# AI in Decision Making: Implications for Management Education

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**Abstract**

The integration of artificial intelligence (AI) into business decision-making is transforming organizational structures and management practices, with significant implications for management education. This paper explores these implications through a structured narrative review of existing literature and critical analysis of current practices. It presents a brief historical overview of AI and traces its growing role in decision-making processes, highlighting its evolving influence on management education. The study examines key implications for management education, including the need to prioritize technical competencies, prepare students for effective human–AI collaboration, promote multidisciplinary learning, emphasize ethical development, and encourage lifelong learning. It also identifies major challenges such as curriculum redesign, faculty availability and expertise, resource limitations, and increasing competition from emerging education providers. The paper argues that addressing these challenges requires strong institutional commitment, coordinated efforts, strategic investment, and collaborative partnerships. By offering insights into both opportunities and constraints, this study contributes to the ongoing discourse on the future of management education in the context of rapid AI adoption in business decision-making.

Keywords: **Artificial Intelligence, Decision-making, Management Education, B-school**

## 1. Introduction

Artificial Intelligence (AI) is ushering in an era of unprecedented change, impacting various facets of human existence. This wave of technological transformation is rapidly engulfing businesses, redefining their structures and operations, and creating new opportunities and organizations. The use of AI in decision-making, a quintessential endeavor of human intellect, is considered one of its most important applications in AI history [1]. From a humble ‘machine that thinks’ to present-day superhuman and superintelligent systems, AI technologies are challenging the cognitive and social limitations of decision making, promising more data-driven, efficient, and accurate decision-making [2,3]. However, the increasing reliance on AI for decision-making also raises important concerns, including the hidden biases, a lack of interpretability, and the potential for errors or unintended consequences [4]. With anticipated exponential growth of AI technologies, adapting to this seismic transformation mandates a brave new reimagination of the current theories and practices employed by businesses and their leaders.

Decision making is considered the essence of management [5], shaping organizational outcomes and determining organizational success. This process of gathering information, analyzing alternatives, and choosing the right course of action, has become a pervasive activity at all levels of an organization [6-9]. Scholars have already extensively reported the use of AI in the organizational decision making [10].

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The current day AI applications in decision making extend far beyond data processing and analysis, and include capabilities such as language processing, problem-solving, and creativity, that were earlier considered exclusive domains of human cognition [11]. The increased reliance on AI technologies for decision-making has profound implications for management education. With questions already being raised about the relevance and effectiveness of current day management education, any laxity in integrating AI into its programs and curriculum, would only bolster these arguments [12]. Given that AI driven decision-making has become an integral part of business leadership, management institutions and their programs should proactively adapt to accommodate this emerging reality. Moving away from traditional management theories and practices, the focus needs to be shifted to things only humans can do [13]. To thrive in the age of AI, managers should possess the necessary technical literacy, and creative, collaborative, empathy and judgement skills, providing them with opportunities to flourish [13].

This article attempts to explore the implications of AI in decision-making for management education after structured narrative review of existing literature, and critical analysis of current practices. First, the paper offers a historical overview of AI, tracing its integration into decision-making processes and analyzing its evolving impact on management education. Second, it analyzes the implications for management education and discusses strategies for adapting curricula and pedagogical approaches to help future leaders thrive in an AI-driven business landscape. Third, it outlines the challenges in adapting management education and suggests methods to address these challenges. This paper aims to contribute to the existing dialogue about the future of management education, necessitated by a rapid adoption of AI into decision making. The insights from this paper can guide the institutions and educators in preparing the next generation of leaders and managers, who embrace the technological shift necessitated by advancements and adoption of AI in decision making. These future leaders should be adept at leveraging the potential of AI for making decisions of great significance and value to businesses, and successfully navigate through the ethical and practical challenges it presents.

## 2. Research Methodology

This study employs a structured narrative review to investigate the evolving relationship between artificial intelligence (AI), decision-making, and management education. A structured narrative review is driven by the purpose of synthesizing broad, interdisciplinary literature where the goal is conceptual integration rather than statistical aggregation, and this method is particularly suited to emerging fields characterized by rapidly evolving and dispersed scholarship. Four major databases were consulted: Scopus, Web of Science, Google Scholar, and EBSCO, providing complementary coverage across management, education, and technology disciplines. Searches were conducted using keyword clusters from the domains of artificial intelligence, decision-making, and management education, supplemented by purposive citation chaining from seminal works. The review prioritized literature published between 2000 and 2024, while retaining foundational works providing theoretical grounding. Sources were selected on the basis of relevance to either AI in organizational decision-making, or curricular and pedagogical responses to AI in management education, with purposive judgement applied to prioritize depth and relevance over mechanical inclusion. The final collection of literature comprised 106 sources spanning peer-reviewed articles, books, institutional reports, and practitioner analyses. The literature was analysed through two complementary lenses. Thematic analysis identified recurrent patterns across the literature collection, surfacing five core educational imperatives. A fit-gap analytical lens then compared current B-school practices against AI-era requirements, diagnosing where gaps exist and what reforms are needed.

