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Research Article

Assessing Faculty Readiness for AI Integration in Management Education: An Empirical Study of B Schools

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Abstract: Artificial Intelligence (AI) is rapidly reshaping management education, yet the readiness of faculty to fit in AI into their teaching remains poorly understood. This study observes faculty AI readiness across five dimensions which are awareness, skill, attitudinal alignment, AI resource availability, and professional learning opportunities using survey data from 31 faculty members and 40 students at management institutes in Mumbai. Findings reveal that total readiness (M = 2.86, SD = 0.97) falls below the scale middle point, while AI Skill (M = 2.61) and access to professional learning opportunities (M = 2.66). Apart from that a significant adoption gap exists between faculty and students (F = 5.44, p = 0.023). Professional Learning Opportunities and positive attitude are the two strongest analysts of readiness. The paper contributes a readiness framework and a three-stage faculty development model with direct implications for management institutes.

Keywords: Faculty Readiness; AI Adoption; Management Education; Professional learning opportunities; Technology Integration.

INTRODUCTION

Long back the integration of Artificial Intelligence (AI) into Management Education in India used to be a future concern but in present scenario the management institutes across India are actively navigating. The role of Faculty members is the most significant in this transformation. They are the key individuals responsible for converting institutional AI goals into effective day to day classroom practices. But unfortunately, the facts and figures show that faculty members are the least supported group.

According to NASSCOM (2022), the lack of AI trained faculty emerged as the most commonly reported obstacle to AI adoption in Indian management institutes, surpassing both infrastructural limitations and financial constraints. However, prior research has largely considered faculty readiness as a minor component of broader institutional studies instead of analyzing it as an independent construct requiring dedicated diagnosis and intervention strategies. This study directly seeks to bridge that gap.

This paper has three important objectives.

- To Study Faculty AI readiness through five key dimensions.
- To identify the main structural and attitude related factors that influence readiness.
- To suggest a practical step by step framework for faculty development.

The study tests four hypotheses:

- (H1) Faculty AI Skill is positively associated with teaching effectiveness
- (H2) Access to professional learning opportunities predicts overall AI readiness
- (H3) Resistance to change negatively predicts readiness
- (H4) A significant AI adoption gap exists between faculty and students

LITERATURE REVIEW

Technology Adoption.

Fred Davis (1989) explained that technology adoption mainly depends on two factors, whether people find the technology useful and whether they feel it is easy to use. Later, Viswanath Venkatesh and colleagues (2003) expanded this idea by showing that social influence and institutional support also play an important role in adoption. Everett Rogers (2003) further highlighted that adoption does not happen in the same way for everyone, as different groups of faculty members need different kinds of support and conditions to adopt technology.

AI Literacy

AI literacy includes different aspects such as understanding AI concepts, critically evaluating AI tools, and using them effectively in practice (Long & Magerko, 2020).. UNESCO (2022) explained that for educators, AI competency develops gradually from basic awareness to advanced innovation skills. Researchers have also highlighted that teachers need the ability to design AI supported learning experiences as an important part of AI literacy. A key point is that knowing about AI and actually using it are two different skills. Training program that combines both without proper distinction often increase awareness but fail to bring real behavioral change.

Barriers to Faculty AI Adoption

Peggy Ertmer (1999) explained that barriers to technology adoption can be of two types. First order barriers are external issues such as lack of hardware, poor internet connectivity, and limited access to tools. Second order barriers are internal factors such as beliefs, attitudes, and concerns about professional identity. Importantly, solving technical problems alone does not automatically change people's attitudes. Helen Crompton and Diane Burke (2023) found that many faculty members feel threatened by AI because they worry that using it may suggest their existing teaching methods are outdated or inadequate. Such concerns require cultural and mindset related support, not just technical training.

Professional learning opportunities and the faculty–Student Gap

Effective professional learning opportunities is continuous, collaborative, and connected to real teaching practice rather than being limited to a one-time workshop (Darling Hammond et al., 2017). The TPACK framework developed by Punya Mishra and Matthew Koehler (2006) explains that teachers need a combination of technological knowledge, teaching skills, and subject knowledge to successfully integrate technology in the classroom. Because of this, short term training program are often not enough. At the same time, a gap is developing between students and faculty in AI usage. Concurrently, a growing competency gap is emerging: students have adopted generative AI tools rapidly while many faculty remain at early stages of engagement (Kasneci et al., 2023), creating a risk of pedagogical credibility loss when this gap becomes visible in the classroom.

RESEARCH METHODOLOGY

This study used a quantitative, descriptive, and analytical cross sectional research design. A purposive sample of 31 faculty members and 40 students from management institutes in Mumbai was selected for the study. Among the respondents, 54.8% were male and 45.2% were female.

