



PHILOSOPHY OF SCIENCE IN DEVELOPING ISLAMIC EDUCATIONAL MANAGEMENT THEORY

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ABSTRACT

Islamic educational management often adopts modern managerial instruments without sufficiently clarifying the philosophical premises that determine what an institution is for, what counts as valid knowledge, and which values should govern decisions. This article reconstructs the philosophy of science for Islamic educational management through an integrative literature review of classical Muslim scholarship and contemporary studies on educational leadership, digital transformation, and artificial intelligence. The analysis focuses on ontology, epistemology, and axiology and connects the ideas of al-Ghazali, al-Farabi, Ibn Sina, Ibn Rushd, Ibn Khaldun, al-Shatibi, Ibn Ashur, and al-Attas with recent scientific and governance developments. The study finds that Islamic educational management requires a tawhidic ontology, a plural and hierarchically ordered epistemology combining revelation, reason, empirical evidence, verified experience, and scholarly authority, and a maqasid-oriented axiology emphasizing justice, trust, excellence, human dignity, and public benefit. These foundations are synthesized into an ontology-epistemology-axiology framework for planning, organizing, leadership, evaluation, knowledge management, and AI governance. The framework positions modern science and technology as instruments of evidence-informed improvement while retaining human responsibility, ethical limits, and transcendent educational purposes

Keywords: *Axiology; Epistemology; Islamic educational management; Ontology; Philosophy of science*

INTRODUCTION

Islamic educational management (IEM) stands at the intersection of two equally powerful demands. On one hand, Islamic educational institutions are expected to be professional, effective, accountable, adaptive to technological change, and capable of using data to improve quality. On the other hand, these institutions cannot be reduced to educational service organizations that merely pursue efficiency, rankings, enrollment numbers, or short-term performance indicators. They carry a normative mandate to form individuals who are knowledgeable, cultured, faithful, capable of bearing social responsibility, and oriented toward directing knowledge to the common good (maslahah). This tension shows that the challenges facing IEM are not merely technical-managerial issues but also questions of the philosophy of science: what reality is being managed, how managerial knowledge is validated, and toward what moral ends such knowledge is used. Although ontology, epistemology, and axiology have long served as the three principal points of entry, their relationship to the formation of theory and practice in Islamic educational management still requires deeper conceptual elaboration.

This need for deeper elaboration has become increasingly urgent because the modernization of education no longer proceeds solely through the adoption of administrative models, but through digital transformation, data analytics, learning platforms, automation, and artificial intelligence. Successful digital transformation requires vision, leadership, organizational culture, human capacity,

infrastructure, and interconnected evaluation mechanisms, rather than the mere procurement of technology (McCarthy et al., 2023). At the same time, UNESCO asserts that the use of artificial intelligence in education must be subject to human dignity, rights, justice, transparency, privacy, human oversight, and continuous impact assessment (UNESCO, 2021; Miao & Holmes, 2023). For Islamic educational institutions, these demands carry an additional layer: technology must be positioned as a means (*wasilah*) rather than an end in itself; data-driven decisions must not eliminate value-based considerations; and efficiency must not be pursued at the expense of educational trust (*amanah*), justice, *adab*, and the protection of human beings as moral subjects.

It is here that the intellectual legacy of Muslim scholars carries strong theoretical relevance. Al-Ghazali situates knowledge within a hierarchy of purposes that culminates in the formation of the soul, righteous action, and closeness to God; knowledge is never neutral, since its value is bound to its object, purpose, and the consequences of its use (Al-Ghazali, 2005). Al-Farabi links human perfection to a social order and leadership that guides society toward true happiness, so that an organization is understood not as a mechanical structure but as a teleological community requiring shared purpose and moral leadership (Al-Farabi, 1985). Ibn Sina developed a structure of knowledge that unites metaphysics, logic, and rational inquiry into reality (Ibn Sina, 2005), while Ibn Rushd upheld the legitimacy of demonstrative reasoning and maintained that rational inquiry, when conducted properly, need not conflict with revealed law (Ibn Rushd, 2001). Ibn Khaldun reinforced the empirical-historical dimension through his analysis of society, education, habituation, authority, and social change; his ideas on gradual learning, habituation, and the social conditions of knowledge remain relevant to curriculum management, the development of educators, and quality culture (Ibn Khaldun, 2011; Sa'adah & Sulistiyo, 2026).