## 3. AI and Decision-making

The discussion on history of AI has to begin with prior definitions of 'intelligence' and 'artificial intelligence'. Legg & Hutter [14] after careful examination of various definitions of 'intelligence,' attempting to bring them all together, defined it as that which "measures agent's ability to achieve goals in a wide range of environments." Artificial Intelligence is defined as that "activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment [15]." The first usage of the term 'artificial intelligence' is credited to John McCarthy and his three other colleagues, who in their proposal submitted to Dartmouth Research Project, referred to it

based on a conjecture that learning or intelligence can be precisely defined for machines to simulate it [16].

Representing knowledge in a computer-readable format for problem-solving using Symbolic AI dominated the discourse in early years of AI [17], paving the way for creation of expert systems in the later years (1970s and 1980s) [18]. The unmet expectations and technological challenges dampened the initial hype surrounding AI, resulting in decreased funding and reduced interest [19]. The advancements in machine learning, specifically in the areas of computer vision, speech recognition, language processing, and robotic control, rekindled interest in AI [20]. Additionally, the advancements in deep learning technologies, demonstrated notable improvements in the domains of image classification and object identification, contributing to AI's growth story [21]. In the domain of natural language processing, AI systems like BERT and GPT have revolutionized language understanding and generation tasks [22,23], generating buzz and grabbing headlines.

The integration of artificial intelligence (AI) into decision-making processes has been gradual. Taking the liberty of considering "decision making" as "managing," Simon [7] broadened its meaning from merely choosing among alternatives to encompassing the entire process of decision. His concept of "bounded rationality", highlighting human cognitive limitations, limiting them from making optimal decisions paved the way for computational approaches for decision making. Gorry and Scott Morton [24] classified all managerial decisions into three types, structured, semi-structured, and unstructured. They considered the structure of all three phases of decisions—intelligence, design, and choice—and classified decisions as structured if all three were defined, unstructured if none of them were defined, and semi-structured if one or two of them were not defined.

Evolving from Management Information Systems (MIS), which primarily supported structured decisions, the 1960s and 1970s saw the emergence of Decision Support Systems (DSS) that assisted with semi-structured and unstructured decisions [24]. The 1980s saw the emergence of expert systems, where attempts were made to capture and incorporate expertise into knowledge systems, allowing knowledge and expertise to be replicated and distributed, essentially immortalizing it [25]. The rise of structured data analytics and data warehousing in the 1990s and early 2000s laid the groundwork for advanced business intelligence and analytics, primarily focusing on leveraging internal enterprise data for decision-making [26].

The late 2000s and 2010s dawned a new beginning in AI-driven decision-making, characterized by the resurgence of machine learning and the emergence of deep learning techniques, enabling AI systems to process large volumes of unstructured data and recognize complex patterns, greatly improving their decision support capabilities [11]. Generative AI, which gained a lot of traction in recent years, provides data-driven insights and predictive analytics that can significantly reduce human cognitive load and mitigate heuristic biases, thereby enhancing decision-making in complex and uncertain situations [27]. Research from leading agencies confirms the widespread adoption of AI across industries, and that high-performing organizations consistently prioritize AI integration [28]. The widespread integration of AI in decision-making is evident in the classification of decision-making into three structural categories: full AI delegation, sequential human-AI interactions, and aggregated human-AI decisions [29], with all the three embedded with AI.

Future developments in AI promise greater integration and sophistication, potentially revolutionizing decision-making processes. Floridi [30] anticipated the increased ability of AI systems to handle complex tasks by decreasing their difficulty. Just as with AlphaZero, a sophisticated search and learn algorithm, which learned playing by itself, business systems will generate synthetic data, or use hybrid data — combining historical and synthetic data — for making important decisions [30]. The evolutionary trends in the fields of quantum computing and neuromorphic computing might bring about revolutionary changes in AI technologies, promising a range of business applications [31,32]. There are predictions about AI reaching the level of human intelligence and eventually surpassing it, launching us to the unknown [33].

