Impact Factor (QJIF): 8.47 E-ISSN: 2583-1615, P-ISSN: 3049-3498

International Journal of Research in Academic World

Received: 21/July/2026 **IJRAW:** 2026; 5(10):30-34 **Accepted:** 25/August/2026

Impact of Artificial Intelligence on Commerce Curriculum: The Way Forward for Commerce Pedagogy in Higher Education Institutions

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Abstract

Artificial Intelligence (AI) is reshaping the commerce and accounting professions at a pace that has outstripped the revision cycles of most Commerce curricula in Higher Education Institutions (HEIs). Automated bookkeeping, AI-enabled auditing, predictive analytics, and generative AI tools are displacing routine, transactional work while elevating demand for analytical, advisory, and technology-integration skills. This paper examines how AI is influencing the content, structure, and learning outcomes of the Commerce curriculum, and how it is transforming classroom pedagogy and delivery. Drawing on recent literature, industry skills reports, and policy developments under India's National Education Policy (NEP) 2020, the paper identifies the principal drivers of curricular change, the pedagogical shifts already under way, and the institutional, faculty, and student-level barriers to effective AI integration. It concludes with a structured 'way forward' framework covering curriculum redesign, faculty capacity-building, assessment reform, infrastructure investment, and policy alignment, offering a roadmap that undergraduate and postgraduate Commerce departments and professional accounting programs can use to remain relevant in an AI-augmented economy.

Keywords: Artificial Intelligence, Commerce Education, Curriculum Design, Pedagogy, Higher Education, NEP 2020, Accounting Education, Digital Transformation.

1. Introduction

Commerce education has always focused on the basics of business — bookkeeping, financial accounting, tax, auditing, and business law. This is usually taught through lectures and tested through written exams. In the last few years, AI has changed the accounting profession itself. AI tools can now match bank records, spot mistakes in accounts, prepare draft financial statements, and predict cash flow, often faster and more accurately than a person. Tools like ChatGPT can write reports, explain new rules, and answer routine questions from clients. A recent global jobs report placed accounting and bookkeeping among the fastest-shrinking job categories over the next five years, while also naming AI and data skills as some of the fastest-growing skills employers want [1].

This creates a problem for Commerce courses. If colleges keep teaching mainly the routine, manual tasks that AI now does, students will graduate with skills the market values less. If colleges do not teach data skills, critical thinking, and good judgement — the things AI cannot do well — students will not be ready for the jobs that are actually growing. This paper asks two simple questions: how is AI already changing what is taught in Commerce courses and how it is taught, and what should colleges do next?

The paper focuses on Commerce education in Indian colleges and universities, where NEP 2020 already allows for flexible, skill-based, and technology-friendly courses, but where this flexibility is not yet used fully in Commerce departments. The paper also explores the global stage, since similar challenges like automation of routine work and the rise in demand for AI and data skills are seen in most countries.

2. Review of Literature

Early research on AI in higher education argued that AI would change not just teaching, but the whole way colleges and universities are run [2]. This idea has since been supported by larger studies. One study surveyed close to 2,000 teachers and students across many countries and found that how often people use AI, how much teachers know about AI, how much support the institution gives, and how positive people feel about AI's future all affect whether courses actually get updated [3].

In business and commerce education, a detailed review of existing research found that AI, data analysis, and course design are now central topics of study, though it also noted that research in this area is still spread thin, with few strong theories and little clarity on exactly how AI changes the way students are trained [4]. Another study on generative AI and soft skills in commerce and management education warned

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that because tools like ChatGPT can now do the very thinking and reasoning tasks that courses use to build student skills, colleges cannot simply allow AI use without any rules, courses must be redesigned carefully so that *AI helps rather than replaces student learning* [5].

Research on AI-based course design shows that whether an AI tool actually helps depends heavily on whether teachers and students find it useful and easy to use, not just how advanced the tool is [6]. This is an important point: simply buying AI software will not improve a Commerce course unless teachers and students are willing and able to use it well.