At the axiological level, al-Ghazali, al-Shatibi, and later Ibn Ashur laid the foundation for reading educational purpose through *maqasid al-shari'ah*. *Maqasid* should not be understood merely as a static list of protections but as an orientation toward the common good (*maslahah*) that requires coherence among purposes, means, consequences, priorities, and context. The systems approach developed by Auda extends the utility of *maqasid* for addressing modern institutional problems through the features of cognition, openness, multidimensionality, interrelatedness, and purposefulness (Auda, 2008). Contemporary studies show that *maqasid* is increasingly used to evaluate educational governance, digitalization, and AI, since it can bridge normative principles with more operational policy indicators (Sangadah & Dinata, 2025; Sanusi, 2025; Atallah, 2026). This matters because, without operational mechanisms, terms such as *amanah* (trust), justice, *maslahah*, and *ihsan* (excellence) can easily remain little more than institutional slogans.

Yet the integration of Islamic thought and modern science also faces two extreme risks. The first is secular reductionism, in which methods, theories, and technologies are accepted as though entirely value-free, so that Islamic institutions merely attach religious symbols to a managerial framework whose ultimate purpose remains material and instrumental. The second is traditionalist romanticism, in which classical authority is invoked to reject empirical findings, methodological critique, or scientific innovation that is not, in fact, at odds with religious principles. Both are equally problematic. The contemporary reconstruction of Islamic epistemology instead affirms the need for an orderly relationship among metaphysics, revelation, reason, and experience, so that modern knowledge can be critically examined and productively utilized at the same time (Syafaq et al., 2024). In education, such integration also demands professional reflection that unites the intellectual,

affective, and spiritual dimensions, rather than mere procedural compliance (Memon, Brifkani, & Chown, 2024).

The existing IEM literature has examined the values of amanah, justice, syura (consultation), and ihsan in the management of teachers and education personnel (Wahyudi et al., 2024), the relevance of Ibn Khaldun to learning management and teacher development (Sa'adah & Sulistiyo, 2026), and maqasid as a framework for the development and digitalization of educational institutions (Sangadah & Dinata, 2025; Sanusi, 2025). Even so, a conceptual gap remains: ontology, epistemology, and axiology are often presented as three separate sub-topics, while modern management theory is placed in a different section without a clear mechanism of derivation. As a result, it is not always evident how an ontological assumption about human beings and institutions reshapes the way performance indicators are determined; how Islamic epistemology governs the use of data, statistics, professional experience, and AI output; or how maqasid-based axiology corrects decisions that are economically efficient yet morally detrimental to learners.

This article aims to reconstruct the philosophy of science as a foundation for developing IEM theory through a synthesis of classical Muslim scholarship and contemporary scientific developments. Specifically, this study addresses three questions: how Islamic ontology formulates the nature of human beings, knowledge, organizations, and the purpose of educational institutions; how Islamic epistemology determines the sources, methods, validity, and hierarchy of evidence in managerial decision-making; and how Islamic axiology translates values into criteria for planning, leadership, evaluation, and technology governance. The conceptual novelty of this article lies in constructing an integrative ontology-epistemology-axiology framework for IEM (OEA-IEM) that connects the principle of tawhid, an orderly plurality of sources of knowledge, maqasid, and modern management functions. This framework is not intended to replace well-established management theories but to provide a normative-epistemic architecture ensuring that theory, data, and technology are used in a manner consistent with the purposes of Islamic education.