## 4. AI, Decision-making and Management Education

The history of management education dates back a long way and has co-evolved alongside the field of management [34]. And, the evolution of decision-making in management education reflects the dynamic interplay between management theory, practice, and technological advancements. The foundations of decision-making in management education can be traced back to the emergence of scientific management as a principal form of managerial practice. Frederick W. Taylor's [35] call for application of scientific methods rather than guesswork or intuition for managerial decisions, dominated the academic discourse during early 20$^{th}$ century, providing groundwork for the integration of quantitative decision-making techniques into management education [36]. The gospel of efficiency took over the then management education [37].

Simon's [7] seminal work on "bounded rationality," citing human limitations for making perfect rational decisions, called for use of operations research and electronic data processing for automating repetitive and routine decisions, and heuristics for new, unstructured, and consequential decisions. The success of operations research in military applications acted as motivation for applications in industry and the subsequent introduction of new academic programs in B-schools with different nomenclatures, including operations research/management, decision sciences, and systems engineering, among others [38,39]. Further developments in the field of operations research and management sciences led to the development and use of sophisticated quantitative techniques, including linear programming, game theory, and decision trees, which were widely incorporated into the management curriculum [40].

Management Information Systems made inroads into the B-school curriculum with computers gaining acceptance as managerial tools, empowering its users and blurring the lines between technical and managerial decisions, and companies increasingly depending on 'system men' and the 'information systems' they develop [41,42]. The academic research at leading B-schools contributed significantly to the subsequent development of Decision Support Systems that aid decision- making at strategic, tactical, and operational levels, across all functional areas of organizations [43]. With genesis in B-schools, Decision Support Systems quickly found their way into the curriculum. The rise of expert systems led to introduction of courses on knowledge management and its applications, although they were often electives rather than core components of business programs [44].

The proliferation of personal computers (PCs) and availability of spreadsheet software revolutionised decision-making education, empowering students to model intricate decision scenarios and conduct sophisticated analyses [45]. The new millennium witnessed the ubiquitous spread of the internet and a rapid increase in data management capabilities, revolutionizing decision-making and prompting B-schools to incorporate data-driven decision-making by introducing courses on business analytics, data mining, and statistical analysis [26]. B-schools increasingly emphasized evidence-based management, equipping students with the skills to make data-driven decisions through rigorous analysis [46].

Further, the rapid adoption of AI technologies demands new age workforce who understand the technologies, and possess requisite knowledge and skills to manage AI-intensive organizations [47]. Some B-schools responded to this disruptive change by introducing separate courses in AI technologies, including machine learning, neural networks, deep learning, etc., and also introducing AI applications in their existing courses [48]. However, there are criticisms that B-schools only introduced courses related to data mining and business analytics, focusing on statistics and ML techniques for data analysis, ignoring the other AI technologies used in the industry [49]. The impediments in curriculum development resulting from the complexity of the discipline and rapidly evolving nature of AI technologies are limiting its integration into B-school curriculum [49,50].The scarcity of data, insufficient funding, inadequate data scrubbing, a dearth of data skills, a shortage of staff talent, and faculty reluctance are also identified by academic leaders as hindrances to the adoption of AI technologies in business programs [50]. The relevance and effectiveness of existing pedagogical approaches in making students ‘AI-ready’ and ‘future-fit’ need to be reexamined [49]. The use of AI in management education, through tools like learning companions, virtual reality, and intelligent tutors, has the potential to create a more immersive and engaging learning experience [51]. Also, the ethical implications of AI including data privacy, algorithmic bias, and the interpretability of AI decisions [52,53], are crucial considerations for management education.

***Table 1**: Key implications and recommended curricular responses*

| Implication | Core Challenge for B-Schools | Recommended Curricular Response |
|---|---|---|
| Technical literacy | Students lack foundational AI knowledge matching industry expectations | Courses in AI, ML, NLP, and data tools; hands-on labs, bootcamps, and competitions |
| Human–AI collaboration | Managers unprepared for AI-driven decision structures; human attributes underdeveloped | Project-based learning; capsule courses; design thinking and AI ethics modules; AI-embedded case studies |
| Interdisciplinary orientation | Siloed teaching misaligned with AI's cross-functional nature; T-shaped professionals in short supply | T-shaped curriculum; interdisciplinary questions across all subjects; industry partnerships; capstone projects |
| Ethics in AI | Ethics taught superficially; bias, transparency, and data privacy concerns inadequately addressed | Standalone AI ethics course; ethics embedded in AI and functional area courses; case studies, reflective writing, and regulatory coverage |
| Lifelong learning | Curriculum focused on past needs; students lack metacognitive and self-directed learning skills | 'Learning to learn' core course; critical thinking primer; question-driven pedagogy; design thinking; alumni reskilling programmes |

## 5. The implications for management education

The integration of AI into decision-making has heralded an era of unprecedented change in the systems, processes, and outcomes associated with it. Management education, with its long history as a champion of change, is required to adapt to this emerging reality by fundamentally rethinking the curriculum, pedagogical approaches, and student outcomes. The implications arising out of integration of AI in decision making for management education are detailed below.

