Minnesota Journal of Business Law and Entrepreneurship

Volume 2026, No. 2

ISSN: 1540-3270

The Illusion of Competence: The Study of Cognitive Offloading in AI-Augmented Management Education

[1]Prof. Usha Kukreja, [2]Prof. Soumya Subhash Kutty, [3]Prof. Ritu Lund

[1]Lala Lajpatrai Institute Of Management

[2]St Andrews College of Arts, Science and Commerce
[3]S.D.T Kalani college of commerce and science

Abstract

There is a prominent shift in how management education students approach analytical tasks of solving complex business problems, market research interpretations, evaluating operational efficiency or case study analysis due to the rapid integration of generative Artificial Intelligence (Gen Ai) in higher education. However, this convenience has given rise to a new phenomenon called "market–ready atrophy" which shows the widening gap between students' perceived competence and their actual ability to solve problems without the help of algorithms. The study investigates "illusion of competence" by anchoring cognitive load theory and UTAUT2 (unified theory of acceptance and use of technology). Using a multi-phase research design, including a survey of 100 MBA students and a controlled experiment, the research explores how AI impacts critical thinking capabilities. And the study builds up a framework that ensures AI integration without the replacement of human judgment capabilities.

Keywords: Generative AI, Management Education, Market-ready atrophy, Cognitive offloading, Human capital, UTAUT2

1. Introduction

The global business landscape is going through a major technology disruption. The rise of artificial intelligence (AI) has transformed the operational and strategic landscape across all industries, from marketing to finance to healthcare and media. We can experience AI doing everything right from creating content, engaging customers, helping those make informed decisions and everything we could not think of, so AI will do it. The education industry is no longer an exception – from preparing assignments, drafting emails, analysing critical case studies and writing reports, as highlighted by (Chatterjee, 2026; Reyes et al., 2025). This phenomenon is popularly known as "cognitive offloading", where we tend to outsource our work of critical thinking, analysis, synthesis and evaluation to algorithms. If we take a closer look, this seems like a double-edged sword, which is giving us the "illusion of competence" as well as showing promising concerns about industry readiness from tomorrow's leaders failing to solve a nonlinear business problem where their AI friends fail or hallucinate. They are emerging leaders who are "super-par" with tools but doubtful at corporate high stakes. The recent global discourse on artificial intelligence at "AI Summit 2026" was not about the digital divide but about the coming cognitive dependency. If we go by stats, India stands at a very critical intersection, with 958 million active internet users experiencing an unexpected surge in connectivity and technology at the same time. India possesses the world's second-largest higher education system, with over 43.3 million students, making it obvious for universities to lean towards technological openings.

2. Scope and significance:

This research acts as a road map for those B schools in India that are currently struggling to keep up with the rise of AI. There are many institutes that have embraced technology, but there is no guidance on how to teach it. This study provides a literal plan for AI literacy training and faculty development as a guide for this new landscape. This study helps redesign assessment techniques and learning habits to reward critical judgment and originality.

While industries are rejecting graduates due to there over dependency on AI, this study signifies the value of a management degree. This paper gives the human-centred lens necessary to protect human capital. It explores how we can sharpen leadership skills and emotional intelligence, which AI cannot possess. It ensures the future as the tools get smarter, so do the people.

3. Literature Review:

The Growth of AI in Indian Education

Recent discourse on Springer (2025) and EY (2024) highlights that tools like virtual classroom and cloud tech are making learning more interactive, backed by the fact that 86% of Indian students are already using AI. However, the gap between students using these tools and teachers being ready to teach them is still a concern.

Personalised learning accessibility

Authors like Mustafa et al. (2024) and Pasupuleti et al. (2026) highlight how AI acts as a catalyst to personalised learning as per students' needs, helping to bridge the gap between rural and urban education in India.

The cognitive paradox deep v/s surface offload

Recent findings from shi et al. (2026) and sun et al. (2025) shows that the impact of digital tools on learning is not binary, There are surface level offloading (procedural task like formatting) and deep offloading (outsourcing conceptual reasoning). Gerlich (2025) argues that deep cognitive offloading leads to the decline in learning capacity of an individual.

The impact on thinking and skills

There is a continuous debate about whether AI helps or hurts the brain. Scholars like Chatterjee (2025) feel AI can actually improve critical thinking, whereas scholars like Alordiah (2023) don’t feel the same way, warning that too much AI can reduce the human capability to think for themselves

Student well-being and mental health

A new field of inquiry is emerging on how AI can help reduce stress among students. As rightly said by Klimova and Pikhart (2025), AI leads to “digital fatigue” Interestingly, researchers at BITS Pilani are developing an AI framework to monitor stress at an initial level.

Human Capital and Automation Bias in B- schools:

While AI can personalized learning in management education it also bypasses the productive struggle necessary to build leadership Frontiers in AI (2023). This also leads to the lack of source verification and directly correlated to recent industry reports of firms rejecting people due to their intellectual dependence on AI Ododo et al. (2024) and Kim et al. (2025)

Institutional quality and student satisfaction

Sebopelo et al. (2025) observe that students feel more satisfied when we integrate education with AI, yet researchers like Jin et al., (2024) argue that we are still not ready for ethical AI in higher education, lacking a policy framework.

Ambitions v/s Human Capital

However, with the advent of the India AI Impact Summit 2026, the country was seen adopting a new direction towards “Sovereign AI,” but at the same time, revealed a serious problem related to "Human Capital." In this paper, the author tries to highlight another kind of recession in the mental capabilities of the management graduates, which is known as "Market-Ready Atrophy."