In India, several recent papers have studied how AI can support the goals of NEP 2020, such as personalised learning and better use of data in college administration, while also early warning about problems like unfair bias in AI systems, data privacy, unequal access to technology, and the need for proper AI training for teachers [7]. The Government of India's 2025-26 budget set aside Rs. 500 crore for a national Centre of Excellence in AI for Education, showing that this is now a funded government priority, even though turning this into actual changes in Commerce courses is still at an early stage [8].

Reports from the accounting industry give a clear and consistent message: employers want graduates who can think analytically, read and interpret data, and use AI tools confidently, and value these skills more than routine, manual accounting skills. Taken together, this research supports the main idea of this paper — *that Commerce courses need to be redesigned around skills that work alongside AI, and that how courses are taught also needs to change, not just what is taught*.

3. Objectives of the Study

i). To study how AI is changing what is taught in Commerce courses — the content, structure, and learning goals.
ii). To study how AI is changing how Commerce courses are taught — teaching methods, classroom tools, and exams.
iii). To identify the main problems colleges, teachers, and students face in using AI in Commerce education.
iv). To suggest a clear, practical plan that colleges can follow to update Commerce courses and teaching methods for the AI era.

4. Research Methodology

This paper is based on a review of existing research, industry reports, and government policy documents on three topics:

- How AI affects course design in higher education generally,
- How AI affects the accounting and commerce profession, and
- AI-related rules and policies in Indian higher education.

Most sources used are from 2023 to 2026. Findings from these sources are grouped and discussed by theme rather than through statistical analysis, since the original studies used very different methods and were based in different countries. The suggested plan of this paper is based on this review of existing knowledge.

It is meant as a starting point that should be tested and improved through further research, such as surveys of teachers and students,

5. How AI Is Changing the Commerce Profession

Before discussing what should change in Commerce courses, it helps to understand what is already changing in commerce and accounting jobs. Three trends stand out.

i). **Routine Work Is Being Automated:** Repetitive, rule-based tasks — data entry, matching bank records, processing invoices, basic tax calculations, and first checks during an audit — are increasingly done by automated software and AI systems. Industry reports show fast growth in AI use in accounting, driven especially by small and medium businesses, helped by cloud software and subscription pricing that have made AI tools cheaper and easier to access than before [9].
ii). **Analytical and Advisory Skills Are in High Demand:** As routine work gets automated, employers increasingly describe the ideal accountant as someone who combines accounting knowledge with data analysis and business advice, not just record-keeping. Analytical thinking is regularly named as the most wanted skill by employers, along with skills in data tools, accounting software, and basic technical skills. Reports on skills needed by chartered accountants highlight AI skills, data presentation, and sustainability reporting as especially important going forward [10]. Employers also want accountants who keep learning and adapting as AI tools keep changing [11].
iii). **New Value in Human Judgement:** Industry commentary often points out that some accountant skills are hard for AI to replace: checking and questioning AI-generated numbers, applying ethics and professional judgement, managing relationships with clients, and explaining financial information in simple language. This means the real value of a Commerce graduate is shifting from doing calculations to checking, explaining, and advising on top of what AI produces [12].

Analysis: Traditional vs AI-Integrated Curriculum

Table 1: Comparative analysis of traditional and AI-integrated Commerce curriculum design.

Dimension	Traditional Approach	AI-Integrated Approach
Content focus	Manual, procedural accounting techniques	Procedural knowledge plus AI/analytics application and output validation
Core skills emphasised	Computation, record-keeping, rule application	Interpretation, analysis, advisory judgment
Learning outcomes	Task completion accuracy	Critical evaluation of AI-assisted outputs, data literacy
Course structure	Siloed, discipline-bound papers	Interdisciplinary modules (data science, IT, ethics) embedded in core papers
Curriculum revision cycle	Multi-year, periodic revision	Lightweight annual/continuous content review

6. Impact of AI on Commerce Curriculum Design

The changes described above have a direct effect on what a Commerce course should teach, how it should be structured, and what students should be able to do by the end of it.