*a. Technical Skills - Critical for Survival and Success*

Technical skills are considered essential for navigating through AI-driven business landscape [13]. The new age AI leader will be the 'human in the machine,' who understands the 'math' behind cognitive technologies, a must for humans to trust and interact more with the technology, leading to informed decision making [54,50]. Understanding the 'whys' behind the AI-driven decisions would require a certain level of intuitive understanding of algorithms for business leaders to reap in maximum benefits or avoid serious pitfalls [55]. Further, a deeper understanding of AI technologies among business students would enable them to frame business problems within an AI context and collaborate effectively with technical teams to develop the necessary models and AI-enabled products and services, all of which are considered critical components of managerial decision making [56].

With future leaders expected to be well-versed in AI technologies, many institutions have introduced courses that expose students to AI architecture, machine learning, deep learning, natural language processing, image and speech recognition, robotics, and other related technologies [57,58,48]. In terms of offering these courses, some B-schools have introduced specialized courses in AI, a few others offer minor tracks in AI or short duration courses, and many have integrated AI into the functional areas of business education [56, 48]. The new age B-school curriculum should include essential skill-based courses in data

mining and preparation (using SQL, Spark, Hadoop, etc.), creating actionable data visualizations (using Tableau, Power BI, Orange, etc.), and training in statistical modeling and predictive machine learning and deep learning algorithms (using Python or R), empowering the learners in making informed AI-driven decisions [56]. With businesses complaining about the data quality and consistency, AI or ML tools for data management and governance should be incorporated into the curriculum, resulting in AI models built on high quality data and increasing the reliability and consistency in decision making [59]. B-schools should not limit the students to theoretical and foundational knowledge about the subject, and instead incorporate hands- on experience with AI algorithms and programs in their curriculum, considered essential for developing in-depth understanding of their inner workings, potential biases, limitations, and ethical considerations [49]. Understanding the short-comings of AI will bring in informed and holistic perspective to decision making. In addition to the curricular components, technical boot camps, workshops and competitions should be organized, so that the business students can further sharpen their technical skills and improving their technical-readiness.

*b. Man-Machine Collaboration - In AI Companionship*

The new age decision-making structures involving humans and AI systems pose unique challenges to organizations and its leaders. The organization's increased reliance on AI for decision-making means that high-throughput algorithms are set to retain center stage in organizational decision-making structures [60]. The new age structural categories of organizational decision-making involve sequential interactions, delegation, and aggregation between humans and AI, all of which emphasize the constant companionship of humans and AI, evolving through a symbiotic relationship aimed at making informed and effective decisions [29]. Acknowledging that managers need not “race against a machine,” the complementary nature of human and AI collaboration will significantly augment decision making capacities of an organization [13,29]. Further, AI-human collaboration involves aligning mental states (goals, beliefs, preferences) and cognitive resources (knowledge, skills, capacity) between humans and AI to foster trust, dynamically coordinate interactions, and effectively leverage their strengths for optimal outcomes [61].

The key to the flourishing of human-AI collaboration would require staying abreast of the latest advancements in the field of AI and their practical implications for organizations [54]. For this to materialize, B-schools should find a way to incorporate these latest developments into their curriculum and employ practice-oriented and project-based learning methods for the students to better appreciate the applications and implications of these advancements. The exposure to these advancements should ideally be done by incorporating them into the curriculum. However, short- duration ‘capsule courses,’ bootcamps, and workshops could also be considered as alternative ways of providing required exposure to latest advancements in the field of AI. Aspiring business leaders should be able to communicate broadly and empathetically, engage deeply with problems, and think critically for forging a symbiotic relationship with AI [62]. Further, they need to cultivate their unique human attributes like intuition, holistic perspective, and emotional intelligence to create a more cohesive partnership with AI [54]. To ensure that their students build and nurture more symbiotic partnerships with AI, the B-school curriculum should include modules on design thinking, critical thinking and ethics in AI, enabling the students to engage deeply, meaningfully, and holistically with the real-world challenges of AI-driven organizations. In many B-schools, these courses are already offered as a part of the curriculum but are not inclined toward understanding and improving human-AI collaboration. In all such cases, the existing courses should be embedded with AI-specific case studies, discussions, practical applications, and collaborative projects, helping the students better appreciate the complexities involved in human-AI interactions.