4. Research gap

While India is moving fast toward a future of AI, there are a few problem areas that current research is missing. While the tools like virtual classrooms and personalized AI are making education more accessible, a strange contradiction is seen: students are more satisfied than ever, yet they are becoming less employable. Most studies focus on the positive sides of AI tech, but they ignore the fact that we have no clear rules or policies on how to use it safely in the classroom. This has created a "thinking gap." By letting AI handle the heavy lifting of conceptual reasoning. This is called as deep offloading—students are skipping the "productive struggle" that actually builds leadership skills. We are essentially witnessing a new kind of "Market-Ready Atrophy," where graduates are tech-savvy but lack the mental stamina to solve problems on their own. There is currently no framework that shows us how to use AI as a tool without letting it replace human intelligence, and this paper aims to fill that gap.

5. Theoretical framework

Human capital theory

Human capital theory by Gary Becker and Theodore Schultz forms the basis of mostly all the work done in the field of economics of education. This theory helps to understand the insights on the topics as diverse as discrimination, inequality, unemployment, fertility, marriage markets, immigration, and productivity. This theory shows individuals and organisations invest in education, on the job training, health, and skill development to enhance productivity. Similar to the physical capital used to yield higher profits for firms.

Application in this paper: according to HTC the value of is not just the certificate but the skills and knowledge that makes person valuable in labour market. We are using HTC to evaluate the impact factor. This theory links the classroom readiness to industry reality, if the cognitive infrastructure fails, the market value of graduate's collapses and recruitment rejections can be observed.

Cognitive load theory

Cognitive load theory by John Sweller, refers to the framework aimed at improving teaching and learning as it explains the limitations of working memory particularly in relation to cognitive load experienced during performing task. Learning is most effective when the load placed on working memory is placed efficiently. Emphasizes the importance of organizing information into smaller operations to reduce cognitive overload and enhance task performance. It categorize memory efforts to three types: Intrinsic load (internal difficulty in subject matter), extraneous load (unnecessary demand on working capital due to poor instructions), germane load mental efforts put to construct schema i.e. learning). The goal of the theory is to minimize extraneous load and manage intrinsic load so that the brain can maximize germane load, effectively moving information from temporary processing into permanent storage.

Application in this paper: this is the heart of the market ready atrophy concept where students by extensively using AI are bypassing the germane load which is actually require to learn the concept. Here CLT explains how the brain muscles of logic stop working because it is no longer being exposed by real problems.

Unified theory of acceptance and use of technology (UTAUT2): this theory considered the most suitable theory for understanding the motivations for adopting new technologies, and its main components are: Performance expectancy (it enhances my efficiency), Effort expectancy (it is easy to use) and Habit.

Application in This Paper: The UTAUT2 framework will be used to explain why the "Barrier to Entry" problem exists. Because the Effort Expectancy is zero and Habit is high in terms of GenAI technology, students adopt it faster than teachers can limit its usage.

6. Research objectives

RO1. To quantify the level of generative AI reliance among students in higher education across all domains.

RO2. To evaluate the gap between students' self-perceived skills and their actual ability to solve unstructured real problems without algorithmic assistance.

RO3. To explore the psychological and emotional issues arising from using humanlike AI tools.

RO4. To compare how the industry views the workplace readiness of Ai first graduates versus traditional management graduates.

RO5. To develop a framework for ethical AI integration in management education.

7. Research Questions

RQ1. To what extent does the use of generative AI reduce critical thinking and situational judgment?

RQ2. How does the illusion of competence affect students moving from an AI-Augmented environment to solving real business problems on their own?

RQ3. What are the psychological and emotional implications of delegating interpersonal and creative tasks to AI?

RQ4. How do industry perceive the readiness of graduates with cognitive offloading?

RQ5. How can higher education institutes ensure that AI help students become ethical managers?

8. Research Methodology

Research design: This study uses the mixed method approach to investigate the impact of generative AI on job readiness. Based on the themes found in literature review a structured survey is designed to figure out the difference between using AI for simple task V/s using it for deep critical analysis. The Quantitative parts uses 1 to 5 likart scale (1 being "Strongly Agree" and 5 being "Strongly Disagree"). To add depth, the qualitative part includes open-ended questions and interviews with experts to understand the human side of the "Market-Ready Atrophy" problem. The study uses **convenience sampling** to reach management students and recent B-school graduates, as they are the primary users of AI in education.

Data collection: The survey was created online and shared with 100 respondents via LinkedIn, WhatsApp, and email to reach a target group of young professionals and students. Along with the survey a semi structured interview was taken with industry leaders to identify the missing skills in new hires.

Data analysis and interpretation:

To keep the findings useful for building a new framework, the analysis is done in two simple phases:

Quantitative Analysis: Microsoft Excel was used to calculate the basic frequencies and averages. This helps to find clear patterns, such as how many students feel they can no longer solve problems without a chatbot.

Qualitative Analysis: For the interview answers and open-ended survey comments, thematic analysis was used. This just means recurring "themes" or common complaints, such as a lack of original logic or a failure to verify facts were seen.

