

Learning with AI: A New Paradigm for Commerce & Management Students in India

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Abstract

Artificial Intelligence (AI) is rapidly reshaping education, influencing how students learn and prepare for their professional careers. This study explores the impact of AI on commerce and management students in Malappuram District, Kerala, with particular focus on their awareness, perceptions, and the challenges they face. A structured survey was conducted among 70 students from different colleges in the district. The study aimed to evaluate students' understanding of AI, examine the factors that encourage its adoption, and identify barriers to its effective use in academic and career contexts.

The findings indicate that students generally possess moderate to high awareness of AI and acknowledge its potential to improve learning outcomes and career opportunities. Key factors supporting AI adoption include accessibility to digital tools, integration of AI concepts into the curriculum, and participation in workshops and seminars. Despite this positive outlook, students reported several challenges such as insufficient access to advanced AI tools, limited opportunities for hands-on training, and concerns related to data privacy and ethical use. The study concludes that although interest in AI is steadily increasing among commerce and management students, institutions must strengthen infrastructure, update curricula, and establish clear ethical guidelines to maximize AI's educational benefits.

Key words: Artificial intelligence, reshaping education, learning, commerce and management.

1. Introduction

Artificial Intelligence (AI) has emerged as a transformative force across industries, and the education sector is no exception. By enabling personalized learning experiences, automating routine tasks, and enhancing student engagement, AI is redefining traditional teaching and learning methods. In India, higher education institutions are gradually incorporating AI-related content into their programs to ensure students develop skills relevant to the digital economy.

However, the integration of AI within commerce and management education—particularly in Kerala—has received limited academic attention. While AI tools are increasingly used to support personalized instruction and improve academic performance, little is known about how commerce and management

students perceive these technologies or how prepared they are to use them effectively. This lack of focused research creates a gap in understanding the real impact of AI on students within this academic stream.

To address this gap, the present study investigates the level of awareness, attitudes, adoption factors, and challenges related to AI among commerce and management students in Malappuram District, Kerala. By examining these dimensions, the research aims to provide practical insights for educators, administrators, and policymakers seeking to improve AI integration in higher education.

Review of Literature

Recent studies have explored various dimensions of Artificial Intelligence in education, highlighting both its opportunities and challenges.

Gulati (2024) examined faculty perceptions regarding the use of AI in commerce education. The study revealed that demographic factors such as age and teaching experience significantly influenced attitudes toward AI adoption. While some faculty members recognized AI's potential to enhance analytical skills and student engagement, others were hesitant due to limited familiarity with digital tools. The findings emphasize the importance of providing targeted training and institutional support to encourage effective AI integration.

Sajja et al. (2023) proposed the Artificial Intelligence-Enabled Intelligent Assistant (AIIA), a framework designed to support personalized and adaptive learning in higher education. By combining AI with Natural Language Processing (NLP), the system delivers customized feedback, simplifies information access, and reduces cognitive load. Their work demonstrates how AI-powered virtual assistants can enhance learning outcomes and student satisfaction.

Owoc et al. (2021) explored the broader benefits and challenges of implementing AI technologies in education. While AI was found to improve personalization and automate administrative functions, concerns regarding ethical practices, data security, and effective implementation strategies were also identified. The authors proposed a structured five-stage model to guide institutions in adopting AI responsibly.

Kumawat (2023) highlighted the growing relevance of AI in digital marketing and business strategy. The study underscored how AI-driven analytics and automation tools are transforming customer engagement and decision-making processes. It also stressed the need to incorporate AI-related concepts into business education to prepare students for evolving industry demands.

Similarly, Lari et al. (2022) focused on AI applications in e-commerce education. Their research demonstrated how AI enhances supply chain management, personalizes customer experiences, and improves operational efficiency. However, they also pointed out the necessity for updated curricula, faculty development programs, and technological infrastructure to successfully integrate AI into academic programs.

Lal (2023) investigated AI's role in teaching English literature, showing how AI tools can support text analysis, personalized feedback, and interactive learning environments. Rai (2023) examined AI's broader

impact on digital education and emphasized both its transformative potential and the cultural and ethical considerations it raises.

In mathematics education, Sharma and Chaudhary (2023) found that AI-based tools can simplify complex concepts, offer adaptive learning paths, and enhance engagement. Bardia and Agrawal (2025) introduced “Mind Craft,” an AI-driven platform aimed at improving educational access in rural India. Their research highlighted AI’s potential to bridge educational gaps by offering personalized mentorship and resource-sharing networks.

Finally, Dayal, Verma, and Sehgal (2023) provided a comprehensive overview of AI integration in education, discussing its applications, benefits, and future directions. They emphasized the importance of responsible implementation, continuous evaluation, and ethical consideration in AI adoption.

