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Responsible AI Readiness in Higher Education: A Multilevel Framework Integrating Faculty Capability, Professional Judgement and Institutional Conditions

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ABSTRACT

The increasing use of artificial intelligence (AI) and generative artificial intelligence (GenAI) is reshaping teaching, assessment, curriculum development, research, academic administration and professional learning within higher education. Yet existing approaches to AI literacy, competence, self-efficacy, adoption and ethics remain conceptually dispersed, limiting a coherent understanding of faculty preparedness for responsible AI-mediated professional practice. This paper addresses this gap by conceptualising Responsible AI Readiness (RAIR) as a higher-order professional capability that integrates AI knowledge and competence, self-efficacy, ethical judgement, pedagogical preparedness, human agency, privacy and fairness within enabling institutional conditions. Drawing on a critical integrative review of conceptual, empirical, measurement, policy and competency-framework literature, the paper develops a multilevel architecture comprising seven faculty-level dimensions: AI Knowledge and Literacy, AI Self-Efficacy, Responsible and Ethical AI Awareness, Human Agency and Professional Autonomy, AI Pedagogical Readiness, Data Privacy and Security Awareness and Bias and Fairness Awareness. These capabilities are situated within two contextual conditions- Institutional AI Support and Institutional AI Governance Readiness, thereby connecting individual capability with the organisational environments within which AI-mediated professional decisions occur. The framework advances a measurement-oriented conceptualisation of RAIR as a potentially testable higher-order construct and proposes a pathway towards scale development, psychometric validation, multimethod assessment, measurement invariance and subsequent multilevel modelling. Its principal contribution is to move the discourse beyond AI literacy and technology adoption towards integrated competence, responsible professional judgement and institutionally enabled readiness. The framework further provides an India-contextualised perspective connecting faculty AI capability with responsible innovation, human-capital development and the Viksit Bharat@2047 vision while offering a transferable conceptual basis for research on human-centred and sustainable AI transformation in higher education.

Keywords: Responsible AI readiness; AI literacy; faculty competence; professional judgement; human agency; institutional AI governance

Introduction

Artificial intelligence has entered a new phase in higher education. Rather than remaining primarily a specialised technology used by technically oriented communities, AI and GenAI are increasingly embedded in everyday academic activities, including lesson preparation, content development, assessment, feedback, research assistance, curriculum design, student support, academic administration and professional learning. The expansion of AI in higher education has consequently shifted the central research problem from technological possibility to professional capability: how should faculty members determine when AI is appropriate, how its outputs should be evaluated, what risks should be managed and where human judgement must remain decisive? The educational possibilities are substantial. AI can support content creation, personalised learning, formative feedback, accessibility, research assistance, administrative efficiency and professional learning. At the same time, its adoption introduces concerns relating to hallucinated or inaccurate outputs, algorithmic bias, privacy, academic integrity, intellectual property, transparency, accountability, unequal access and the possible erosion of professional autonomy. These tensions are particularly significant in higher education because faculty members are not merely technology users. They are curriculum designers, assessors, researchers, disciplinary experts, mentors and professional decision-makers. Accordingly, the more consequential question is no longer simply whether faculty are willing to adopt AI. The question is whether they are professionally ready to determine when, why, how and under what conditions AI should be used responsibly. This distinction exposes an important conceptual limitation in the existing literature. AI literacy generally addresses knowledge and understanding; AI competence extends towards application; self-efficacy concerns perceived capability; technology-acceptance research explains adoption intentions and behaviour; and responsible-AI research foregrounds ethical, social and governance considerations. These perspectives are individually valuable but their conceptual separation makes it difficult to explain the broader professional capability required for responsible AI-mediated academic practice. Recent work has begun to move in this direction. Kaur (2026), for example, conceptualises a transition from AI adoption towards responsible AI readiness by placing human-centred faculty capability at the centre of AI-enabled higher education. Complementing this conceptual movement, Kaur and Pundir (2026) develop a higher-order approach to AI-enabled educational readiness with an explicit measurement orientation. The present paper builds on these foundations but advances the argument further by integrating faculty capability, professional judgement and institutional conditions into a single multilevel architecture. The contribution is therefore not simply to rename AI literacy or AI competence but to theorise Responsible AI Readiness (RAIR) as an integrated and contextually situated professional capability.