i). **What Courses Should Cover:** Courses that focus mainly on manual, step-by-step accounting methods risk teaching skills the job market values less each year. This does not mean basic accounting knowledge is no longer needed — students still need to understand accounting rules and audit principles to check AI-generated work — but the balance of content needs to shift. Courses should

add clear content on data analysis, AI tools used in accounting and auditing, automated processes, and common business software, alongside the traditional subjects like financial accounting, cost accounting, tax, and auditing. Regular, smaller updates to course content, guided by student feedback and performance data, will work better than waiting years for a full syllabus revision.

ii). **What Students Should Be Able to Do:** Course learning goals should clearly state AI-related skills — for example, being able to check and question AI-generated financial reports, use basic data visualisation tools, and understand the ethical risks of using AI in financial decisions. Several studies suggest that AI skills should be built into the whole Commerce programme, not placed in just one optional subject, since AI now touches almost every part of commerce — accounting, finance, marketing, and operations.

iii). **Learning across Subjects:** Because AI skills depend on basic knowledge of data and technology, researchers suggest Commerce courses should also include some content from data science, information technology, and ethics. This fits well with NEP 2020's own goal of breaking down rigid subject boundaries and allowing flexible, multi-subject learning paths — though how much this flexibility is actually used still varies a lot from college to college.

7. Impact of AI on Commerce Teaching Methods

Along with course content, AI is also changing how Commerce is taught — the tools used in class, the format of lessons, and how students are tested.

i). **Teaching Methods:** One of the clearest effects of AI in education is personalised learning: AI systems can spot which students are struggling with a topic, such as taxation rules, and give them extra practice material suited to their level. This reduces the burden on teachers to personally track every student's progress. It also supports a shift toward blended and flipped classrooms, where students learn basic content on their own through AI-supported material, and class time is used for discussion, problem-solving, and case studies — the exact skills that build analytical and advisory ability.

ii). **AI Tools and Simulations:** Accounting software increasingly comes with built-in AI features, such as automatic matching of bank records, detection of unusual entries, and the ability to ask questions in plain language. Teachers are beginning to use these tools, along with data and business analysis software, in practical class exercises. When used well, these tools let students practise judgement on top of AI-generated first drafts, similar to how they will actually work after graduation.

iii). **Assessment and Exams:** The biggest challenge for teaching may be exams and assignments. Take-home assignments, case study write-ups, and even some numerical problems can now be largely completed using generative AI, which makes it harder to know if a student has actually learned the material. To deal with this, colleges are moving toward more supervised, in-person exams; adding oral discussions or vivas to written work; setting tasks that ask students to check, correct, or improve AI-generated answers instead of writing from scratch; and using real-life case studies that test judgement rather than memory.

iv). **Rules on Academic Honesty:** India's University Grants Commission (UGC) has clear rules against plagiarism, first issued in 2018, and these are the main rules colleges follow for academic honesty [13]. UGC has treated the unacknowledged use of AI-generated content as a form of plagiarism, and there have been real cases of PhD theses being rejected for containing too much AI-written content without proper credit [14]. A widely reported case in 2026 involved a university rejecting multiple PhD theses for having over 40% AI-generated content copied without proper citation [15]. While these actions have focused on PhD research, the same principle applies to Commerce coursework at all levels: AI use should be declared, and the actual thinking and analysis must be the student's own. Colleges should build this into course-level rules, not just leave it to general research-integrity policies. Some institutions have already published detailed rules on what AI use is allowed, what must be declared, and how much AI-assisted content is acceptable — these can be a useful starting template for Commerce departments.

Analysis: Shift in Pedagogical Practice

Table 2: Comparative shift in pedagogical practice under AI-enabled delivery.