RESEARCH METHOD

This study employs an integrative literature review using a philosophical-conceptual analytical approach. This choice corresponds to the research objective, which is not to measure empirical relationships among variables but to construct a theoretical synthesis between Islamic philosophy of science and developments in modern educational management knowledge. The core conceptual sources comprise the works and central ideas of al-Ghazali, al-Farabi, Ibn Sina, Ibn Rushd, Ibn Khaldun, al-Shatibi, Ibn Ashur, and Syed Muhammad Naquib al-Attas. Contemporary sources were selected from scholarly articles and policy documents relevant to Islamic epistemology, Islamic educational management, leadership and digital transformation, maqasid, and the ethics of artificial intelligence. To ensure currency, contemporary sources were prioritized from publications dated 2016-2026, while classical works were retained as theoretical sources, since their role is not to serve as recent empirical evidence but as the conceptual foundation currently being reconstructed.

The analysis proceeded through four stages. First, the core concepts of each source were identified: views on reality and human purpose, the sources and validity of knowledge, values and the aims of action, and their consequences for education and organizations. Second, a comparative mapping was conducted to identify points of convergence and divergence between the scholarly tradition and developments in modern science, particularly systems approaches, evidence-based leadership, digital transformation, and AI governance. Third, a derivative analysis was carried out by linking

philosophical assumptions to management functions, namely planning, organizing, human resource development, leadership, decision-making, controlling, and evaluation. Fourth, the resulting synthesis was conceptually tested against three criteria: internal coherence among ontology, epistemology, and axiology; compatibility with the purposes of Islamic education; and operational capacity for addressing modern management problems. As this is a literature-based study, the results are presented in the form of propositions, a conceptual matrix, and theoretical implications; their validity is argumentative in nature and remains open to empirical testing in future research.

RESULTS AND DISCUSSION

Conceptual Synthesis Results

The synthesis shows that developing IEM theory requires a hierarchical relationship among three dimensions of the philosophy of science. Ontology establishes the identity of the reality being managed: human beings are not mere resources, knowledge is not a mere commodity, and institutions are not mere service-production units. Epistemology establishes how an institution comes to know: decisions must not rest on leaders' intuition alone, yet neither can judgment be surrendered entirely to numbers, algorithms, or technology. Axiology establishes the rationale and limits for the use of knowledge: institutional success is judged by the attainment of educational goals, procedural justice, the protection of human dignity, the common good (*maslahah*), and sustainability. These three dimensions are then translated into management functions through goal-based planning, trustworthy (*amanah*) organizing, evidence-based decision-making combined with *tabayyun* (careful verification), principled (*adab*-based) leadership, multidimensional evaluation, and human-supervised technology governance.

This synthesis gives rise to the OEA-IEM framework. This framework positions *tawhid* as its ontological orientation; the integration of revelation, reason, empirical evidence, verified experience, and scholarly authority as its epistemological architecture; and *maqasid*, justice, *amanah*, *ihsan*, and *maslahah* as its axiological criteria. Modern science functions at the methodological and instrumental level, assisting with system modeling, data collection, prediction, impact evaluation, instructional design, and organizational management. Nevertheless, final decisions still require responsible human judgment, since data alone cannot determine moral purpose. The matrix in Table 1 shows how each philosophical dimension is derived into management principles and an agenda for the advancement of modern science.

Table 1. Synthesis matrix of the philosophy of science and the development of Islamic educational management theory

Dimension	Islamic Scientific Premise	Dialogue with Modern Science	Managerial Derivation
Ontology	Tawhid; human beings as servant (<i>abd</i>) and vicegerent (<i>khalifah</i>); knowledge and institutions as trust (<i>amanah</i>); education oriented toward human perfection and the common good.	Systems and complexity approaches help read institutions as open, adaptive, and interconnected systems without reducing human beings to mechanical components.	Purpose-driven vision and mission; human-centered organizational design; HR policy as the cultivation of <i>amanah</i> ; performance indicators that extend beyond financial and administrative measures.
Epistemology	Revelation as normative orientation; reason, the senses, experience, history, and scholarly authority as	Scientific method, data analytics, program evaluation, and AI can strengthen decisions when	Evidence-based decisions combined with <i>tabayyun</i> ; data triangulation; documentation of decision