Responsible AI Readiness is defined here as: The multidimensional professional capability of higher education faculty to understand, critically evaluate, appropriately apply, pedagogically integrate and ethically govern AI-enabled practices while preserving human agency, professional judgement, fairness, privacy, accountability and educational responsibility within institutional contexts. This definition establishes an important conceptual distinction: AI literacy provides foundational knowledge. AI self-efficacy reflects perceived capability. AI competence concerns effective application. AI ethics establishes normative principles. AI adoption describes behaviour or intention. Responsible professional judgement determines appropriate action. Responsible AI Readiness integrates these capabilities within professional and institutional contexts.

The framework is consequently concerned not with the frequency of AI use alone but with the quality, justification, accountability and contextual appropriateness of AI-mediated professional decisions. The

paper addresses five overarching questions:

- How are AI literacy, competence, self-efficacy, adoption and ethics conceptually related?
- Why are these constructs insufficient when treated independently?
- What dimensions constitute Responsible AI Readiness among higher education faculty?
- How can RAIR be conceptualised for rigorous empirical measurement?
- What institutional conditions enable responsible faculty AI practice?

Conceptual Foundations

AI Literacy as the Foundation

AI literacy provides the foundational knowledge required to understand what AI systems are, how they operate at a broad level, what they can and cannot reliably do and what implications their use may have. Long and Magerko (2020) conceptualised AI literacy as a multidimensional construct encompassing not only technical understanding but also critical and societal considerations. Subsequent work has similarly emphasised AI literacy as extending beyond procedural tool use towards evaluation, ethics and social implications (Ng et al., 2021).

For higher education faculty, AI literacy may include understanding AI and GenAI concepts, probabilistic outputs, data dependence, hallucinations, algorithmic limitations, prompt-mediated interaction, appropriate applications and the broader social consequences of AI-mediated decision-making. However, knowledge alone does not establish professional readiness. A faculty member may understand what generative AI is without being able to determine whether an AI-generated assessment item is pedagogically appropriate, whether student data may be uploaded to a particular platform or whether an AI recommendation should be accepted in a high-stakes academic decision. AI literacy is therefore necessary but not sufficient.

AI Competence and Professional Application

AI competence extends beyond knowledge towards the capacity to apply AI appropriately within professional contexts. For faculty, this includes selecting suitable tools, evaluating outputs, designing AI-supported learning activities, integrating AI into assessment, identifying limitations, managing risks and aligning AI use with disciplinary and pedagogical objectives.

The distinction between literacy and competence is therefore important. Literacy addresses understanding; competence concerns effective application. However, competence alone may also remain insufficient if it is detached from ethical judgement, human agency, privacy, fairness and institutional accountability. A technically competent faculty member can still make professionally inappropriate decisions. The conceptual challenge is consequently to identify a construct that integrates competence with judgement and responsibility.

AI Self-Efficacy and the Confidence-Competence Gap

AI self-efficacy concerns an individual's perceived ability to perform AI-related tasks. Self-efficacy may influence experimentation, persistence, technology engagement and professional learning. Yet perceived capability should not be treated as equivalent to demonstrated competence. A highly confident faculty member may overestimate the reliability of AI outputs while a less confident faculty member may demonstrate strong critical evaluation and appropriate restraint. Self-efficacy should therefore be conceptualised as an important component of readiness rather than as a proxy for readiness itself.

AI Adoption and Technology Acceptance

Technology-acceptance models provide valuable explanations of why individuals use technologies. The

Technology Acceptance Model, for example, emphasises perceived usefulness and perceived ease of use as determinants of technology acceptance (Davis, 1989) while UTAUT extends this perspective through constructs such as performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh et al., 2003). These models remain relevant to understanding AI adoption. However, adoption and responsible readiness answer fundamentally different questions.

Technology acceptance asks: Will I use the technology?

Responsible AI Readiness asks: Can I determine whether its use is appropriate, evaluate its consequences, preserve human accountability and act responsibly within my professional context?

Consequently: Adoption ≠ Competence ≠ Responsible AI Readiness.

The distinction is particularly important because increased AI adoption cannot automatically be interpreted as evidence of better educational practice.