Aspect	Traditional Classroom	AI-Enabled Classroom
Instructional mode	Uniform, lecture-paced delivery	Blended/flipped; self-paced AI-supported modules plus applied class time
Tools used	Textbook, manual worksheets, static software	AI-enabled accounting/analytics software, adaptive learning platforms
Assessment format	Open-ended take-home written assignments	Invigilated, critique-based, oral/viva-supported assessment
Feedback mechanism	Periodic instructor feedback	Real-time, AI-assisted personalised feedback plus instructor review
Role of instructor	Primary content deliverer	Facilitator of applied judgment, ethics, and interpretation

8. Policy Context: NEP 2020 and Current Rules

NEP 2020 gives colleges both a reason and an opportunity to update Commerce courses for the AI era. Its focus on flexible, multi-subject, skill-based education fits naturally with the kind of course redesign described in Section 6. The policy treats technology, including AI, as a tool to improve access, personalise learning, and make college administration more efficient. The government's proposed Rs. 500 crore Centre of Excellence in AI for Education shows this is backed by real funding and infrastructure, aimed at closing AI skill gaps and preparing students for AI-related jobs.

At the same time, real problems remain: uneven access to computers and the internet, especially outside big cities; big differences in how much AI training teachers have received; unresolved questions about bias and privacy in AI-based learning tools; and, as of 2026, no single national rule on how much AI use is acceptable in student work, leaving each university to set its own rules. For Commerce departments, this means colleges cannot assume that AI-friendly reform will happen automatically just because NEP 2020 allows for it — someone in each department has to actually plan and carry it out.

Analysis: Timeline of AI-Related Policy Developments

Table 3: Timeline of AI-related policy developments relevant to Commerce education in India.

Year	Development	Relevance to Commerce Curriculum
2018	UGC Academic Integrity & Anti-Plagiarism Regulations	Baseline framework later extended to cover undisclosed AI-generated content
2020	National Education Policy (NEP) 2020	Mandates multidisciplinary, flexible, skill-based, technology-integrated education
2025-26	Union Budget: Centre of Excellence in AI for Education (Rs. 500 crore)	National infrastructure and funding signal for AI-in-education adoption
2026	UGC enforcement actions on AI misuse (e.g., PhD thesis rejections)	Establishes precedent for disclosure-based AI-use policy at course level
2026	Institution-level generative-AI usage guidelines (emerging)	Provides templates Commerce departments can adapt for course-level policy

9. Challenges in Using AI in Commerce Education

Based on the research reviewed above, six problems commonly come up:

- **Lack of infrastructure:** Many colleges do not have licensed AI or analytics software, good computers, or reliable internet, especially outside big cities.
- **Lack of teacher training:** Many Commerce teachers were trained before AI became common, and structured AI training for teachers is still limited.
- **Resistance to change:** Teachers and institutions can be slow to change long-used syllabi, teaching styles, and exam formats.
- **Cost:** Licenses for AI-based accounting and data tools can be expensive, especially for government and aided colleges.
- **Risk to academic honesty:** Generative AI makes it easy to produce convincing written work, which puts pressure on traditional assignments and exams.
- **Unclear rules:** Because there is no single national rule on AI use in academic work, colleges and departments must set their own guidelines, which creates confusion for both teachers and students.

Analysis: Relative Emphasis of Barriers in the Literature

Table 4: The indicator below reflects how much qualitative weight these barriers are given across the literature and industry sources this paper draws on — it is an illustrative synthesis, not a figure derived from primary survey data.

Barrier	Qualitative Emphasis in Literature
Infrastructure gaps	■■■■■ (High)
Faculty capability gaps	■■■■■ (High)
Resistance to change	■■■□□ (Medium)
Cost constraints	■■■■□ (Medium-High)
Academic integrity risk	■■■■■ (High)
Policy fragmentation	■■■□□ (Medium)

10. The Way Forward: A Simple Plan for Change

Based on the discussion above, this paper suggests six areas of action for colleges. These should be worked on together, not one after another, since course content, teaching methods, teacher training, technology, exams, and rules all depend on each other.

i). Updating the Curriculum

- Add a basic module on AI and data analysis in accounting early in the programme, before more advanced subjects.
- Add AI-related learning goals inside existing core subjects (financial accounting, cost accounting, tax, auditing) instead of keeping AI content in just one optional subject.
- Shift the balance of content away from manual calculation and toward checking, analysing, and using AI-generated results.
- Set up small yearly reviews of course content, instead of waiting for the usual multi-year syllabus revision, to keep pace with fast-changing AI tools.