	sources of knowledge tested in due proportion.	their sources, validity, biases, and limitations are audited.	rationale; data literacy; human oversight of digital and AI systems.
Axiology	Maqasid, justice (adl), amanah, ihsan, maslahah, adab, and accountability in this world and the hereafter serve as the measure of the proper use of knowledge.	Technology ethics, rights, privacy, sustainability, fairness, and transparency provide operational tools for impact assessment.	KPIs combined with ethical indicators; impact audits; protection of learners; distributive evaluation; technology policy grounded in risk and maslahah.
Advancement of Knowledge	Intellectual ijthid proceeds within the bounds of qat'i (definitive) principles while remaining open to sound new knowledge.	Interdisciplinarity, organizational learning, innovation, and action research allow theory to develop out of real-world problems.	A culture of research; professional learning communities; controlled policy experimentation; iterative evaluation; capacity building for lecturers/teachers and education personnel.
Technology Governance	Technology is a means (wasilah); moral authority and responsibility must never be transferred to machines.	AI and automation extend predictive and personalization capabilities but carry risks of bias, privacy violation, dependency, and the erosion of human agency.	AI policy, source verification, limits on automation, data protection, algorithmic audits, appeal mechanisms, and final decisions made by competent human authorities.

Note: OEA-IEM = ontology-epistemology-axiology framework for Islamic educational management; KPI = key performance indicators; AI = artificial intelligence.

Reconstructing Ontology: From Instrumental Organization to Educational Trust (Amanah)

Ontology answers the question of what truly exists and the essential nature of the object being managed. In the context of IEM, ontological inquiry does not stop at defining schools, madrasahs, pesantren, universities, curricula, or human resources. The more fundamental questions are: who is the human being that constitutes the subject of education, what is the true nature of knowledge, for what purpose are educational organizations formed, and how does the empirical world relate to transcendent reality? Al-Attas situates the Islamic worldview as a hierarchical structure of meaning connecting God, humanity, knowledge, and reality; education, therefore, cannot be separated from the cultivation of adab and the recognition of the proper place of all things (Al-Attas, 1995). Within this framework, an Islamic educational institution constitutes an epistemic and moral trust (amanah). It is not merely a site for transferring competencies but an institution that structures processes so that knowledge produces human beings capable of placing knowledge, action, and responsibility in their rightful order.

Al-Ghazali reinforces this premise through his concept of the soul, knowledge, righteous action, and the ultimate purpose of human life. The value of knowledge is determined not merely by the complexity of its object or its economic benefit, but by its contribution to self-improvement and the common good. The managerial implications are significant. If human beings are understood merely as human capital, HR policy tends to measure teachers through administrative output and productivity alone. If human beings are instead understood as moral subjects endowed with reason, spirit, will, developmental needs, and accountability, then teacher management must encompass competence, wellbeing, professional character, learning opportunities, integrity, and space for reflection. A highly measurable performance-appraisal system therefore remains necessary, but its indicators must be

critically examined: what is being measured, what behaviors those indicators incentivize, and whether targets end up encouraging data manipulation, burnout, or the neglect of learners' needs. A tawhidic ontology rejects success achieved through moral compromise, since means and ends belong to a single ethical unity (Al-Ghazali, 2005; Wahyudi et al., 2024).

Al-Farabi offers an important contribution through his notion of the virtuous city (*al-madina al-fadila*). Although its context is political-philosophical, its underlying principle is relevant to organizational theory in education: a good community is formed by a shared purpose oriented toward true happiness and by leadership possessing intellectual and moral quality (Al-Farabi, 1985). From this perspective, educational leadership cannot be defined merely as the ability to mobilize people toward targets. A leader is also responsible for defining which targets are worth pursuing, aligning individual and institutional interests, and ensuring that mechanisms of power do not drift away from educational purpose. In the language of modern management, vision is not enough as a slogan; it must become the architecture of decision-making. Budgets, structures, recruitment, technology, and evaluation must all be traceable to the institution's stated educational purpose.

Ibn Khaldun adds a social-historical dimension that prevents IEM ontology from becoming overly abstract. He shows that the formation of human capability occurs through habituation, social interaction, stages of learning, politico-economic conditions, and the character of civilization. Education is therefore always embedded within a social system. Contemporary studies of his thought emphasize gradual learning, the integration of religious and rational knowledge, teachers' exemplary conduct, and the social function of education, all of which can be translated into teacher development, curriculum management, and quality culture (Sa'adah & Sulistiyo, 2026). For IEM, this means that institutions must be understood as open systems: internal decisions are shaped by family, community, policy, economy, technology, and culture. Modern systems thinking helps map these interconnections, while Islamic philosophy provides their teleological direction. An institution is not a system that persists for its own sake, but one accountable for the development of human beings and society.