Responsible AI and Human-Centred Practice

Responsible-AI perspectives emphasise values such as fairness, transparency, accountability, privacy, human oversight and non-discrimination. In education, these principles acquire additional significance because AI-mediated decisions can affect learning opportunities, assessment, student data, academic integrity and professional autonomy. UNESCO's competency framework for teachers places a human-centred mindset, ethics of AI, AI foundations and applications, AI pedagogy and AI for professional learning at the centre of educator capability development. UNESCO's guidance on generative AI similarly stresses human agency, safeguards, institutional capacity and responsible use.

The present framework builds on this orientation but makes three additional moves. First, it focuses specifically on higher education faculty as professional decision-makers. Second, it conceptualises the relevant capabilities as components of a potentially higher-order readiness construct. Third, it explicitly connects faculty readiness with institutional support and governance.

From Fragmented Constructs to Responsible AI Readiness

The conceptual literature can be understood as moving from individual and relatively discrete capabilities towards increasingly integrated professional readiness.

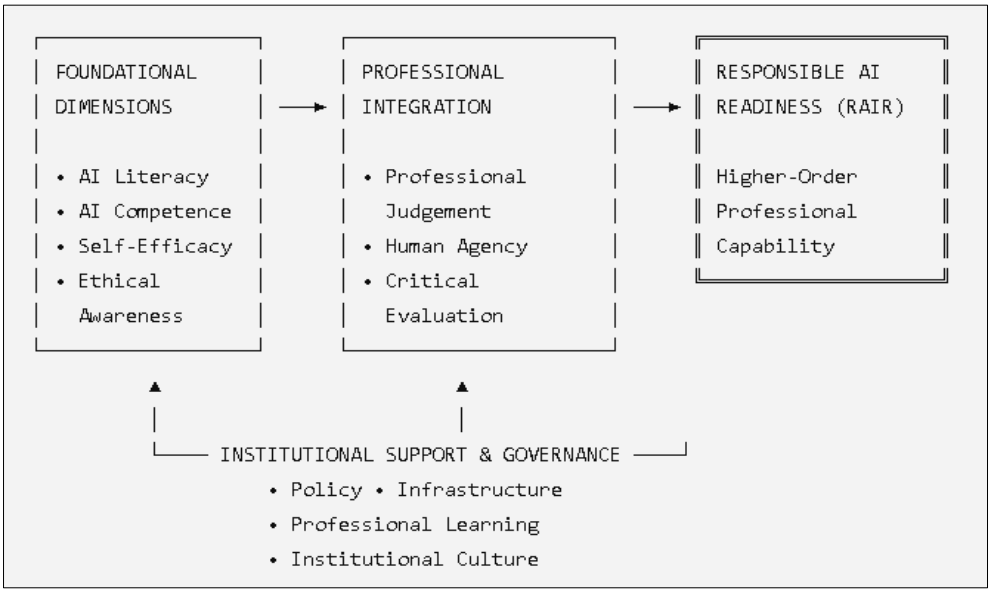

Figure 1. Conceptual architecture of Responsible AI Readiness

The arrows between these domains should not be interpreted as a simple causal sequence. Rather, they represent conceptual integration. The distinctive proposition of RAIR is that professional judgement operates as an integrating mechanism connecting knowledge, perceived capability, applied competence, ethical awareness, pedagogy and responsible practice.

Theoretical Proposition

The present paper proposes that: Responsible AI Readiness is a higher-order professional capability comprising interconnected dimensions of AI knowledge and literacy, AI self-efficacy, responsible and ethical AI awareness, human agency and professional autonomy, AI pedagogical readiness, data privacy and security awareness and bias and fairness awareness, operating within enabling institutional support and governance conditions.

The seven faculty-level dimensions are theoretically informed candidate dimensions rather than predetermined final factors. Their empirical structure requires subsequent validation.

Table 1. Conceptual Distinction Among AI-Related Constructs

Construct	Central question	Primary emphasis	Limitation when isolated
AI literacy	What is AI and what can it do?	Knowledge and understanding	May not demonstrate application
AI self-efficacy	Can I use AI?	Perceived capability	Confidence may exceed competence
AI competence	Can I apply AI appropriately?	Application and evaluation	May underrepresent institutional context
AI adoption	Will I use AI?	Behaviour or intention	Use does not establish responsibility
AI ethics	What should be done?	Values and responsibility	May remain detached from practical capability
Responsible AI Readiness	Can I use and judge AI responsibly?	Integrated professional capability	Requires multidimensional empirical validation

Review Approach

Critical Integrative Review

The paper adopts a critical integrative review rather than presenting itself as a conventional systematic review or meta-analysis. This distinction is important because the purpose is conceptual integration across several bodies of research rather than statistical aggregation of effect sizes.