Faculty AI readiness was measured using a questionnaire consisting of 21 statements on a five point Likert scale. The questionnaire covered five areas: AI Awareness (4 items), AI Skill (5 items), Attitudinal Alignment (5 items), AI Resource Availability (3 items), and Professional Learning Opportunities (4 items). The questions were based on earlier frameworks and models developed by researchers and organizations such as UNESCO. The reliability scores (Cronbach's alpha) were around 0.801, showing that the questionnaire had acceptable internal consistency.

The collected data were analyzed using IBM SPSS Statistics with statistical techniques such as descriptive statistics, Pearson correlation, multiple regression, one way ANOVA, and K means cluster analysis (k = 3).

FINDINGS

Faculty AI Readiness Profile

Sub Dimension	Mean	SD	Level
AI Awareness	3.09	0.86	Moderate
AI Skill	2.61	1.04	Below Moderate
Attitudinal Alignment	2.89	0.93	Borderline
AI Resource Availability	3.17	0.89	Moderate

Professional Learning Opportunities	2.66	0.97	Below Moderate
Overall Faculty Readiness	2.86	0.97	Below Moderate

Table 1: Faculty AI Readiness

Overall readiness (M = 2.86) falls below the midpoint of 3.00. Awareness (M = 3.09) and AI Resource Availability (M = 3.17) are at or above indicating that faculty are aware of AI tools and have basic physical access to them. However, the critical deficits lie in AI Skill (M = 2.61) and Professional Learning Opportunities (M = 2.66), confirming that the primary problem is a training gap, not an infrastructure gap.

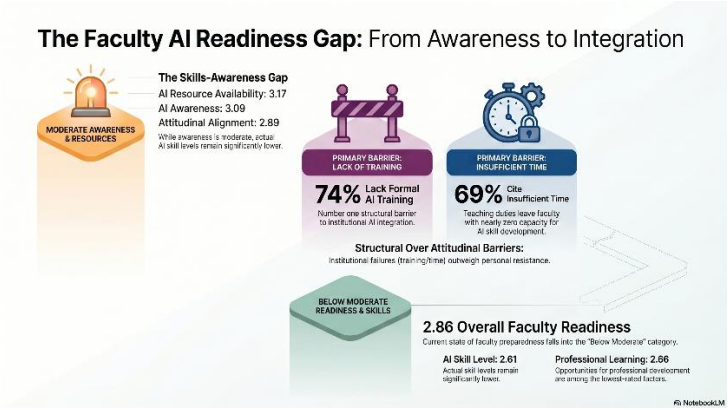

Fig 1 :-Faculty AI Readiness Gap

Cluster Analysis — Readiness Tiers

Cluster	Label	n (%)	Mean Readiness	Profile
1	AI Prepared	7 (22.6%)	3.82	High awareness; regular tool use; positive attitude
2	AI Developing	16 (51.6%)	2.91	Moderate awareness; limited practice; mixed attitude
3	AI Resistant	8 (25.8%)	1.94	Low awareness; avoids tools; negative alignment

Table 2: K Means Cluster Analysis

Most faculty members (51.6%) belong to the AI Developing group, meaning they are aware of AI but are not yet actively using it in their teaching practices. This group has the greatest potential for successful development and intervention initiatives. The smaller AI Prepared group (22.6%) can serve as a valuable peer mentoring resource for other faculty members. In contrast, the AI Resistant group (25.8%) needs attitude and mindset related support before technical skills training can be effective.

Predictors of Faculty AI Readiness

Predictor	β	p value	Significance
Professional learning opportunities	0.338	< 0.001	***
Attitudinal alignment	0.291	0.003	**
AI Resource Availability	0.204	0.032	*
AI Awareness	0.168	0.071	†
Gender	0.039	0.648	n.s.

Table 3: Multiple Regression Results (DV: Faculty AI Readiness; $R^2 = 0.461$, $F(5,25) = 4.28$, $p < 0.001$; n = 31)

The regression analysis shows that 46.1% of the variation in faculty AI readiness can be explained by the factors included in the model. Among these factors, Professional Learning Opportunities (β = 0.338) and positive attitudes toward AI (β = 0.291) have the strongest influence on AI readiness, followed by AI Resource Availability (β = 0.204). Gender was found

to have no significant impact, suggesting that differences in AI readiness are mainly due to experience and organizational support rather than demographic factors.