ii). Training Teachers

- Set up regular training workshops and short courses for teachers on AI tools used in accounting and commerce.
- Create groups where teachers can share AI-based lesson plans, class exercises, and exam ideas with each other.
- Recognise and reward teachers who build good AI-based teaching material, instead of treating it as unpaid extra work.

iii). Improving Technology and Infrastructure

- Treat licences for accounting and data-analysis software with AI features as a basic need, not an optional extra.
- Use cloud-based, subscription tools, which cost less than older enterprise software and are easier for smaller colleges to afford.
- Apply for government support, such as the proposed national Centre of Excellence in AI for Education, to fund technology upgrades in colleges that need it.

iv). Changing Exams and Assessment

- Design assignments that ask students to check, correct, or improve AI-generated answers, instead of writing long essays from scratch.
- Give more weight to supervised, in-person exams and oral discussions to make sure the assessment reflects the student's own understanding.
- Use real-life case studies and scenarios that test judgement and reasoning, which are harder for AI to fake convincingly.
- Publish a clear, simple policy for each course on what AI help is allowed, how it should be declared, and how it will be judged, in line with UGC rules.

v). Setting Clear Rules

- Create a simple, Commerce-specific AI-use and academic honesty policy that explains UGC and college-wide rules in plain, subject-relevant terms.
- Set up a small AI-in-curriculum group within the Commerce department to review content, coordinate teacher training, and update exam rules regularly.
- Connect department policy clearly to NEP 2020's goals, to make it easier to access government support.

vi). Working with Industry

- Build formal ties with accounting firms, professional bodies (ICAI, ICMAI, ICSI), and software companies to keep course content matched to real workplace AI use.

- Add guest lectures, internships, and live projects based on AI-supported accounting and analysis work, so students get real experience before graduating.
- Use feedback from employers and past students — including structured surveys like the companion questionnaire developed alongside this paper — to check whether course changes are actually producing the skills employers want.

Summary Table

Table 5: Six-part plan for AI-ready Commerce courses and teaching.

Area	Main Focus	Example Action
Curriculum	Content and learning goals	Add AI and data-analysis learning goals to core subjects
Teacher Training	Teacher readiness	Regular AI training workshops and shared lesson resources
Technology	Access to tools	Licence AI-enabled accounting and analytics software
Assessment	Fair and honest exams	Critique-based tasks, oral exams, clear AI-use policies
Rules and Policy	Clear college-level guidance	Department AI policy aligned with UGC and NEP 2020
Industry Links	Real-world relevance	Live projects, internships, employer feedback

11. Conclusion

This paper set out to meet four objectives, and the review above supports clear conclusions on each.

- On how AI is changing course content (Objective 1): the review shows that AI is reducing the value of routine, manual accounting skills while increasing the need for data analysis, AI-tool knowledge, and cross-subject learning. Commerce courses need updated content and learning goals to reflect this shift.
- On how AI is changing teaching methods (Objective 2): the review shows that AI is enabling more personalised, blended, and case-based teaching, but is also putting real pressure on traditional exams and assignments, which need to be redesigned to stay fair and meaningful.
- On the main problems in using AI in Commerce education (Objective 3): the review identifies six recurring barriers — weak infrastructure, limited teacher training, resistance to change, cost, risks to academic honesty, and unclear or inconsistent rules.
- On a practical way forward (Objective 4): the paper proposes a six-part plan covering curriculum updates, teacher training, technology, assessment reform, clear institutional rules, and stronger industry links, summarised in Table 1.

Overall, the paper concludes that AI is not a small, optional change for Commerce education — it is a real shift in the profession that Commerce courses are meant to prepare students for. Colleges that continue teaching and testing students as before risk producing graduates whose skills do not match what employers need. Colleges that update their content, train their teachers, invest 7in the right tools, reform their exams, and set clear rules — in line with NEP 2020 and UGC guidelines — will be better placed to prepare students for an AI-driven commerce profession. The six-part plan suggested here is a practical starting point. Testing and improving this plan through direct research, such as surveys of teachers and students, is a natural next step.

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