The review brings together literature concerning:

- AI literacy and AI competence
- educator and faculty professional development
- AI self-efficacy
- technology acceptance and adoption
- responsible and ethical AI
- human agency and professional autonomy
- AI pedagogy
- data privacy and fairness

- educational measurement
- institutional governance

The analytical focus is therefore on conceptual convergence, construct boundaries, theoretical relationships, measurement implications and institutional conditions.
No statistical effect-size aggregation is claimed.

Faculty AI Readiness as a Multidimensional Capability

Existing educator-oriented frameworks increasingly demonstrate that AI capability extends beyond technical knowledge. UNESCO's AI Competency Framework for Teachers, for example, incorporates human-centred orientation, ethics, AI foundations, AI pedagogy and professional learning. The present framework extends this orientation to higher education by adding an explicit distinction between capability and contextual readiness.

Table 2. Proposed Faculty-Level Dimensions of RAIR

Dimension	Core capability	Indicative focus
AI Knowledge and Literacy	Understanding AI systems and limitations	AI concepts, GenAI, hallucinations, limitations
AI Self-Efficacy	Perceived capability	Confidence in professional AI tasks
Responsible and Ethical AI Awareness	Recognition of ethical responsibility	Transparency, accountability, integrity
Human Agency and Professional Autonomy	Preservation of human judgement	Oversight, discretion, accountability
AI Pedagogical Readiness	Educationally meaningful integration	Teaching, curriculum, assessment
Data Privacy and Security Awareness	Responsible data practices	Confidentiality, consent, security
Bias and Fairness Awareness	Recognition and mitigation of inequity	Algorithmic bias, inclusion, fairness

These dimensions should be understood as interrelated rather than interchangeable.

Human Agency and Professional Judgement

Human agency constitutes a central theoretical component of RAIR. AI systems can generate recommendations, content, classifications, predictions, summaries, feedback and other forms of output. Yet educational decisions remain embedded in disciplinary, pedagogical, ethical, institutional and relational contexts. Faculty therefore require the capacity to:

- question AI outputs
- identify inappropriate automation
- override AI recommendations
- retain accountability for decisions
- explain the basis of professional decisions
- preserve academic autonomy
- recognise when human intervention is essential

This emphasis is consistent with human-centred approaches to AI in education and with UNESCO's emphasis on agency and responsible professional practice. The present framework translates these principles into a potentially measurable faculty-level capability.

Institutional Conditions of Responsible AI Readiness

A central proposition of this framework is that faculty capability should not be interpreted independently of institutional context.

Institutional AI Support

Institutional support may include:

- professional development
- technical assistance
- access to approved AI systems
- communities of practice
- appropriate infrastructure
- leadership support
- consultation mechanisms
- protected time for professional learning

Institutional AI Governance Readiness

Governance readiness concerns the extent to which institutions possess mechanisms for responsible AI deployment, including:

- acceptable-use policies
- privacy and data-protection standards
- transparency requirements
- AI-aware assessment guidance
- accountability structures
- ethical review
- bias-monitoring mechanisms
- procurement standards
- faculty support and escalation procedures

Recent India-focused work similarly highlights the importance of institutional governance, faculty readiness, human agency and policy alignment in responsible AI adoption in higher education (Kaur, 2026). Thus, capable individuals require accomplished institutional environments. A faculty member may possess strong AI competence yet remain unable to practise responsibly when policies are unclear, approved tools are unavailable, privacy procedures are inadequate or professional development is insufficient.