*c. Multi-disciplinary Approach - Breaking the Silos*

AI technologies are inter-disciplinary by nature. Success of any inter-disciplinary project depends on the ability to coordinate tasks and share a mutual vision across the departments [63,64]. Further, interdisciplinary engagement is considered a key enabler of innovation and creativity in organizations [65]. Interdisciplinary engagement will also enhance an organization's agility and adaptability in deploying AI technologies and addressing operational challenges [64]. Further, business problems generally cut across curricular boundaries, requiring an approach that is interdisciplinary in nature [66].'People from diverse backgrounds with diverse skillsets,' will define performing team composition in AI-driven organizations.

Management education has often been criticized for its visibly fragmented and siloed approach in teaching

and research [67,12]. Moving away from such a siloed approach, B-schools should focus on nurturing of T-shaped professionals, having depth in disciplinary expertise and breadth in interdisciplinary skills [68,69]. The integrated curriculum of B-schools should include traditional management courses along with technical courses, data science, and ethics. Further, the entire curriculum should be infused with questions and analyses that are interdisciplinary, practical, and ethically sound, reflecting the intricate challenges faced by business leaders in the AI-driven world [12] and enabling management graduates to make informed, responsible, and future-focused decisions. This infusion of questions and analysis into course fosters a culture of critical thinking and reflection, resulting in nuanced and well-rounded decisions.

The institutions offering courses across multiple disciplines should encourage multi-disciplinary collaboration and engagement across the departments for creating comprehensive, rich and deep educational and research opportunities [50]. And, institutions that do not have scope for internal interdisciplinary collaboration, should engage with external partners from other institutions. The institutions should also explore the possibilities of collaboration with AI-driven organizations by incorporating their courses, co-writing case studies, and bringing in industry experts to provide students with valuable industry / practitioner's perspective [56]. Also, the introduction of interdisciplinary capstone projects mandating engagement with interdisciplinary teams will result in convergence of different perspectives to address a problem, resulting in a collaborative learning experience [70].

*d. Ethics in AI – Getting it right*

The use of AI technologies in decision-making presents complex ethical challenges that intersect with fundamental human values and societal norms. The increasing use of AI in making significant decisions has raised questions on potential 'bias' in these systems, rendering their decisions 'unfair' [71]. Further, questions are also raised about the transparency, explainability, and accountability of AI systems [72]. The concerns related to data privacy and safety often dominate the discourse related to AI technologies [73]. Understanding that AI technologies are not always 'value neutral,' and are embedded with ethical concerns in every phase of their development lifecycle results in the appreciation of human role and responsibility in ethical decision-making [73]. This understanding also helps in aligning intelligent systems with human interests [74]. The concerns are so over-arching that AI Ethics has evolved to a new branch of study in applied ethics [75].

Management education is often criticized for introducing ethics education without sufficient care or planning, sometimes even haphazardly, and delivered by professors who may lack practical experience in applying the moral ideas or philosophies they are conveying [76]. With evidence suggesting that appropriately designed ethics curriculum results in positive ethical outcomes in students and professionals, B-schools should prioritize the design of ethics curriculum duly accommodating the issues and concerns resulting from AI technologies into their curriculum [77]. Three competencies are considered key to AI ethics – recognizing ethical dimensions of AI, independently addressing the issues arising out of it, and engaging in dialogue and co-ordination with others [78]. And, a large part of ethics curriculum in B-schools should be devoted to building these competencies in the context of emerging technologies, including AI.