Consequently, the concept of efficiency needs to be reconstructed. Efficiency remains important, since waste contravenes *amanah*, but it cannot serve as the sole criterion. A policy of reducing the number of teachers, for instance, may cut costs, but if it degrades the quality of interaction, increases workload, and weakens character formation, the decision may be efficient in accounting terms yet poor in ontological and axiological terms. Likewise, using AI to automate administration can be justified when it frees teachers' time for pedagogical interaction, but becomes problematic when it is used to replace the human relationships that are essential to education. In other words, ontology sets the limits of substitution: technology may replace tasks, but it does not automatically replace human beings' moral and relational responsibilities.

Reconstructing Epistemology: Revelation, Reason, Empirical Evidence, and the Validation of Decisions

IEM epistemology addresses two issues that are often conflated: the source of normative truth and the procedure for producing empirical knowledge. Revelation provides orientation regarding God, humanity, values, what is permissible and forbidden, justice, *amanah*, and the purpose of life; it does not function as a substitute for statistics, classroom observation, cost analysis, or program evaluation. Conversely, empirical data can explain patterns of student tardiness, program effectiveness, or workforce needs, but cannot on its own determine whether a given purpose is moral or whether a particular treatment is just. This separation of functions matters so that the integration of Islam and

science avoids collapsing into pseudo-science that forces scripture to serve as evidence for every technical finding, while equally avoiding an epistemic secularism that treats religious values as irrelevant to organizational decisions.

Ibn Sina and Ibn Rushd exemplify a strong rational tradition within Islamic civilization. Ibn Sina positioned logic as a crucial instrument for maintaining rigor in reasoning and for establishing the relationship between metaphysics and the particular sciences (Ibn Sina, 2005). Ibn Rushd affirmed the legitimacy of demonstrative reasoning and rejected any simplistic opposition between religious law and philosophy when both are approached with discipline (Ibn Rushd, 2001). Ibn Khaldun, meanwhile, demonstrated the importance of critically examining historical reports, causal consistency, and the social plausibility of a given account. This critical spirit is highly relevant to modern educational management, which is inundated with dashboards, surveys, rankings, big data, and AI outputs. Its epistemological principle is not 'trust the data' but rather 'test how the data was constructed, what it represents, what it fails to represent, and how strong a conclusion it can actually support.'

The recent reconstruction of Islamic epistemology emphasizes that revelation, reason, experience, and metaphysics need not be positioned in a zero-sum relationship. Syafaq et al. (2024) demonstrate the need to build an epistemology that connects metaphysics, reason, and revelation so that knowledge does not fragment into technical information devoid of meaning. In IEM practice, this can be operationalized through a hierarchy of evidence. First, fundamental normative principles serve as ethical boundaries. Second, relevant scientific knowledge is used to diagnose problems and predict impacts. Third, local institutional data is used to test the fit between theory and context. Fourth, professional experience and consultation (*musyawarah*) are used to grasp aspects that numbers fail to capture. Fifth, decisions are documented along with their rationale, uncertainties, risks, and evaluation mechanisms. This structure ensures that an 'Islamic decision' is not identical to a leader's personal opinion but is a decision that can be held accountable on both normative and evidentiary grounds.

The concept of *tabayyun* can be developed as an organizational ethic of verification. In digital environments, *tabayyun* means more than simply checking a piece of news; it encompasses data provenance, source quality, conflicts of interest, sample bias, instrument reliability, and the validity of inference. If an AI system flags a particular student as at risk of failing, a manager must not immediately treat that score as grounds for sanction. Instead, the data quality used in training, the variables involved, potential biases, the possibility of false positives, family context, and the student's opportunity to offer an explanation must all be examined. UNESCO (2021) emphasizes transparency, fairness, human oversight, and impact assessment as core components of AI governance; these principles align closely with the demands of *tabayyun*, justice, and *amanah* in decision-making. UNESCO further affirms that AI in education must be validated ethically and pedagogically, not merely on technical grounds (Miao & Holmes, 2023).