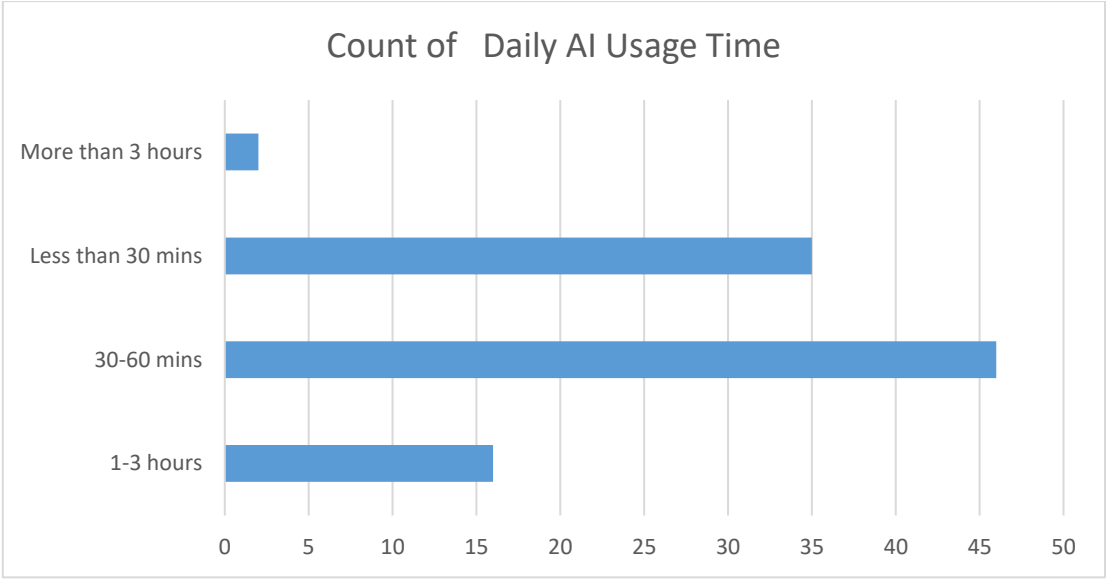
By avoiding overly complicated statistics, this method gives us a direct and meaningful way to understand the impact of AI. The goal is to use these insights to build a roadmap that helps colleges teach AI skills while still protecting the students' ability to think for themselves.

Minnesota Journal of Business Law and Entrepreneurship

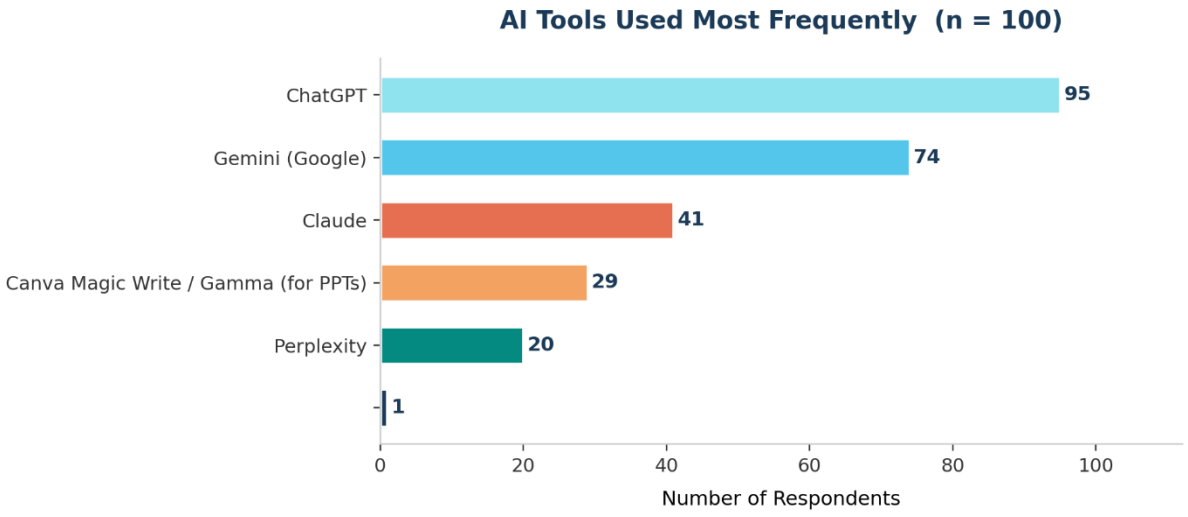
Volume 2026, No. 2

ISSN: 1540-3270

9. Data analysis



The data revale that 47% of respondents engage with generative Ai for 30 to 60 mins daily, while 35% report usage of less than 30 mins. A notable 16% use Ai for one to three hours each day. Collectively, approx. 65% of sample interact with Ai for at least 30 minutes every day. This shows that the Ai engagement has transitioned from occastional to habitual behaviour.