The curriculum integration of ethics of AI could happen in three possible ways. First, the course objectives and outcomes of existing ethics courses need to be redefined in the context of emerging technologies, and a substantial part of the syllabus needs to be devoted to ethical issues arising out of these technologies. Second, all the application level courses on AI and related technologies need to have ethical dimensions incorporated in them, giving sufficient weightage. Third, all the courses related to various functional areas of business should have ethical issues resulting from AI technologies infused as emerging areas of concerns or cases or classroom discussions / activities. B-schools should necessarily adopt all the three approaches as a pathway for nurturing ethical leadership in the age of AI [73,79]. Presenting cases highlighting the ethical concerns related to use of AI technologies, in all the three approaches discussed above, could potentially help develop the ethical sensitivity of the students [78]. All students need to be exposed to classical theories of ethics—from Bentham's Utilitarianism to Mill's defense of Utilitarianism and the "No Harm Principle," from Immanuel Kant's ideas on freedom, autonomy, duty, goodwill, and categorical imperative, to Locke's big ideas on unalienable rights and consent, to Rawls' ideas on justice, equality, and the original position, and Nozick's Libertarian arguments and spontaneous order, to Aristotle's Virtue Ethics—to help them understand the problem and serve as a foundation for further development of their own

perspective on the rightness of an act [80,78]. Educators need to put in effort in constructing forceful narratives in the form of written texts or oral narratives related to ethics of AI that present the human experiences and opportunities in an engaging manner [81]. Faculty members should also be encouraged to include reflective writings on ethical issues which are considered important in the development of the moral identity of the students [82]. Further, reflexive discussions in classrooms on ethical issues surrounding AI technologies will make student more capable of handling real world challenges [83]. Also, with AI technologies becoming ubiquitous and powerful, ethical education should include laws and regulations that are enacted by state and non-state actors (industry or associations) [84]. Getting people to think, decide and act in a rightful way demands commitment and dedication to ethics education – the imperative.

*e. Lifelong Learning – The Mantra for Success*

AI technologies are rapidly advancing, making those currently in vogue, obsolete in a short span of time. The careers of those graduating today or in the future will mostly be laced with the unknown. Degrees will "wither in importance" as the focus shifts towards competencies required to navigate through this unknown [85, 86]. With a curriculum focused on past and present needs, and the hope that the same will be repeated in the future, preparing students for something that does not yet exist remains an enigma [87]. And, the most valuable lesson business educators can impart is the recognition of the importance of lifelong learning, well beyond formal education [87]. Lifelong learning can be defined as all-purpose learning endeavor, pursued continuously to improve knowledge, skills and competency [88]. Apart from contributing to the personal development of learners, lifelong learning aids in their career advancement, social integration, and community contribution [89]. Lifelong learning requires an array of generic skills or competencies, including self-directed learning, problem- solving, critical thinking, meta cognition, research, inquiry, innovation, entrepreneurship, communication, social and interpersonal abilities, teamwork, and leadership [90].

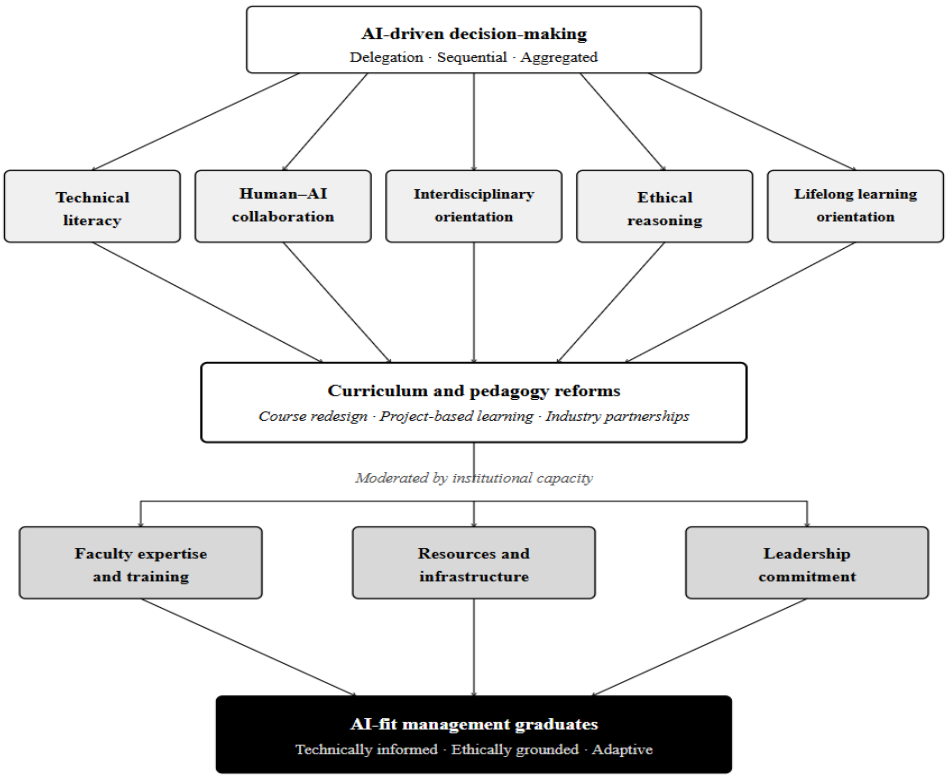
B-schools are required to design lifelong learning methods and systems, and build competencies and allocate resources to infuse sustainable learning habits in their students, enabling them in "applying knowledge to knowledge" [91]. Alongside teaching about management thoughts and practices, B-schools should also prioritize teaching "how to learn to manage" – a mantra for staying relevant and effective in this AI-driven world [92]. The beginning to any lasting change is the right 'intent'. B-Schools should have the genuine 'intent' to produce lifelong learners, and such an 'intent' has to be explicitly expressed in the form of 'commitment', embedding lifelong learning in mission statement, institution objectives and other policy documents [93]. Further, B- Schools have to formulate guidelines applicable to all those related to curriculum design and delivery regarding lifelong learning that should 'undergird' lifelong learning in all management subjects and programs [93]. Also, considered as an important generic skill for lifelong learning, "learning to learn" should be offered as a core course in the curriculum, mandating its understanding to everyone who takes up the study [94]. Critical thinking abilities are also considered important in the context of lifelong learning. Though the concept of critical thinking for long has been widely referred in education literature, it is not truly embraced as an essential value [95]. B-schools should provide a primer on critical thinking approach to students in the beginning of the coursework that helps in a disciplined and structured analysis of elements of thought (purpose, question, perspective, etc.,), and is guided and evaluated by intellectual standards (clarity, accuracy, precision, etc.,) for fostering intellectual virtues (autonomy, empathy, integrity, curiosity, etc.,) [96]. Critical thinking capabilities of future leaders can be enhanced by fostering collaboration through group assignments, employing question-driven pedagogy, contextualizing learning through real-world case studies, and promoting collective knowledge sharing, enabling them to navigate complex business environments and lead diverse teams effectively [97]. As decision-makers employ 'agentic AI systems'—capable of pursuing complex goals in dynamic environments, with situational adaptability and limited human supervision—the critical thinking