Research Objectives

The present study was undertaken with the following objectives:

1. To examine the level of awareness of Artificial Intelligence among commerce and management students in Malappuram District.
2. To analyse students’ perceptions regarding the role of AI in enhancing academic learning and career prospects.
3. To identify the key factors influencing the adoption of AI tools in commerce and management education.
4. To explore the challenges faced by students in integrating AI into their academic and professional development.

Research Methodology

Research Design

The study adopts a **descriptive research design** to systematically analyse the awareness, perceptions, and challenges related to Artificial Intelligence among commerce and management students. This design was chosen as it enables the researcher to describe characteristics of a specific group and examine relationships between variables.

Area of the Study

The research was conducted in **Malappuram District, Kerala**, focusing on selected colleges offering commerce and management programs.

Population and Sample

The population of the study consists of commerce and management students enrolled in colleges in Malappuram District.

A sample of **70 students** was selected using a **convenience sampling method**. The respondents included undergraduate and postgraduate students from various institutions.

Data Collection

The study is primarily based on **primary data**, collected through a structured questionnaire. The questionnaire included both closed-ended and Likert-scale questions. Level of awareness about AISecondary data were collected from journals, research articles, books, and credible online sources to support the theoretical framework.

Tools for Analysis

The collected data were analysed using:

- Percentage analysis
- Mean and standard deviation
- Chi-square test (where applicable)
- Correlation analysis (to test hypotheses)

The findings were interpreted using tables and graphical representations for clarity.

Limitations of the Study

1. The study is limited to 70 students in Malappuram District, which may not represent the entire student population of Kerala or India.
2. The use of convenience sampling may limit generalizability.
3. The findings are based on self-reported responses, which may be subject to bias.
4. The rapidly evolving nature of AI may influence perceptions over time.

DATA ANALYSIS AND INTERPRETATION

1. Demographic Profile of Respondents

Table 1: Age-wise Distribution of Respondents

Age Group	Frequency	Percentage (%)
Below 18	4	5.7
18–21	38	54.3
22–25	22	31.4
Above 25	6	8.6
Gender	Frequency	Percentage (%)
Male	32	45.7
Female	36	51.4
Other / Prefer not to say	2	2.9
Total	70	100

Interpretation: The table shows that most respondents are young adults aged 18–25 years, with the highest representation in the 18–21 age group. The gender distribution is fairly balanced, with a slight majority of females, while only a small proportion identified as other or preferred not to say.

Table 3: Course of Study

Course	Frequency	Percentage (%)
B.com	28	40
BBA	18	25.7
M.com	12	17.1
MBA	10	14.3
Others	2	2.9
Total	70	100

Interpretation: The table indicates that most respondents are enrolled in B.Com (40%), followed by BBA (25.7%). Smaller proportions are from M.Com (17.1%) and MBA (14.3%), while only 2.9% belong to other courses.

Table 4: Computer Literacy Level

Literacy Level	Frequency	Percentage (%)
Very Poor	3	4.3
Poor	7	10
Average	20	28.6
Good	25	35.7
Excellent	15	21.4
Total	70	100

Interpretation: The table shows that most respondents have good (35.7%) or average (28.6%) computer literacy, followed by excellent (21.4%). Only a small proportion reported poor or very poor literacy levels.

Table 5: Awareness of AI

Awareness	Frequency	Percentage (%)
Yes	56	80
No	14	20
Total	70	100

Interpretation: The table indicates that a large majority of respondents (80%) are aware of artificial intelligence, while 20% reported no awareness.

Table 6: AI Tools Used for Learning (Corrected to 100%)

AI Tool	Percentage (%)
ChatGPT	36.4
Google Bard	22.3
Coursera AI Courses	14.9
Khan Academy	18.2
None	8.3
Total	100.0

Table 6: AI Tools Used for Learning

AI Tool	Percentage (%)
ChatGPT	36.4
Google Bard	22.3
Coursera AI Courses	14.9
Khan Academy	18.2
None	8.3
Total	100

Interpretation: The table shows that ChatGPT is the most commonly used AI tool for learning (62.9%), followed by Google Bard (38.6%) and Khan Academy (31.4%). Coursera AI courses are used by 25.7% of respondents, while 14.3% do not use any AI tools for learning.

Table 7

Descriptive Statistics of AI Adoption Factors

Variable	Mean	Std. Deviation
Perceived Usefulness	3.89	0.62
Ease of Use	3.74	0.58
Technological Self-Efficacy	3.61	0.66
Digital Literacy	3.82	0.55
Access to Technology	3.45	0.71
Support from Educators	3.21	0.73
Awareness of AI Applications	3.67	0.6

Interpretation: Table 7 shows that Perceived Usefulness (3.89), Digital Literacy (3.82), and Ease of Use (3.74) are the highest-rated factors influencing AI adoption. Access to Technology (3.45) and Support from Educators (3.21) are rated lowest, indicating potential barriers.