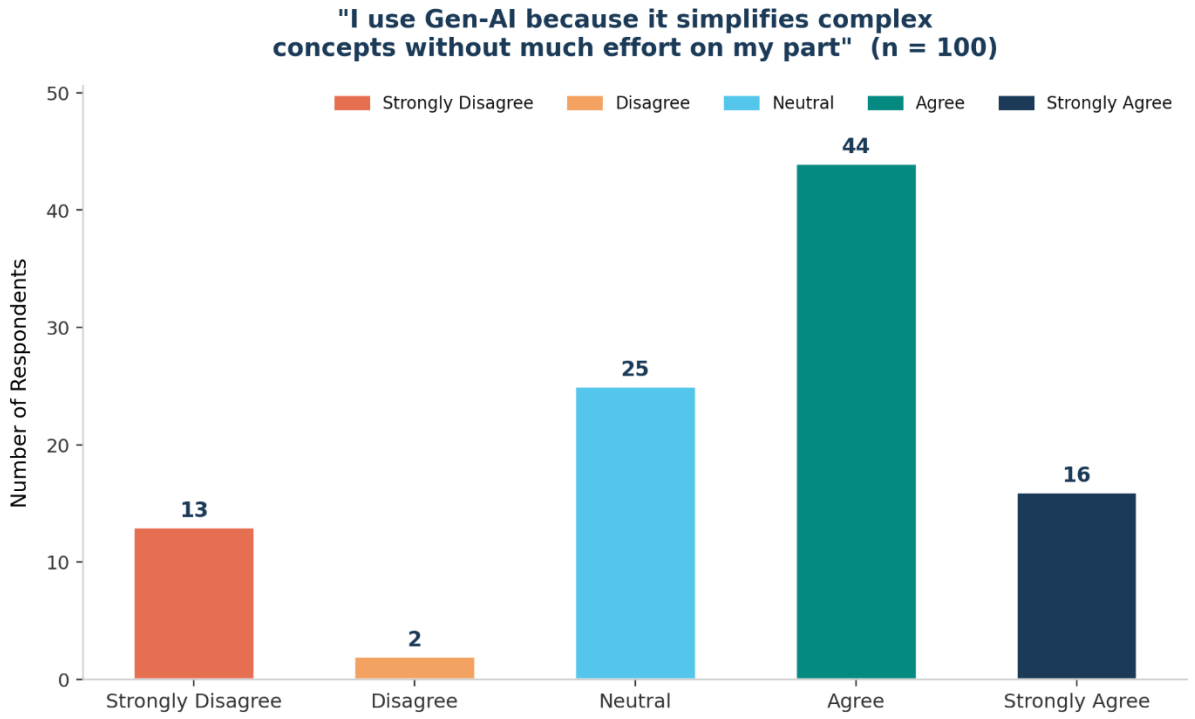


ChatGPT dominates across virtually all tools combinations, with Gemini and claude serving as secondary platforms. The concurrent use of multiple tools indicates that students have developed diversifies Ai strategy , this is a sophistication which itself is signalling deep reliance.

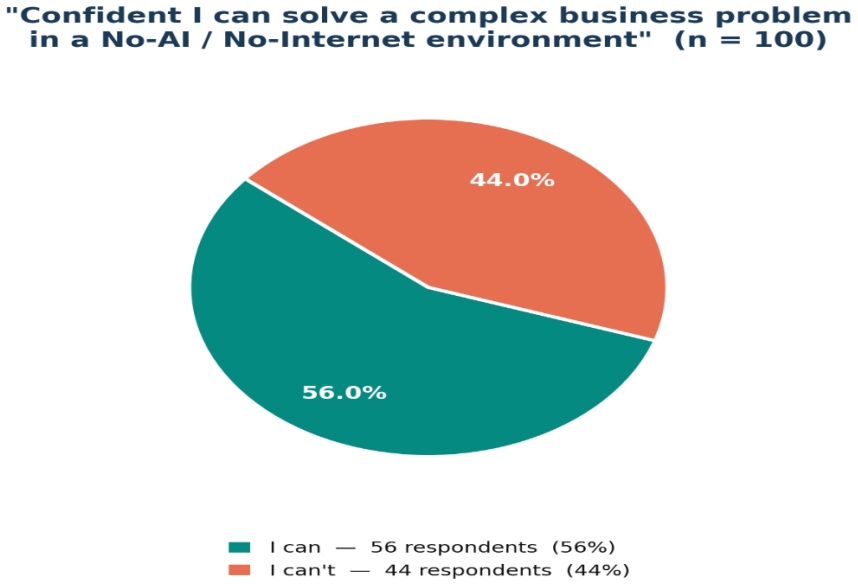
Minnesota Journal of Business Law and Entrepreneurship

Volume 2026, No. 2

ISSN: 1540-3270



60% of respondents agreed or strongly agreed that Ai simplifies concepts without requiring significant personal efoorts. This positions cognitive offloading over enhanced understanding as the primary motivation to use Ai, this implies the quality of learning.

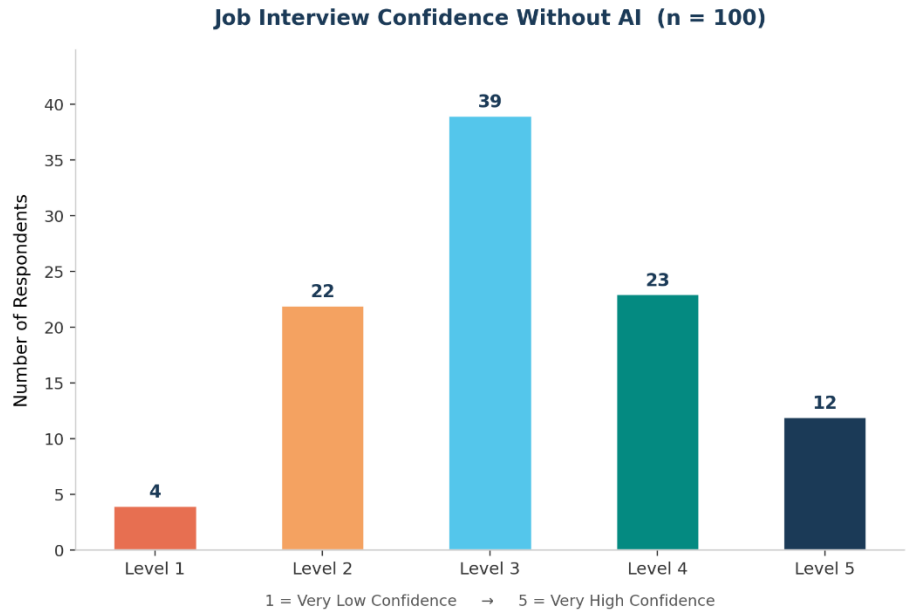


While 56% expressed confidence in solving problems without Ai, 44% acknoledgw they could not. This near even split indicates that a susitantianal minority perceives their problem efficacy as contingent upon Ai availability.