This epistemology carries implications for organizational culture. Islamic educational institutions need to move away from a culture in which 'the leader is always right' toward a culture of principled, *adab*-based argumentation. *Syura* is not a cosmetic procedure for legitimizing decisions already made, but a mechanism for distributing knowledge: those closest to a problem often possess information that leaders themselves lack. Teachers understand classroom dynamics, administrative staff understand procedural obstacles, students experience the impact of policies, and parents bring contextual information. At the same time, *syura* is not relativism; the quality of an opinion is still assessed through competence, evidence, relevance, and accountability. Epistemic leadership

therefore means creating the conditions for an organization to know better: data is made available, dissent is safe, errors can be reported, evidence is openly debated, and decisions can be revised as new information emerges.

At this point, developments in modern science expand institutional capacity while simultaneously enlarging epistemic risk. Data analytics can uncover patterns invisible to human observers, yet correlation is not the same as causation. Predictive models can assist resource allocation, but predictions always depend on past data and may perpetuate historical injustice. Generative AI can accelerate document drafting, curriculum ideation, and text analysis, yet its fluent output may be inaccurate, may fabricate sources, or may blur the boundary between genuine knowledge and linguistic probability. AI literacy for educational leaders is therefore not merely the ability to operate an application but the capacity to understand its epistemic limitations. Atallah (2026) shows the need to integrate maqasid across the entire cycle of AI governance, including procurement, design, deployment, and audit. The OEA-IEM framework endorses this direction while adding that AI auditing must be understood as part of epistemic amanah: institutions remain accountable for decisions made with the assistance of machines and cannot transfer that responsibility to an algorithm.

Reconstructing Axiology: Maqasid, Adab, Justice, and the Measure of Success

Axiology addresses the values and purposes underlying the use of knowledge. In modern management, questions of value are often expressed through terms such as ethics, governance, stakeholder responsibility, sustainability, and human-centered design. Islamic educational philosophy possesses an even broader normative vocabulary: adab, amanah, adl (justice), ihsan, maslahah, rahmah (compassion), syura, and maqasid. The challenge is translating this vocabulary into decision criteria that are not left vague. If amanah appears only in a vision statement without shaping recruitment, procurement, evaluation, and budget transparency, it has not yet become a management principle. An operational axiology requires every value to carry procedural consequences and traceable indicators.

Maqasid provides an essential framework because it links action to the protection and development of human life. In the classical tradition, discussions of maqasid center on the protection of religion, life, intellect, lineage, and property; contemporary scholarship further emphasizes dignity, responsible freedom, justice, human development, and sustainability. Auda (2008) critiques overly atomistic readings of maqasid and offers a systems approach that emphasizes interconnectedness, multidimensionality, openness, and purposefulness. For education, this logic reshapes how policy is evaluated. A program that raises test scores while worsening mental health, eroding integrity, or widening inequality cannot be deemed successful simply because one indicator has improved. Evaluation must examine the full, cross-temporal pattern of impact.

Al-Ghazali offers a further corrective to narrow utilitarianism: benefit must be assessed together with the moral quality of the actor and the ultimate orientation of the act. Ihsan demands quality beyond mere minimal compliance. In IEM, this means quality assurance cannot stop at fulfilling accreditation documents. An Islamic quality culture must ask whether processes genuinely produce better learning, fair service, professional conduct, and an environment that supports growth. The value of amanah likewise demands transparency toward stakeholders regarding limitations, risks, and failures, not merely the publication of successes. Islamic axiology thus drives a shift from a culture of compliance to a culture of integrity.