abilities of humans and the associated intellectual virtues take center stage in determining the outcomes of human-AI interactions [98]. The pedagogical methods adopted all through B-schools should encourage deep reflective thinking, an outcome of meta- cognitive capabilities [99,100]. Business schools should integrate design thinking into their curricula to supplement the analytical component of management education with the 'art' and 'craft' of effective management, for addressing innovation and complex and uncertain situations [101,102]. Lifelong learning opportunities, including reskilling and upskilling, should be made available to alumni throughout their careers - educating for life. The rapid integration of AI technologies into decision-

making necessitates reimagination of management education, ensuring that the business leaders of future are equipped enough to leverage upon the power of AI and also address ethical and practical challenges arising out of it.

The study suggests an integrated framework that synthesizes the results of the theme and fit-gap analyses to arrive at a solution to the identified gap between developing AI-driven business requirements and current management education approaches. The framework starts at the input level with three ideas, namely delegation, sequential decision-making, and aggregated human–AI decision processes. The nature of managerial work and the skills needed by future leaders are drastically altered by these models. These shifts give rise to five core educational imperatives, including technical literacy, human–AI collaboration capabilities, interdisciplinary orientation, ethical reasoning, and lifelong learning orientation. In contrast to the earlier studies where the identified dimensions are in isolation, the framework in this study conceptualizes them as interdependent and mutually reinforcing pillars of management education transformation. Further, these imperatives translate into specific curriculum and pedagogical reforms, including course redesign, integration of project-based and experiential learning, embedding of AI ethics across subjects, and strengthened industry–academic partnerships. The effectiveness of these reforms is shaped by key institutional moderators, namely faculty expertise, availability of technological and infrastructural resources, and leadership commitment to innovation and change. Finally, the framework culminates in the development of "AI-fit" management graduates who are technically informed and ethically grounded along with being adaptive, and capable of navigating complex human–AI decision environments. By linking these five levels in a logical structure, the framework provides a systematic and scalable model for rethinking management education in the age of artificial intelligence.