Faculty–Student Adoption Gap

Group	n	Mean (AI Adoption)	SD	F value	p value	Cohen's d
Faculty	31	2.71	0.91			
Students	40	3.19	0.82	5.44	0.023	0.56

Table 4: One Way ANOVA — AI Adoption Gap by Role (N = 71)

The study found a significant gap in AI adoption between faculty members (M = 2.71) and students (M = 3.19), with students showing higher levels of AI usage and familiarity. The moderate effect size (Cohen's d ≈ 0.56) indicates that this difference is meaningful in practice. This situation, where students are more comfortable with AI than their teachers, may create challenges for teaching effectiveness and reduce faculty credibility in the classroom.

Hypothesis Testing Summary

Hypothesis	Result	Decision
H1: AI Skill → teaching effectiveness	r = 0.428, p = 0.016	Supported
H2: Training access → AI readiness	β = 0.338, p < 0.001	Supported
H3: Resistance to change ↓ readiness	β = 0.291, p = 0.003	Supported
H4: Faculty–student adoption gap	F(1,69) = 5.44, p = 0.023	Supported

Table 5: Summary of Hypothesis Testing

DISCUSSION

The findings provide a clear and practical understanding of the current situation. Faculty AI readiness is still below the level required for regular and effective classroom integration. The main weaknesses are in skills and professional learning opportunities, which are the key factors that help convert AI awareness into actual practice. Institutions that view the overall readiness level as simply moderate may overlook important differences within the faculty. Nearly half of the faculty members are still uncertain about using AI, while about one fourth are resistant to it, and both groups need different types of support and interventions.

The strong influence of Professional Learning Opportunities (β = 0.338) on AI readiness shows that continuous and practical training is more important than simply investing in technology and infrastructure. The almost equal impact of positive attitudes toward AI (β = 0.291) also highlights that providing tools alone is not enough. Faculty members who see AI as a threat to their professional role or worry about misuse by students are unlikely to benefit from only technical workshops. They need supportive discussions and cultural interventions that help them view AI as a tool that can improve teaching rather than replace educators.

The gap between faculty and student AI adoption (Cohen's d ≈ 0.56) is both statistically important and practically serious. Students are becoming more expert in using AI than their faculty in an area that is highly relevant to professional practice. This can weaken faculty authority in the classroom and affect the quality of teaching. Therefore, reducing this gap should be treated as a strategic priority rather than just an operational issue.

CONCLUSION

This study displays that faculty AI readiness in management institutes is still below the level required for effective classroom integration. The findings highlight that access to training and having a positive attitude toward AI are the two most important issues for improving readiness. The study also provides a five dimensional framework to assess faculty AI readiness and introduces a Three Stage Faculty Development Framework to help institutions design effective interventions and support program.

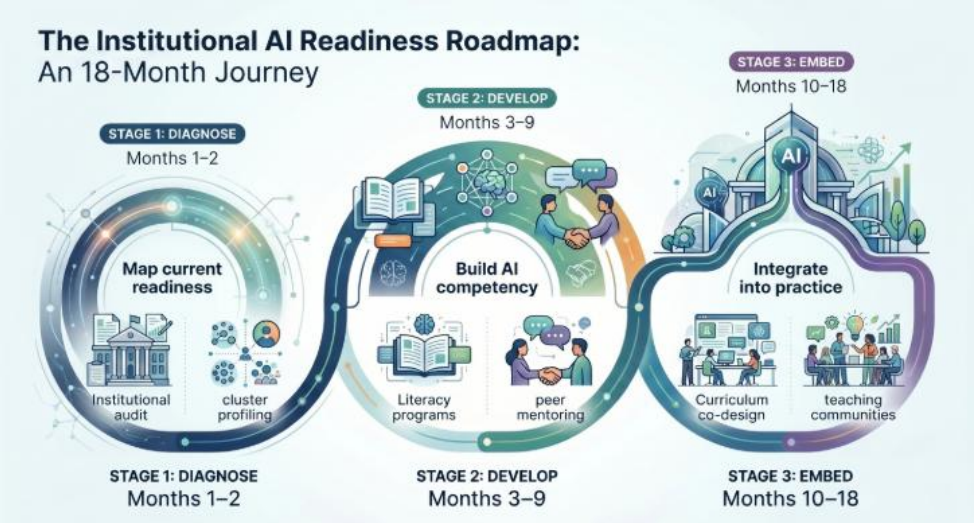

Fig 2: - Institutional AI Readiness Roadmap

Institutions need to follow the right process while improving faculty AI readiness. If they skip the assessment stage, the training provided may not match faculty needs. Similarly, giving training without helping faculty apply AI in actual teaching practices will not bring real change in classroom behavior. Although the readiness gap is significant, it can be improved if institutions treat faculty development as a long-term strategic priority rather than just an occasional activity.

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