Justice is a central criterion because management continually distributes resources, opportunities, burdens, and recognition. Decisions concerning schedules, teaching loads, scholarships, access to

technology, career development, compensation, and student admissions all carry distributive consequences. A policy may apply equally to everyone yet remain unjust if the starting conditions of different groups differ. Adl in the modern context must therefore be read alongside the concept of equity: proportional treatment based on relevant needs and rights. UNESCO (2021) warns that AI technology can reinforce bias and inequality when its data and design go unsupervised. Within the IEM framework, this risk is directly connected to the prohibition of zulm (injustice) and the obligation to protect human dignity. Evaluating technology, therefore, cannot stop at asking 'is the system accurate?' but must also ask 'who is most often harmed when the system errs?' and 'do those affected have access to an appeal mechanism?'

Maqasid also grounds a principle of precaution. Technology that could potentially improve efficiency is not automatically worth adopting if its benefits are small while its risks to data, dignity, or pedagogical authority are large. Sanusi (2025) shows that the digitalization of Islamic education must be assessed through a maqasid framework so that innovation does not erode the very values it is meant to protect. Atallah (2026) goes further by operationalizing maqasid as an indicator for AI governance in higher education. For IEM, this approach can be implemented through ethical impact assessment prior to technology procurement, limited pilot testing, bias monitoring, data audits, evaluation of actual benefits, and discontinuation of a system when its impact runs counter to educational purpose. This approach represents a modern form of sadd al-dhara'i — precaution against means that open the door to harm — without turning into an a priori rejection of innovation.

Ultimately, axiology determines the very concept of success. The OEA-IEM framework proposes a multidimensional measure of success: academic quality, character and adab development, the wellbeing of institutional members, equity of access, procedural integrity, resource efficiency, social contribution, sustainability, and organizational capacity to learn. This measure does not reject KPIs; rather, it improves their design so as to avoid goal displacement — the phenomenon in which an organization chases numbers while losing sight of its purpose. Here the philosophy of science serves a practical function: it ensures that indicators remain partial representations of a goal rather than becoming the goal itself.

Dialogue with the Development of Modern Science

The relationship between Islamic philosophy and modern science is best understood as a critical dialogue, not as the cosmetic process of attaching an Islamic label to pre-existing theory. Modern science offers highly useful instruments: experimental and observational methods, statistics, organizational theory, psychology, economics, information systems, data science, and AI. Yet every instrument is built upon particular assumptions about human beings, rationality, purpose, and evidence. The task of the philosophy of science is to render these assumptions visible so that institutions can determine which are compatible, which require modification, and which must be rejected. Ibn Rushd provides an intellectual precedent that the use of demonstrative reasoning need not threaten religion; what is required instead is competence, methodological discipline, and an understanding of the proper domain of each claim (Ibn Rushd, 2001).

First, systems and complexity approaches provide a powerful language for understanding educational institutions. Many policy failures occur because problems are treated in a linear fashion: low student scores lead to extended study hours; declining discipline leads to stricter rules; technological lag leads to equipment purchases. A systems approach instead asks about feedback loops, delayed impacts, incentives, capacity, and interactions among parts. Auda (2008) develops a systems approach within maqasid that is compelling precisely because it unites systems analysis with

purposefulness. In IEM, this enables strategic planning that goes beyond simply listing programs, instead mapping the relationships among causes, risks, stakeholders, values, and outcome indicators. In other words, maqasid supplies the telos, while systems thinking helps read the mechanism.

Second, modern organizational science emphasizes the importance of the learning organization, knowledge sharing, and evidence-based reflection. This principle aligns closely with Islamic epistemology when knowledge is understood as an amanah that must be sought, examined, practiced, and shared. Educational institutions that depend on the tacit knowledge of a single principal or kiai are vulnerable to losing their organizational memory once that individual moves on. Experience must therefore be documented, good practices must be tested, and decisions must generate organizational learning. Sa'adah & Sulistiyo (2026) show that integrating Ibn Khaldun's thought with contemporary learning management can strengthen teachers' professional development and quality culture. It should be emphasized that documentation is not bureaucratization; documentation has value only insofar as it helps an institution learn from both its successes and its mistakes.