***Figure 1:*** *Proposed Framework for Developing AI-fit Management Graduates*



## 6. Challenges in Reimagining Management Education

The change necessitated in management education resulting from the rapid adoption of AI into the decision-making process is riddled with challenges. For management education to remain relevant and effective, it must address these challenges head-on. With AI technologies impacting the entire business structure and organization, changes will be mandated across the curriculum (almost all the courses). The arguments for balancing technical and managerial subjects in the curriculum no longer hold ground with the future inextricably intertwined with technology, requiring leaders who can adeptly manage technological ecosystems using advanced technological tools [103]. The uncertainties resulting from the constantly evolving nature of AI technologies add to the complexity of curriculum design, mandating curriculum agility to meet the changing needs of the AI-driven business world [104]. Faculty members should be encouraged and incentivized to experiment with curriculum and incorporate the latest developments related to AI technologies in their respective course offerings [105, 106]. Further, the shortage of qualified faculty members with expertise in AI technologies and their applications calls for immediate attention [50]. The institutions should invest in faculty training and development in the emerging areas of business, hire expertise from external sources (with preference for industry), or partner with EdTech companies to explore hybrid models of learning [50, 56]. Adapting to this changing paradigm necessitates investments in hardware, software, data, workforce, and learning resources among others, all of which require sufficient investment in terms of resources, making this adaptation extremely difficult for institutions facing a resource crunch. B-schools have to get their budgets right to stay relevant and compete in this fast-changing AI-driven environment. The need for a change in the 'mindset' required for lifelong learning among educators and students is considered an uphill task, necessitating visible commitment of leadership and collective determination and action of the important stakeholders - students and teachers. The competition for share of business education is set to intensify with the arrival of new age EdTech companies, offering courses in various forms and modes. B-schools should not be overwhelmed by the reputation and size of their competitor, and rather embrace competition by reimagining their role in an AI-driven business landscape and even explore collaboration opportunities with these companies to better serve the student community. The challenges may be formidable but definitely not insurmountable for leaders and educators of management education, whose daily pursuits revolve around narratives of overcoming adversity.

***Table 2:*** *Key challenges and proposed institutional responses*

| **Challenge** | **Nature** | **Proposed Institutional Response** |
|---|---|---|
| Curriculum redesign | Complexity and pace of AI evolution | Curriculum agility frameworks; incentivise faculty experimentation |
| Faculty expertise shortage | Few with combined AI and management expertise | Industry hires; faculty development; EdTech partnerships |
| Resource constraints | Hardware, data, and software costs | Strategic budget allocation; collaborative purchasing consortia |
| Mindset change | Resistance among educators and students | Visible leadership commitment; showcase early-adopter wins |
| EdTech competition | New providers offering targeted AI courses | Differentiate via experiential learning; explore collaboration |

## 7. Conclusion

We are living in "interesting times". The initial gradual progress of AI in decision- making, followed by its rapid proliferation and significant impact, is set to change every sphere of business activity, necessitating rethinking of organizational structures and management practices. The rapid integration of AI into decision-making has implications for management education, fuelling the discussion on its relevance and effectiveness in nurturing future business leaders. Businesses of the future will be operating in complex technological environments and decision-makers will be navigating through this ecosystem using advanced technological tools, mandating technical expertise for all leaders and managers along with other managerial skills. Management education should embrace this change by integrating comprehensive AI education into the curriculum, offering sufficient scope for praxis, equipping students with technical and algorithmic literacy for making informed, mindful and ethical decisions in this AI-driven business world. With algorithms set to become key in decision-making structures, the human-AI collaboration emerges as the new imperative for management education, requiring B-schools to adapt their curriculum to include advances in the field of AI, and develop critical thinking, design thinking, and emotional intelligence capabilities. Moving away from siloed approaches, B-schools need to foster interdisciplinary education, reflecting the cross-functional nature of AI technologies and the increased demand for T-shaped professionals. Interdisciplinary education can be further strengthened by forging partnerships and engaging with the industry, and also incorporating project-based experiential learning in the curriculum. The multitude of ethical challenges arising from the integration of AI into decision-making necessitates comprehensive coverage of AI- ethics in the B-school curriculum. By offering standalone courses on ethics with substantial importance to AI ethics, infusing courses on all functional areas with AI-ethics related issues, and integrating related case studies, reflective discussions, and real-world narrations into the pedagogy, B-schools can produce ethically well-informed and grounded individuals with wisdom to address the new-age ethical challenges. Lifelong learning should emerge as a core philosophy of business education, equipping students with higher order thinking and learning abilities to manage in the age of AI. There are many challenges in this process of adapting to AI-driven business environment, including the arguments for the balance between technical and managerial courses in curriculum, faculty availability and expertise, resource constraints, and competition from new-age education providers. Overcoming these challenges requires visible commitment, translated action, coordinated efforts, thoughtful investments, and collaborative partnerships from B-schools towards transformation.

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