A Multilevel Architecture of Responsible AI Readiness

Macro and policy environment

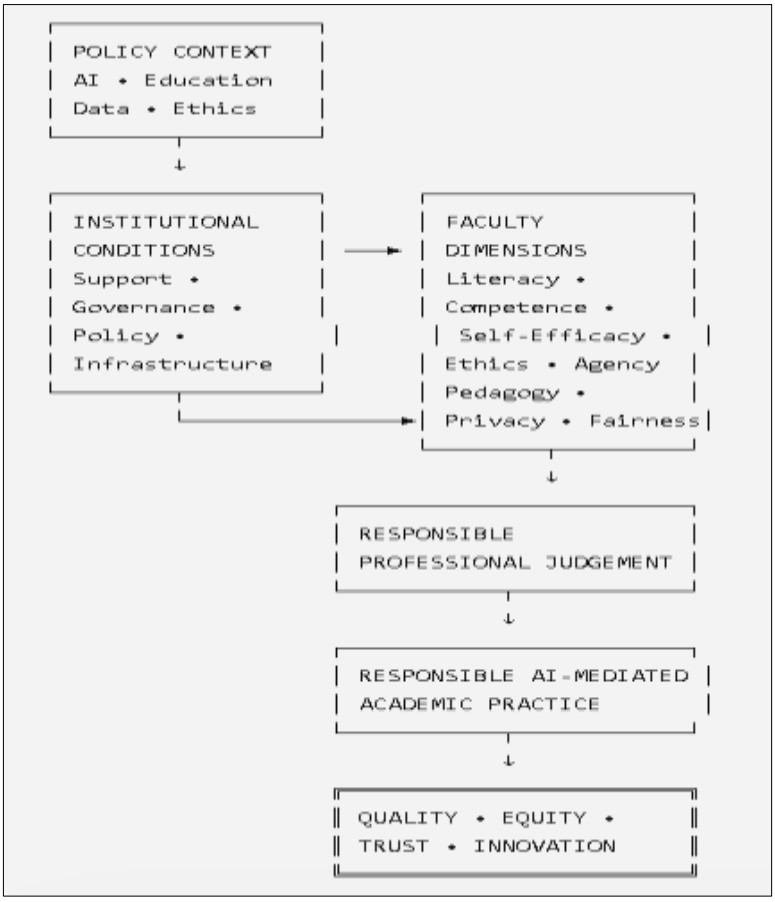

Figure 2. Multilevel RAIR Architecture

This architecture does not imply that institutional conditions cause RAIR in a simple linear manner. Rather, it conceptualises readiness as embedded within an enabling organisational environment.

Responsible AI Readiness as a Measurement Construct

A major implication of the framework is that RAIR should eventually be examined as a measurable construct rather than remaining solely a conceptual label. Kaur and Pundir (2026) provide a particularly relevant methodological foundation by conceptualising AI-enabled educational readiness through a higher-order measurement architecture and institutional indexing. Building on that measurement orientation, the present paper proposes that RAIR should ultimately be examined through multiple forms of evidence.

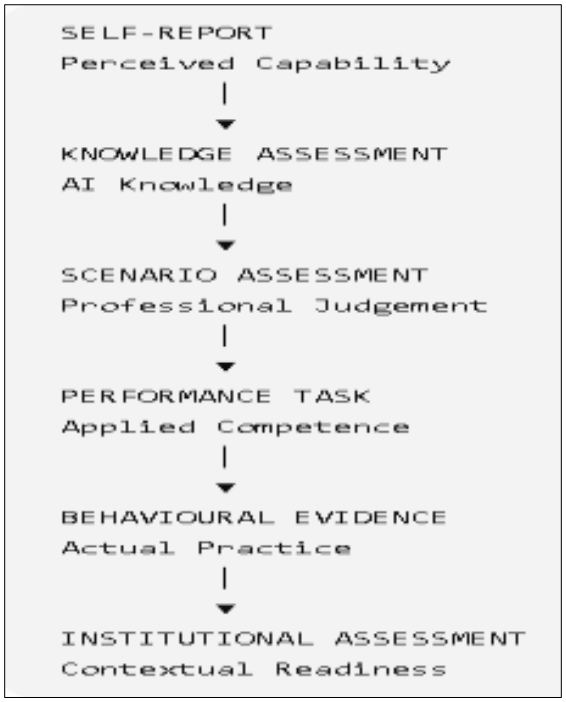

Figure 3. Multimethod Measurement Architecture

Self-report remains useful for assessing attitudes, perceptions, confidence and intentions. However, it should not be treated as sufficient evidence of demonstrated responsible competence. A faculty member may report high readiness while failing to recognise an AI hallucination or privacy violation in a realistic scenario.

Consequently, future RAIR research should progressively move from perceived readiness towards demonstrated capability.