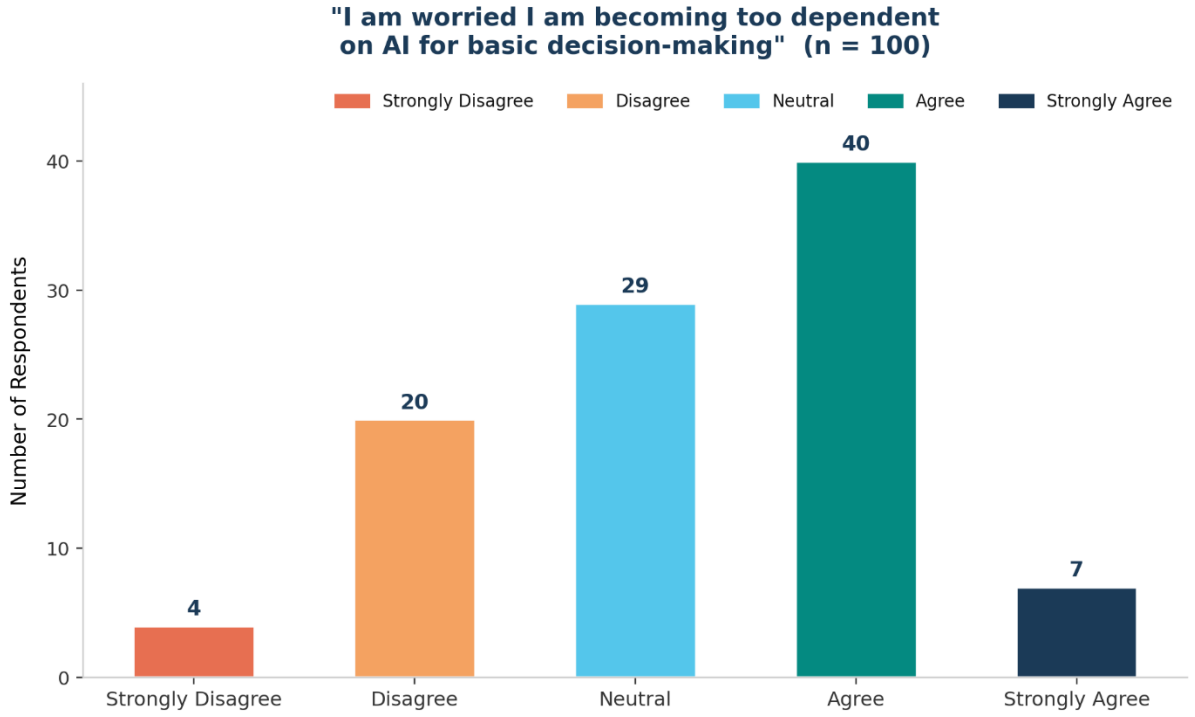
Minnesota Journal of Business Law and Entrepreneurship

Volume 2026, No. 2

ISSN: 1540-3270



The modeal responses in Level 3 (39%) with only 12% at Level 5 and 26% at Level 1-2. Nearly two-thirds of the sample cannot confidently anticipate performing without Ai under professional evaluation this is indicating towards increasing skill gap.

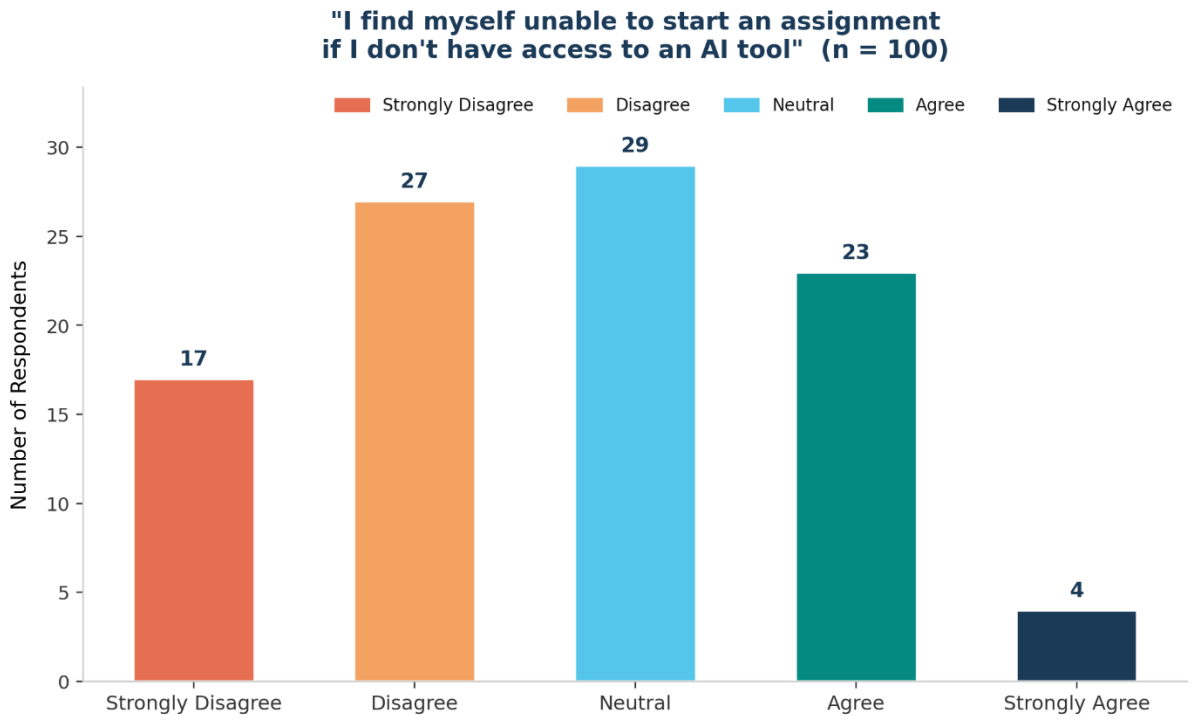


47% of respondents agreed that they worry about becoming dependent on Ai for decision making. The co-existence of awareness and continued usage estabilished models of technology use, where metacognition recognition alone done not produce behavioural change in structural interventions.

