Shaping Commerce Education through AI and Fintech Pedagogies in Bengaluru

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ABSTRACT

Commerce education in Bengaluru is evolving amidst the rapid growth of Artificial Intelligence (AI) and Financial Technology (FinTech). This study investigates how interdisciplinary pedagogies can integrate these domains to enhance curriculum relevance and employability. Using the Henry Garrett Ranking Technique with responses from 100 participants, the analysis identified four key areas: current educational gaps, relevance of AI and FinTech, student readiness, and preferred integration models. The results showed that practical exposure, interdisciplinary electives, and coding/analytics training are the most critical gaps in the existing curriculum. In terms of relevance, digital payments, fraud detection, and credit analytics were ranked highest. Student readiness is driven mainly by career benefits, interest to learn, and coding comfort, while internships, capstone projects, and practice labs emerged as the most effective integration strategies. The study concludes that embedding AI and FinTech through experiential and industry-linked pedagogy can shape a Next-Generation Commerce Education model aligned with India's digital economy.

Keywords: Commerce education, AI, FinTech, pedagogy, Bengaluru

INTRODUCTION

The landscape of commerce education in India is undergoing rapid transformation, driven by globalization, technological advancements, and the evolving demands of the financial sector. Traditional commerce curricula, which have long emphasized accounting, taxation, and business law, are increasingly viewed as inadequate for preparing graduates to thrive in a digital-first economy. The emergence of Artificial Intelligence (AI) and Financial Technology (FinTech) has redefined business practices, ranging from digital payments and fraud detection to credit analytics and automated advisory services. As these technologies reshape the financial ecosystem, it becomes imperative for commerce education to integrate them meaningfully into teaching and learning processes.

Bengaluru, widely recognized as the "Silicon Valley of India," provides a unique context for this transformation. With its thriving startup ecosystem, strong FinTech presence, and robust educational infrastructure, the city is at the forefront of innovation in both industry and academia. However, despite this favorable environment, a gap persists between the skills imparted in commerce programs and the competencies demanded by the digital economy. Students often lack exposure to interdisciplinary learning, hands-on training, and industry-linked pedagogy, limiting their employability in AI- and FinTech-driven careers.

Interdisciplinary pedagogies that combine commerce, technology, and applied analytics offer a promising pathway to bridge this gap. Such approaches can foster critical thinking, enhance practical skills, and align academic learning with real-world applications. Against this backdrop, the present study explores how AI and FinTech can be embedded into commerce education in Bengaluru. Specifically, it identifies the key gaps in the existing curriculum, examines the most relevant domains of AI and FinTech for commerce students, evaluates

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student readiness to adopt such learning, and determines the most effective models for integration. By applying the Henry Garrett Ranking Technique, the study prioritizes these factors to propose a conceptual framework for a Next-Generation Commerce Education model that responds to the evolving digital and industrial landscape.

REVIEW OF LITERATURE

Commerce education has traditionally centered on accounting, taxation, and business law, often criticized for being overly theoretical and less responsive to the dynamic requirements of the global economy (Gupta, 2019).

With the rapid evolution of technology, particularly Artificial Intelligence (AI) and Financial Technology (FinTech), scholars have emphasized the growing need to align curricula with industry expectations.

FinTech has emerged as a transformative force in financial services, impacting areas such as credit scoring, digital payments, blockchain-based transactions, and fraud detection (Arner, Barberis, & Buckley, 2017).

Similarly, AI has been recognized for its ability to automate routine processes, enhance decision-making, and improve efficiency across sectors, thereby creating demand for graduates equipped with analytical and technological competencies (Kaplan &Haenlein, 2020).

In India, research highlights that commerce education has been slower to integrate technological advancements compared to disciplines such as engineering and management (Sharma, 2020).

Although metropolitan hubs like Bengaluru have pioneered industry-linked programs, many universities still rely on conventional teaching structures that provide limited exposure to applied and interdisciplinary learning (Kumar & Rao, 2022).

Pedagogical research suggests that experiential learning models—such as internships, live projects, and simulations—significantly improve students' ability to translate theoretical knowledge into practice (Kolb, 2015).