Responsible AI Readiness and AI Adoption

The distinction between adoption and readiness is central to the framework.

Consider a faculty member who uses GenAI frequently for lesson planning, assessment, feedback or research writing. Frequency of use does not establish whether the faculty member:

- verifies AI-generated claims;
- protects confidential information;
- identifies bias;
- discloses AI use appropriately;
- protects academic integrity;
- retains meaningful human oversight;
- evaluates pedagogical consequences.

The framework therefore defines readiness in terms of responsible professional decision quality, rather than frequency of technology use.

This distinction also creates a theoretical bridge between technology-acceptance research and responsible-AI research. Adoption models explain why individuals may use technology; RAIR addresses whether that use is professionally justified and responsibly governed.

Developmental Dimensions of RAIR

Responsible AI readiness is unlikely to emerge fully formed. It is more appropriately understood as developmental.

Table 3. Developmental Levels of Responsible AI Readiness

Level	Core characteristic	Developmental emphasis
Awareness	Recognises AI opportunities and risks	Foundational understanding
Functional capability	Uses common AI tools appropriately	Guided application
Critical capability	Evaluates AI outputs and limitations	Critical judgement
Responsible pedagogical practice	Integrates AI with educational purpose	Pedagogical and ethical integration
Institutional leadership	Contributes to governance and transformation	Leadership and institutional capability

This developmental perspective has practical implications for faculty development. Professional learning should not assume that every faculty member requires identical training.

Higher Education as a Distinct Professional Context

Higher education requires a specific conceptualisation of AI readiness because faculty members have responsibilities that extend beyond technology use.

They are responsible for:

- curriculum design;
- assessment;
- disciplinary knowledge;
- research;
- student development;
- academic integrity;
- professional learning;
- institutional decision-making

Consequently, the critical question is not: Can AI perform this task?

but: Should AI perform this task, to what extent, under what conditions and with what degree of human oversight?

This distinction moves the framework from automation-centred adoption towards human-centred professional practice.

India-Contextualised Significance

The Indian higher education context provides a particularly important setting for examining responsible AI readiness. National education policy increasingly emphasises technology-enabled learning, multidisciplinary education, professional development, innovation, inclusion and the integration of Indian knowledge traditions with contemporary educational approaches.

Kaur (2026) situates AI transformation in Indian teacher education within the broader objectives of NEP 2020 and Indian Knowledge Systems, highlighting the importance of faculty capacity, infrastructure, policy support and contextualised implementation. This provides an important national context for the present framework, although RAIR is conceptually broader than teacher education and is designed specifically for higher education faculty.

The relevance to Viksit Bharat@2047 should therefore be understood through human-capital development rather than through technological adoption alone.

The proposed policy logic is:

AI infrastructure → faculty capability → responsible educational practice → AI-ready graduates → human capital → knowledge economy

This is a policy-oriented conceptual pathway, not an empirically established causal chain.

Implications for Faculty Development

The framework provides a basis for moving faculty development beyond generic AI workshops towards competency-based professional learning.

Table 4. Competency-Based Faculty Development

Identified readiness gap	Potential intervention
Limited AI literacy	AI foundations and critical AI literacy
Low self-efficacy	Guided practice and mentoring
Ethical uncertainty	Responsible AI case-based learning
Weak critical evaluation	AI-output verification exercises
Pedagogical gaps	AI-integrated instructional design
Privacy concerns	Data protection and security training
Bias concerns	Fairness and bias scenarios
Governance uncertainty	Institutional AI policy orientation

This changes the institutional question from: How many faculty attended AI training?
to: What measurable capabilities improved as a result of professional development?
That shift has important implications for evidence-based faculty development.

Institutional Governance and Faculty–Institution Alignment

Responsible AI cannot be achieved solely through individual competence.

Table 5. Institutional Governance Domains

Governance domain	Institutional responsibility
Policy	Define acceptable AI use
Privacy	Protect personal and academic data
Transparency	Encourage appropriate disclosure
Assessment	Develop AI-aware assessment practices
Equity	Monitor unequal effects
Bias	Establish review mechanisms

Accountability	Define human responsibility
Professional development	Provide continuous capability building
Infrastructure	Provide secure and appropriate tools
Monitoring	Review emerging AI risks

The framework therefore proposes faculty–institution alignment as a central condition of responsible AI transformation.