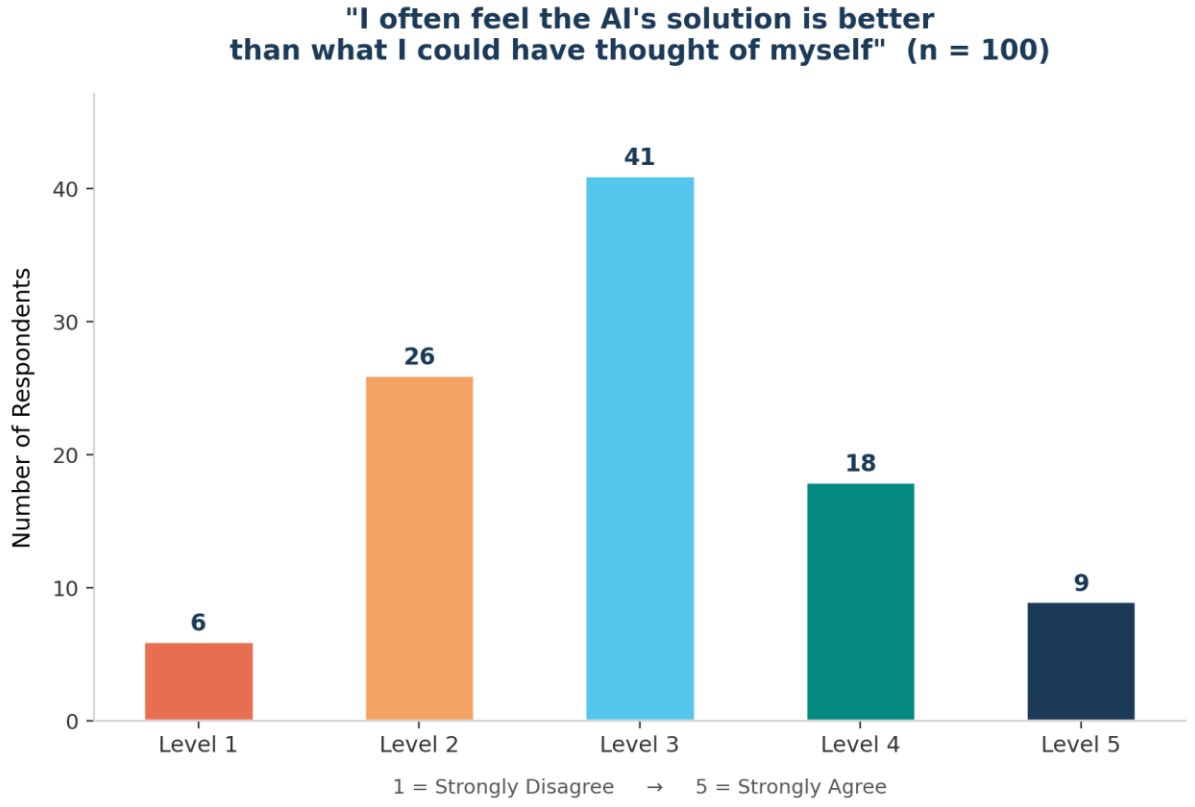
Minnesota Journal of Business Law and Entrepreneurship

Volume 2026, No. 2

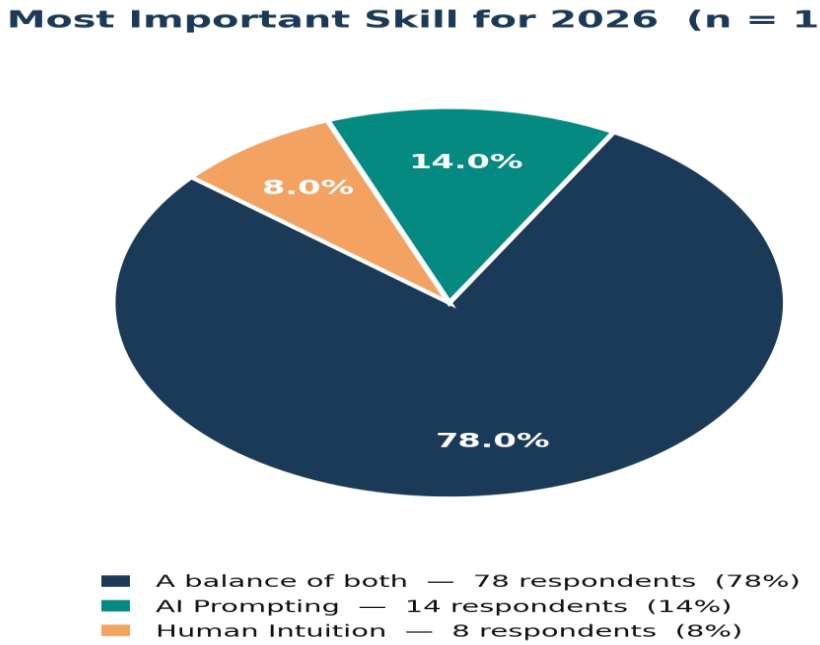
ISSN: 1540-3270



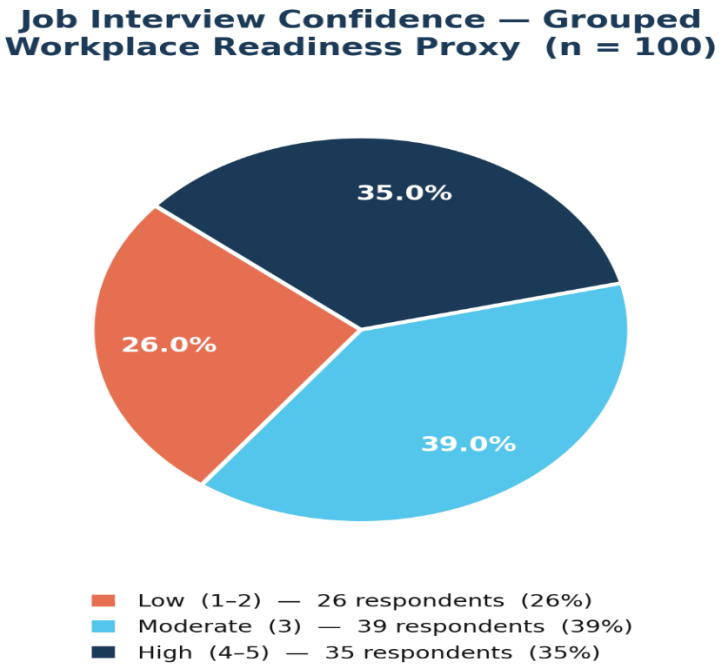
27% of the respondents felt that they cannot even think of starting up an assignment without the access of Ai. This show shows high level of Ai dependency and cognitive atrophy.



