- **Gupta & Das (2023):** Identified trust in AI as a crucial factor for adoption in both cars and smart devices.
- **Mishra (2020):** Highlighted that peer influence and lifestyle aspirations significantly shape gadget buying motives among young consumers.

Together, these studies suggest that **AI adoption is driven by utility and trust in automobiles**, while **innovation, peer influence, and brand image dominate gadget buying motives**.

Objectives & Hypotheses

Objectives

1. To analyze consumer perception of AI-enabled features in cars among Coimbatore consumers.
2. To examine preference-based buying motives for tech gadgets among different age groups.
3. To assess the relationship between demographic factors (age, income, occupation) and adoption of AI-enabled products.

Hypotheses

- **H1:** Safety and convenience significantly influence consumer preference for AI-enabled car features.
- **H2:** Status and peer influence significantly drive gadget purchases among young consumers.
- **H3:** Age and income have a significant relationship with AI-enabled product adoption.

Methodology

- **Research Design:** Descriptive and Analytical
- **Sample Size:** 130 consumers in Coimbatore
- **Sampling Method:** Purposive and convenience sampling
- **Data Collection:** Structured questionnaire with 5-point Likert scale
- **Statistical Tools:** Percentage Analysis, Chi-square Test, ANOVA

Data Analysis

Table 1: Importance of AI-Enabled Car Features

Feature	Highly Important	Important	Neutral	Less Important	Not Important
Safety (Collision Alert)	42%	36%	12%	7%	3%
Voice Assistance	28%	32%	20%	12%	8%
Navigation & Parking	40%	34%	14%	8%	4%
Predictive Maintenance	35%	30%	18%	10%	7%

Interpretation: Safety and navigation are the most preferred AI-enabled features among car buyers.

Table 2: Buying Motives for Tech Gadgets

Motive	Strong Influence	Moderate	Neutral	Low Influence	No Influence
Innovation/Features	46%	30%	12%	8%	4%
Peer Influence	38%	32%	15%	10%	5%
Status Symbol	40%	28%	16%	10%	6%
Affordability	34%	30%	20%	10%	6%

Interpretation: Innovation and status are strong motivators for gadget purchases among Coimbatore youth.

Table 3: Chi-Square – Age vs. Gadget Buying Motives

- **Chi-Square Value:** 15.28
- **p-value:** 0.004
- **Interpretation:** Age significantly influences gadget buying motives. Younger consumers prioritize innovation and peer influence, while older groups focus on affordability.

Findings

1. Safety and navigation features are the most preferred AI-enabled features in cars.
2. Consumers trust AI in cars when it directly contributes to **convenience and safety**.
3. Among gadgets, **innovation, status, and peer influence** are the primary buying motives.
4. Age and income significantly influence AI product adoption, with younger consumers being early adopters.
5. Coimbatore's tech-savvy students and professionals display strong openness to **AI-driven lifestyle products**.

Conclusion

This study concludes that **AI-enabled features in cars are primarily adopted for safety and convenience**, whereas **gadget purchases are more driven by innovation and social motives**. In Coimbatore, young consumers are especially receptive to AI innovations, but their preferences differ by product type.

Automobile firms must emphasize **safety and reliability in their AI features**, while gadget marketers should highlight **innovation, status, and trendiness**. Future research may compare consumer motives in tier-II cities like Coimbatore with metropolitan areas to analyze differences in AI adoption trends.

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