Table 8: Challenges Faced by Students

Challenge Area	Mean	Std. Deviation
Access to Technology	3.42	0.69
Digital Literacy	3.11	0.72
Awareness & Familiarity	3.28	0.66
Ethical & Privacy Concerns	3.76	0.58
Institutional Support	3.54	0.63
Cultural & Linguistic Barriers	3.33	0.61
Over-reliance on Technology	3.69	0.65

interpretation: The main challenges in AI adoption are Ethical & Privacy Concerns (3.76) and Over-reliance on Technology (3.69), while Digital Literacy (3.11) poses the least difficulty.

Table 9: Gender × Awareness of AI

Gender	Aware	Not Aware	Total
Male	24	8	32
Female	30	6	36
Others	2	0	2
Total	56	14	70

Table 10: ANOVA Results

Source	F-value	p-value
Between Groups	3.86	0.018
Within Groups	—	—

Interpretation: Table 10 shows the ANOVA results for differences between groups. The F-value is 3.86 with a p-value of 0.018, indicating a statistically significant difference between the groups at the 5% significance level.

Group	Mean Attitude Score
High Literacy	4.02
Low Literacy	3.31

Interpretation: The mean attitude score is higher for the High Literacy group (4.02) compared to the Low Literacy group (3.31), suggesting that students with higher digital literacy have a more positive attitude toward AI.

Findings

- The majority of respondents (54.3%) belong to the 18–21 age group, indicating that AI exposure is highest among undergraduate students.
- Female students (51.4%) slightly outnumber male students (45.7%), ensuring balanced gender representation in the study.
- Most respondents are enrolled in B.Com (40%), followed by BBA (25.7%), showing stronger participation from undergraduate commerce streams.
- More than half of the students (57.1%) reported good or excellent computer literacy, indicating technological readiness for AI adoption.
- A large majority (80%) of students are aware of Artificial Intelligence and its use in education.
- ChatGPT (62.9%) is the most commonly used AI tool for academic learning, followed by Google Bard (38.6%) and Khan Academy (31.4%).
- Perceived Usefulness (Mean = 3.89) is the strongest factor influencing AI adoption among students.
- Digital Literacy (Mean = 3.82) and Ease of Use (Mean = 3.74) significantly contribute to positive AI adoption attitudes.
- Institutional Support (Mean = 3.21) received the lowest score among adoption factors, indicating inadequate encouragement and infrastructure from colleges.
- Ethical and Privacy Concerns (Mean = 3.76) emerged as the most significant challenge faced by students.
- Over-reliance on Technology (Mean = 3.69) is another major concern, with students fearing reduced critical thinking ability.
- Digital Literacy (Mean = 3.11) is the least significant challenge, suggesting students are technically capable of using AI tools
- Gender has a statistically significant relationship with AI awareness ($p < 0.05$)
- AI perception significantly differs across courses of study ($p < 0.05$).
- Students with higher computer literacy show a more positive attitude toward AI adoption compared to those with lower literacy levels.

Overall, students demonstrate a positive attitude toward AI integration but require stronger institutional and ethical support systems.

Suggestions

1. Introduce AI-related subjects and practical components into commerce and management curricula to enhance applied knowledge.
2. Establish AI labs or digital learning centres' within colleges to provide hands-on experience with AI tools.
3. Improve institutional infrastructure, including high-speed internet access and licensed AI software.

4. Conduct regular workshops, seminars, and certification programs on AI applications in business, finance, marketing, and analytics.
5. Provide faculty development programs to train teachers in integrating AI tools into classroom teaching.
6. Develop clear ethical guidelines and institutional policies on responsible AI usage and data privacy.
7. Encourage students to use AI as a supportive learning tool rather than a substitute for independent thinking.
8. Promote industry–institution collaboration to expose students to real-world AI applications in commerce and management sectors.
9. Create awareness programs highlighting both the opportunities and risks associated with AI adoption.
10. Encourage research projects and innovation initiatives related to AI in business education.

Conclusion

The study highlights that Artificial Intelligence is gradually becoming an important component of commerce and management education in Malappuram District, Kerala. The findings reveal that students possess moderate to high awareness of AI and generally maintain a positive perception of its role in enhancing learning and improving career prospects. Tools such as ChatGPT are widely used for academic support, indicating growing acceptance of AI in educational practices.

The research further establishes that perceived usefulness, digital literacy, and ease of use significantly influence AI adoption among students. However, challenges such as ethical concerns, privacy issues, limited institutional support, and the risk of over-reliance on technology continue to restrict its full integration.

Overall, while students demonstrate readiness and interest in adopting AI, educational institutions must strengthen infrastructure, provide practical training, update curricula, and implement clear ethical guidelines. With proper support and responsible usage, AI has the potential to transform commerce and management education by enhancing academic performance, skill development, and professional preparedness.

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