Theoretical Contribution

The framework advances three principal theoretical contributions:

1. **Construct integration** It integrates several established but partially disconnected constructs- AI literacy, AI competence, AI self-efficacy, ethical awareness, human agency and pedagogical readiness without treating them as interchangeable.
2. **Professionalisation of AI readiness** It reframes faculty from technology users to professional decision-makers whose AI-mediated decisions must remain accountable to educational, disciplinary, ethical and institutional standards.
3. **Multilevel contextualisation** It places individual capability within institutional support and governance conditions, thereby moving beyond exclusively individual-level models of AI readiness.

Thus, Responsible AI Readiness is conceptualised as an integrated professional capability emerging from the interaction of faculty capabilities, responsible professional judgement and institutional enabling conditions.

Measurement and Empirical Research Agenda

The proposed framework is intentionally designed to lead towards empirical research.

Table 6. Proposed Validation Roadmap

Research stage	**Principal objective**
Construct specification	Define domains and construct boundaries
Item generation	Develop indicators for candidate dimensions
Expert review	Establish conceptual and content relevance
Cognitive pretesting	Examine interpretation and clarity
Pilot study	Assess preliminary psychometric properties
Exploratory analysis	Examine dimensional structure where justified
Confirmatory analysis	Test competing measurement models
Reliability and validity	Establish measurement quality
Higher-order modelling	Examine RAIR as an integrated construct
Measurement invariance	Assess comparability across relevant groups
Scenario-based validation	Test professional judgement
Performance validation	Examine demonstrated competence
Longitudinal research	Examine developmental change

This research agenda is consistent with a measurement-oriented conceptualisation of AI readiness and extends it by incorporating scenario-based and performance-based evidence.

Future Research Priorities

Several questions follow directly from the framework:

1. Empirical studies should establish whether the proposed dimensions form a coherent higher-order construct or whether alternative structural models provide better representation.
2. Future research should investigate whether perceived RAIR corresponds with demonstrated competence.
3. Institutional support and governance should be examined as contextual variables rather than treated as background conditions.
4. Measurement invariance should be investigated across faculty disciplines, career stages, institutional types and relevant national or cultural contexts.
5. Longitudinal studies should examine whether responsible AI readiness develops through professional learning and experience.

Finally, intervention studies should determine which forms of faculty development produce meaningful improvements in responsible AI capability.

Positioning the Present Framework in Relation to Existing Research

Table 7. Positioning RAIR within the Existing Literature

Research tradition	Established contribution	Unresolved issue	Contribution of RAIR
AI literacy	Foundational knowledge	May remain knowledge-centred	Literacy becomes one component
AI competence	Applied capability	Limited integration of governance	Embedded in broader readiness
AI self-efficacy	Perceived capability	Does not establish actual competence	Treated as a component
Technology acceptance	Explains adoption	Adoption does not establish responsibility	Explicit conceptual separation
AI ethics	Normative principles	May be separated from practical capability	Integrated with professional action
Educator AI frameworks	Define competency domains	Often framework-oriented	Higher-order and measurement-oriented architecture
Institutional governance	Establishes organisational safeguards	Often disconnected from faculty capability	Faculty–institution alignment
Present RAIR framework	Integrates capability, judgement and context	Requires empirical validation	Theory-generating and testable model

Practical Implications

The framework can support universities and policymakers in developing:

- faculty AI competency standards;
- readiness assessment instruments;
- professional-development pathways;
- AI-aware assessment policies;

- privacy and security guidance;
- responsible-AI checklists;
- institutional readiness audits;
- competency-gap dashboards;
- governance and accountability mechanisms.

For institutions, the framework suggests a move away from technology procurement as the primary indicator of AI preparedness. Institutional readiness should instead be considered through the alignment of people, pedagogy, policy, infrastructure, governance and evidence of responsible practice.

Implications for Students and Educational Quality

Faculty AI readiness has an important upstream role because students learn not only through formal curricula but also through the professional practices modelled by educators. Faculty who demonstrates critical evaluation, transparent AI use, ethical reasoning, human oversight and responsible data practices can help students develop comparable capabilities.