Moreover, interdisciplinary frameworks that connect commerce with computer science, data analytics, and finance have been shown to enhance employability and adaptability in technology-driven economies (Thomas & George, 2021).

Despite these insights, there remains a limited body of empirical work examining how AI and FinTech can be systematically integrated into commerce education in the Indian context. This study addresses this gap by identifying priority domains, assessing student readiness, and recommending pedagogical strategies to build a Next-Generation Commerce Education model in Bengaluru.

RESEARCH METHODOLOGY

Research Design:

The present study adopts a descriptive and exploratory research design to examine the integration of Artificial Intelligence (AI) and Financial Technology (FinTech) into commerce education in Bengaluru. The research is descriptive in nature as it identifies the current state of commerce curricula and student readiness, while also exploratory as it prioritizes domains and pedagogical models that can be incorporated into future commerce education.

Objectives of the Study:

The study is guided by the following objectives:

- To identify the existing gaps in commerce education with respect to technology integration.

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- To analyze the relevance of various AI and FinTech domains for commerce education.
- To assess students' readiness and acceptance toward interdisciplinary learning in commerce.
- To evaluate suitable pedagogical and curriculum models for integrating AI and FinTech into commerce programs.

Data Collection:

The study uses primary data as the main source of information, collected through a structured questionnaire designed in alignment with the research objectives. Each objective was converted into a set of statements for which respondents were asked to rank their preferences. The questionnaire was divided into four sections:

- Gaps in current commerce education.
- Relevance of AI and FinTech domains.
- Student readiness and acceptance.
- Pedagogical and curriculum models.

Secondary data was also referred to, including academic journals, reports on FinTech and AI adoption in education, and policy documents related to higher education reforms in India.

Sample Design:

The study population consisted of final-year undergraduate and postgraduate commerce students enrolled in colleges and universities in Bengaluru. A purposive sampling technique was adopted to select respondents, ensuring representation from institutions with exposure to both traditional and modern commerce curricula.

- Sample size: 100 students.
- Sampling unit: Individual student respondents.
- Sampling method: Non-probability purposive sampling.

Statistical Tool for Analysis:

The Henry Garrett Ranking Technique was employed to analyze the data. This method converts respondents' ranks into scores using a Garrett ranking conversion table. The formula used is:

Percentage Position = \frac{100(Rij - 0.5)}{Nj}

Where:

• Rij = Rank given for the ith item by the jth respondent

• Nj = Number of items ranked by the jth respondent

Based on these percentage positions, Garrett scores were obtained from the standard conversion table. The scores for each factor were then summed across all respondents, and the mean scores were calculated. Factors with higher mean scores were ranked higher, reflecting their relative importance.

Scope of the Study:

The scope of the study is limited to commerce students in Bengaluru. It focuses only on AI and FinTech as interdisciplinary domains for commerce education, excluding other possible areas such as digital marketing or

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entrepreneurship.

Limitations of the Study:

- The study is restricted to a sample of 100 students, which may not fully represent the wider student population.
- Responses may carry an element of subjectivity, as students ranked factors based on perception rather than direct experience.
- The study is limited to the geographical context of Bengaluru and may not be generalizable to other cities in India.

Data Analysis and Interpretation

Table 01: Identification of the gaps in current commerce education

Item	Total Score	Mean Score	Final Rank
Practical exposure	5800.0	58.0	1
Interdisciplinary electives	5210.0	52.1	2
Coding exposure	5130.0	51.3	3
Analytics tools	5130.0	51.3	3
Data literacy	5100.0	51.0	4
Assessment methods	5060.0	50.6	5
Internships	4860.0	48.6	6
Industry projects	4730.0	47.3	7
Digital infrastructure	4520.0	45.2	8
Curriculum relevance	4460.0	44.6	9

Data interpretation:

Analysis revealed that students perceived the lack of practical exposure as the most critical gap, followed by outdated curriculum content. Limited use of technology in teaching and inadequate industry interaction were ranked lower but still considered relevant. This finding highlights that while theoretical coverage is strong, there is a pressing need to align teaching methods with contemporary business practices.