27% of the respondents rate Ai as superior to their own thinking at level 4 and level 5 persistent beliefs in Ai cognitive superiority risk producing intellectual self subordination , a condition where students progressively defer to algorithimic judgement at the expense of their own analytical development.



78% of respondents identified a balance of human intuition and Ai prompting as the most important skill for 2026 . This near consensus reflects an aspirational awareness of hybrid competency.

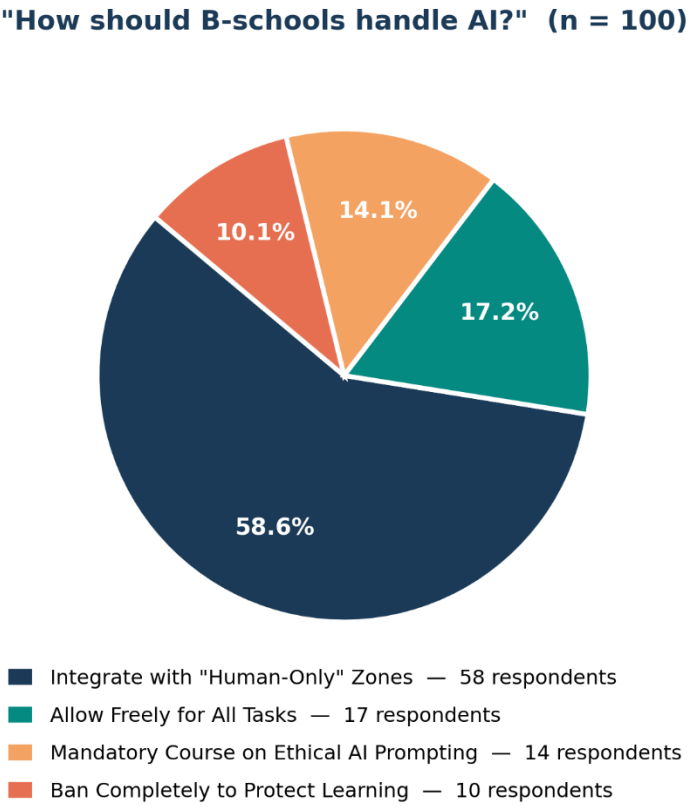


Only 35% of respondents expressed high confidence in Ai – free professional setting, while 69% fall in moderate to low range. For employees who value independent reasoning, this profile raises substantive questions about the unassisted readiness of Ai-free graduates relative to traditionally trained peers.

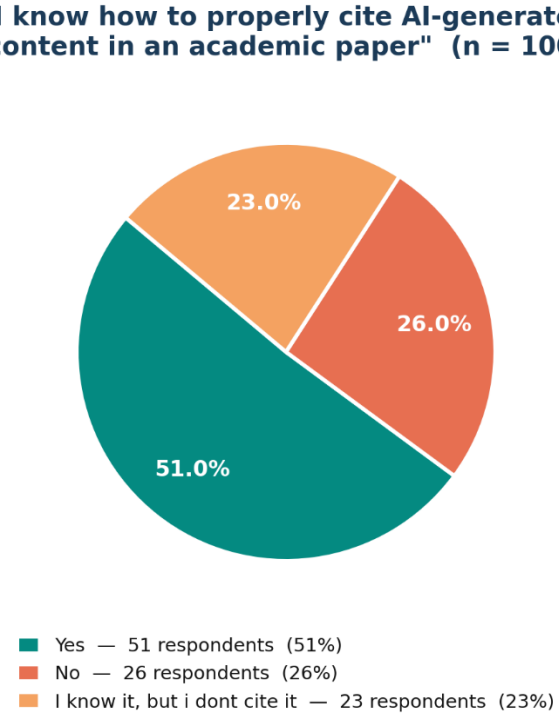
Minnesota Journal of Business Law and Entrepreneurship