Accordingly, RAIR may have an indirect educational pathway:

Responsible faculty practice → responsible teaching → critically capable students → responsible future professionals

The framework also proposes a broader understanding of AI-enabled educational quality. AI adoption should not be evaluated solely in terms of efficiency, automation or cost reduction. It should also be examined through:

- pedagogical value
- accuracy
- fairness
- inclusion
- transparency
- privacy
- human agency
- accountability

Responsible AI Readiness therefore provides a human-centred quality dimension for AI-enabled higher education.

Equity, Inclusion and Responsible AI

AI systems may reproduce or amplify inequalities through biased data, unequal access, linguistic limitations, inaccessible interfaces or inappropriate assumptions. This concern is particularly significant in diverse higher education environments characterised by socioeconomic variation, linguistic plurality, unequal digital access and differing accessibility needs. Faculty capability in bias and fairness is therefore not an optional ethical addition. It is an important component of educational responsibility. Responsible AI readiness consequently connects technological competence with educational equity.

Global Relevance

Although the framework is contextualised partly through the Indian higher education environment, its conceptual logic is transferable. Five propositions underpin this wider relevance.

- **From literacy to professional readiness**

The development of AI literacy represents an important foundation but responsible professional practice requires capabilities beyond knowledge.

- **From individual capability to institutional alignment**

Faculty cannot practise responsibly when institutional support, policy, infrastructure or governance mechanisms are inadequate.

- **From self-report to demonstrated capability**

Future research should combine perceived readiness with knowledge, scenario-based judgement, performance and behavioural evidence.

- **From adoption to responsibility**

Greater AI adoption should not automatically be interpreted as better educational integration.

- **From technology-centred to human-centred transformation**

The ultimate objective is not to maximise AI use but to ensure that AI remains subordinate to educational purpose, professional judgement, human agency and public responsibility.

Limitations

This paper is a critical integrative conceptual review rather than a statistically exhaustive systematic review or meta-analysis. The seven proposed faculty dimensions are theoretically informed candidate dimensions requiring empirical validation. Their relationships, factor structure and higher-order organisation should not be interpreted as established empirical findings. Similarly, the proposed relationships between institutional support, institutional governance and faculty readiness are conceptual rather than causal. The rapidly evolving nature of AI also means that specific competencies may change as technologies, regulations, institutional practices and professional expectations develop.

Future research should therefore combine psychometric, scenario-based, performance-based, longitudinal and cross-contextual approaches.

Conclusion

The rapid integration of AI and GenAI into higher education has created a fundamental professional challenge. Universities must prepare faculty not simply to use AI but to exercise informed and responsible judgement about when AI should be used, how it should be evaluated, what risks it introduces and where human responsibility must remain decisive. Existing research has made important contributions through the study of AI literacy, AI competence, self-efficacy, technology adoption, ethics and educator competency. However, these perspectives have frequently remained conceptually separated. Such fragmentation makes it difficult to establish a coherent account of what genuine faculty AI readiness entails.

This paper addresses that gap through the concept of Responsible AI Readiness. RAIR conceptualises faculty readiness as a higher-order professional capability integrating AI knowledge and literacy, self-efficacy, applied competence, ethical awareness, human agency, pedagogical capability, privacy and fairness within enabling institutional conditions. The principal conceptual shift is therefore: From AI literacy to AI competence; from competence to responsible professional judgement; and from individual capability to faculty–institutional readiness. The framework also challenges the assumption that AI adoption is sufficient evidence of preparedness. Responsible readiness concerns whether faculty can determine when AI should be used, how it should be used, what risks must be addressed, what human

judgement must be retained and how AI-mediated practice can remain educationally meaningful and ethically accountable.

For India, the framework has particular relevance because responsible AI transformation must be connected to human-capital development, professional learning, institutional capability and the broader objectives associated with NEP 2020 and Viksit Bharat@2047. AI infrastructure alone cannot produce an AI-ready knowledge economy. Human capability and institutional capacity are equally consequential. At the global level, the framework complements emerging AI competency approaches by adding stronger emphasis on higher education, professional judgement, institutional governance, measurement and contextual readiness.

The central proposition is therefore straightforward: Responsible AI transformation in higher education requires responsible professionals, capable institutions and measurable readiness. Responsible AI Readiness is consequently proposed not as a replacement term for AI literacy but as a broader conceptual architecture through which higher education can move from AI adoption towards responsible, human-centred, professionally accountable AI-enabled transformation.

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