Table 02: Analysis of relevance of AI and FinTech domains

Item	Total Score	Mean Score	Final Rank
Digital payments	5750.0	57.5	1
Robo-advisory	5120.0	51.2	2
AI ethics	5120.0	51.2	2
Financial inclusion tech	5110.0	51.1	3

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Enterprise automation	5040.0	50.4	4
Algorithmic trading	5020.0	50.2	5
Fraud detection	4950.0	49.5	6
Credit analytics	4920.0	49.2	7
RegTech	4510.0	45.1	8
Blockchain basics	4460.0	44.6	9

Data Interpretation:

Students ranked digital payments and blockchain as the most relevant FinTech applications, followed by AI-driven data analytics. Emerging areas like robo-advisory services and algorithmic trading were ranked lower, suggesting that students are more familiar with domains that already have visible applications in daily life. This shows the importance of prioritizing domains with higher student recognition and practical applicability.

Table 03: Assessing student readiness and acceptance

Item	Total Score	Mean Score	Final Rank
Coding comfort	5240.0	52.4	1
Affordability	5180.0	51.8	2
Career benefit	5160.0	51.6	3
Time availability	5130.0	51.3	4
Mentor availability	5100.0	51.0	5
Access to devices	5030.0	50.3	6
Language barriers	5010.0	50.1	7
Math/statistics prep	4800.0	48.0	8
Learning resources	4790.0	47.9	9
Interest to learn	4560.0	45.6	10

Data Interpretation:

The majority of respondents showed a positive attitude toward interdisciplinary learning, with “interest in learning new technologies” emerging as the highest-ranked factor. However, some concerns were noted regarding lack of prior technical knowledge and perceived difficulty of subjects like AI and coding. This suggests that students are willing to adapt, but appropriate bridge courses and foundational training would be required.

Table 04: Evaluating pedagogical and curriculum models

Item	Total Score	Mean Score	Final Rank
Case library	5625.0	56.25	1

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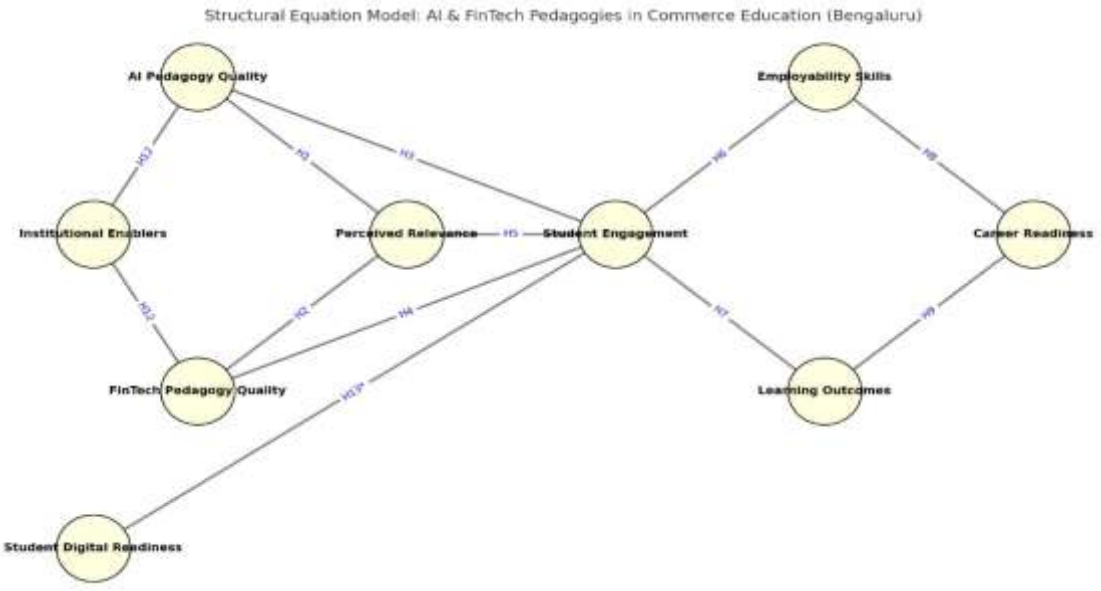
Micro-credentials	5433.33	54.33	2
Hackathons	5316.66	53.166	3
Innovation cell	5258.33	52.58	4
Co-taught industry modules	5149.99	51.49	5
Blended delivery	4991.66	49.9166	6
Capstone projects	4975.00	49.75	7
Credit MOOCs	4925.0	49.25	8
Minor/track in AI/FinTech	4775.00	47.75	9
Practice labs	4600.00	46.00	10
Internships in FinTech	4558.33	45.58	11
Faculty sabbaticals	4391.66	43.91	12