Volume 2026, No. 2

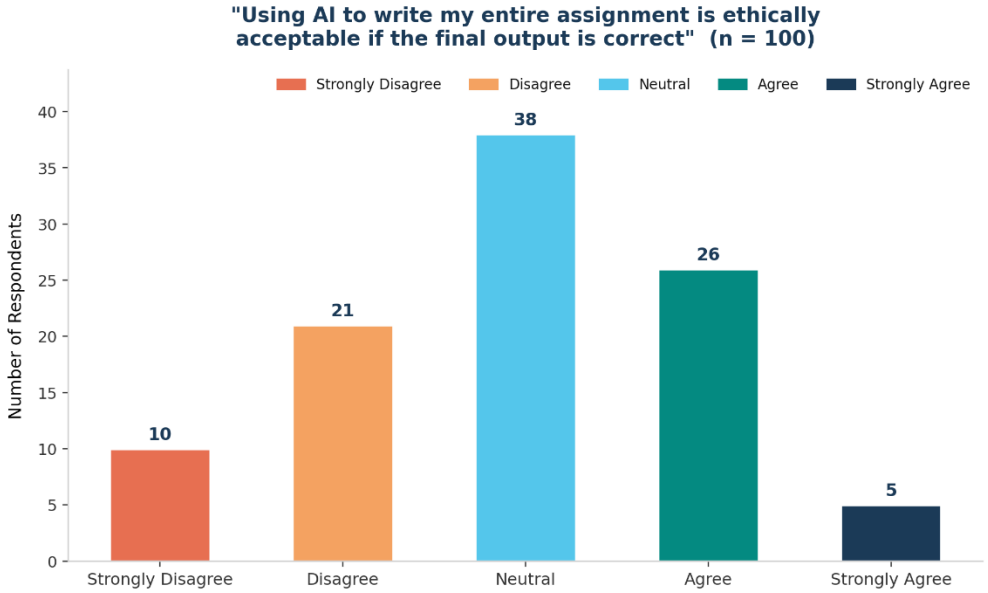
ISSN: 1540-3270



58% of students favour integrating Ai with designated " human –only " zones, while only 10% support an outright ban. Students themselves recognised the need for structural boundiraies . most of the students preferred bounded interagration as the policy model.



While 51% claim citation knowledge, 23% know the practice but do not apply it, 26% are unaware entirely. Nearly half the sample either lacks knowledge or wilfully omits citation. This shows ambiguity in institutional policy and they must address this through mendatory training.



38% are neutral, 31% agree and 31% disagree with the proposition that sull Ai submission is acceptable if the output is correct. The popularity neutral response reflects ethical uncertainity rather than indifference which makes the condition clear institutional norms can meaningfully resolve.

10. Limitations of the study:

While 100 responses provided a strong initial trend the study is limited to b school, the results may vary in different sectors. As the study heavily relied on students participation in survey and interviews to be honest about their Ai usage there are the chances of students under reporting due to fear of being judged. Lastly generative AI tools like chat gpt, Claude are evolving faster than ever these specific tools mention in paper might change through the cognitive behaviour (the atrophy) remains constant concern.

11. Conclusion:

the growth of AI in Indian context is a double edged sword we are witnessing cognitive paradox on one hand students are feeling more competent due to the precision and speed of AI to do their work but their ability to solve the problem without the screen is declining.

Across all the five objectives the data present a consistent picture: Ai use among management students is frequent, habitual and largely motivated by cognitive convinence rathen then enriched learning. Nearly half the sample lacks confidence in Ai-free problem solving and a significant proportion experienced measurable psychological dependency yet continuous usage unchanged reflecting the limit of self regulation without structural support.

The study confirmed the concept of market ready atrophy is the real threat to human capital. However the solution is not to ban technology but to shift from AI dependency to ai augmentation, by implementing human first framework to engage into the productivity struggle of thinking before the use of prompt institutions.

12. **Future directions**:

Looking ahead, future research should transition from academic observation to professional tracking by following this cohort of students into their first two years of employment; this longitudinal approach would determine if

"AI-heavy" learning habits lead to slower promotions or measurable performance issues in high-pressure environments. Exploring the neuroscience of prompting could reveal whether the act of constructing complex logic for AI actually builds a new form of critical thinking or merely masks a fundamental loss of cognitive stamina, providing a deeper understanding of how the human brain adapts to permanent digital assistance.

13. **References**:

[1] Al-Marzouqi, A. et al. (Eds.). (2024). Artificial Intelligence in Education: The Power and Dangers of ChatGPT in the Classroom. Springer.
[2] Alordiah, C. O. (2023). Proliferation of Artificial Intelligence Tools: Adaptation Strategies in the Higher Education Sector. Propellers Journal of Education.
[3] BITS Pilani Researchers. (2025). e-Monitor: Development of an AI-driven Smartphone-based Assistive Framework to Monitor Student Stress and Learning Engagement.
[4] Chatterjee, P. (2026). The Impact of Generative AI on Critical Thinking Skill Development in Higher Education. SSRN.
[5] EY India. (2024). Harnessing AI in Higher Education: Opportunities and the Road Ahead.
[6] Jin, Y., Yan, L., Echeverria, V., Gašević, D., & Martinez-Maldonado, R. (2024). Generative AI in Higher Education: A Global Perspective of Institutional Adoption Policies and Guidelines. Computers and Education: Artificial Intelligence.
[7] Klimova, B., & Pikhart, M. (2025). Exploring the effects of artificial intelligence on student and academic well-being in higher education: a mini-review. Frontiers in Psychology/PMC.
[8] Lialiou, P., & Maglogiannis, I. (2025). Students' Burnout Symptoms Detection Using Smart watch Wearable Devices: A Systematic Literature Review. AI Sensors.
[9] Mitra, U., et al. (2026). AI-Driven Early Detection and Monitoring of Student Mental Health. In Supporting Digital Mental Health in Educational Environments. IGI Global.
[10] Mustafa, G., Urooj, T., & Aslam, M. (2024). Role of Artificial Intelligence for Adaptive Learning Environments in Higher Education by 2030. Journal of Social Research Development.
[11] Pasupuleti, R. S., et al. (2026). Understanding Artificial Intelligence Adoption in Higher Education: An SEM-based Evaluation of Readiness and Relevance. Contemporary Educational Technology.
[12] Reyes, G., et al. (2025). Adoption of Artificial Intelligence Applications in Higher Education. Frontiers in Education.
[13] Sebopelo, P., Baloyi, O., & Chukwuma, N. N. (2025). Artificial Intelligence Assimilation and University Service Quality: The Mediating Role of Student Satisfaction. Review of Artificial Intelligence in Education.
[14] Springer. (2025). AI in Higher Education in India. [Book Chapter].
[15] Springer. (2024). AI Shaping the Future of Online Education in India. [Book Chapter].
[16] Sutomo, A. D., et al. (2024). Adaptation of Change in the Learning System with the Use of Artificial Intelligence. IEEE ICACITE Conference.