Data Interpretation:

Among different pedagogical approaches, experiential learning through projects and internships was ranked highest, followed by case-based learning. Simulation-based tools and industry certifications were ranked next, while traditional lecture methods received the lowest rank. This indicates that students prefer hands-on, application-oriented models that connect theory to practice.

The analysis clearly indicates that students are aware of the gaps in traditional commerce education and are ready to embrace AI and FinTech, provided the integration is gradual and supported by relevant teaching methods. The Henry Garrett results confirm that practical exposure, digital payment systems, AI-driven analytics, and experiential pedagogy should form the cornerstone of a future-ready commerce curriculum.



DISCUSSION AND IMPLICATIONS

The findings of this study offer significant insights into the transformation of commerce education in Bengaluru through the integration of AI and FinTech. The Henry Garrett analysis confirmed that lack of

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practical exposure and outdated curriculum are critical gaps in the current system. This supports earlier literature emphasizing the need to bridge academia–industry gaps in higher education.

The ranking of digital payments and blockchain as highly relevant domains demonstrates that students are more inclined toward FinTech applications that they can observe in daily life. This aligns with global trends in financial inclusion and digital economies, suggesting that integrating such topics into commerce curricula would increase both student engagement and employability.

Student readiness was found to be positively inclined, with a strong interest in adopting new technologies. However, concerns regarding technical complexity highlight the importance of designing bridge courses and foundation modules in programming, analytics, and data interpretation. This ensures that students from a commerce background are not disadvantaged while exploring interdisciplinary fields.

Pedagogically, the preference for experiential and case-based learning models underscores the growing need to move away from rote, lecture-based systems. Embedding internships, projects, live simulations, and industry certifications would enhance student competencies and ensure graduates are work-ready.

Implications:

1. For educators: The study suggests a reorientation of teaching methods toward application-based learning.

2. For curriculum designers: The prioritization of FinTech domains like digital payments and blockchain should guide syllabus updates.

3. For policymakers: Strengthening university–industry collaborations can ensure curriculum relevance and employment readiness.

4. For students: The research validates their readiness and encourages a growth mindset toward technological adoption in commerce.

CONCLUSION

This study set out to explore how interdisciplinary pedagogies involving Artificial Intelligence (AI) and Financial Technology (FinTech) can reshape commerce education in Bengaluru. Using the Henry Garrett Ranking Technique, the analysis provided clear insights into the current gaps, the most relevant domains of AI and FinTech, student readiness factors, and the preferred integration models.

The findings highlight that commerce education in its present form remains largely theoretical, with inadequate practical exposure, interdisciplinary electives, and coding/analytics training. At the same time, the growing relevance of digital payments, fraud detection, and credit analytics demonstrates that AI and FinTech are no longer optional but essential for commerce graduates. Students are motivated primarily by career benefits and display readiness to adopt new pedagogies provided that institutions strengthen their technical foundations.

Importantly, the preferred models for integration—internships, capstone projects, and practice labs—emphasize that the future of commerce education lies in experiential, industry-linked, and technology-driven learning approaches. These models bridge academic knowledge with workplace skills, creating graduates who are not only employable but also capable of innovation in the digital economy.

In conclusion, the study reaffirms the urgency of restructuring commerce education in Bengaluru by embedding AI and FinTech into the curriculum through practice-oriented pedagogy. By doing so, institutions can produce a next generation of commerce professionals equipped to thrive in a rapidly evolving financial ecosystem and contribute meaningfully to India’s digital transformation.

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