Third, digital transformation demands leadership capable of connecting technology with cultural and procedural change. McCarthy et al. (2023) show that digital transformation in education is not merely the digitization of documents but systemic change requiring vision, capacity, collaboration, and a learning orientation. The IEM framework adds an axiological question: transformation for whom, what problem is genuinely being solved, what its impact is on educator-learner relationships, and which values are at risk of being lost. Institutions need not chase every new technology. The principle of *maslahah* requires selection based on demonstrated benefit, total cost, risk, accessibility, and alignment with mission.

Fourth, AI challenges the very concept of epistemic authority. Generative systems can produce text that resembles scientific or religious explanation without possessing intention, responsibility, experience, or any commitment to truth. AI cannot, therefore, be treated as an alim (scholar), mufti, teacher, or moral leader. It may serve as a tool for pattern discovery, initial drafting, classification, simulation, or administration, but significant claims still require source verification and human authority. Miao & Holmes (2023) emphasize a human-centered approach and pedagogical validation; UNESCO (2021) calls for human oversight and transparency. In the context of Islamic education, these principles align with the concepts of *sanad* (chain of transmission), scholarly authority, *tabayyun*, and personal accountability. Even when AI output happens to be correct, an institution must still be able to explain why a decision was made and who bears responsibility for it.

Fifth, developments in neuroscience and modern educational psychology remind us that learning is shaped by attention, emotion, motivation, prior experience, social environment, and cognitive load. Such findings can enrich classical pedagogical principles without needing to be forced into serving as 'proof' of religious texts. Ibn Khaldun's thinking on gradual learning and his critique of harshness in education, for instance, can engage in dialogue with contemporary research on student-centered learning and teacher development (Sabarudin et al., 2024; Sa'adah & Sulistiyo, 2026). The appropriate scholarly stance is one of critical correspondence: classical concepts are read within their own context, modern science is assessed on its methodology, and points of convergence and divergence are then analyzed without erasing the distinctiveness of either tradition.

Sixth, sustainability broadens the scope of institutional responsibility. Islamic education governs not only the relationship between human beings, God, and one another, but also amanah toward the natural world. Contemporary maqasid frameworks increasingly make room for environmental protection as a dimension of *maslahah*. This carries tangible managerial consequences: policies on

energy, procurement, waste, facilities, transportation, and curriculum can all be incorporated into institutional governance. Modernization, in this sense, means becoming not merely more digital but more accountable for one's social and ecological footprint.

Deriving the OEA-IEM Framework for Management Functions

In the planning function, OEA-IEM requires a sequence that moves from purpose to program, not from program to post hoc justification. An institution must first determine educational outcomes consistent with its tawhidic vision and maqasid, then analyze conditions through trustworthy data, and only then select a strategy. Every plan should specify its assumptions, indicators, ethical risks, affected stakeholders, capacity requirements, and evaluation mechanisms. This approach prevents a strategic plan from becoming merely a catalogue of annual activities. It also guards against the tendency to copy-paste programs from other institutions without diagnosing local context. In epistemological terms, planning is a structured hypothesis about how a given intervention will produce a desired outcome; it must therefore remain open to learning and revision.

In the organizing function, the principles of amanah and justice require that roles be distributed according to competence, responsibility, and proportional workload. Organizational structure must not simply follow seniority or personal closeness. Syura needs to be institutionalized through clear forums, but accountability for decisions must equally be clear, so that consultation does not result in a diffusion of responsibility. Modern organizing can draw on job analysis, competency mapping, workflow design, and digital collaboration, while the Islamic framework ensures that these instruments do not reduce human beings to mere units of productivity. Wahyudi et al. (2024) demonstrate the relevance of amanah, justice, syura, and ihsan to the recruitment, development, performance appraisal, and compensation of education personnel.

In the leadership function, OEA-IEM combines strategic competence with qudwah (exemplary conduct) and integrity. Leaders must be able to understand data, technology, regulation, and external change, yet their moral legitimacy cannot be replaced by technical competence alone. Al-Farabi emphasizes the quality of a leader who directs the community toward a true purpose, while the Islamic ethical tradition demands consistency between knowledge and action. In modern organizations, this means leaders must avoid ethical fading — the tendency to treat decisions purely as business matters, causing moral considerations to disappear from the conversation. Every major decision should carry an explicit ethical question: who benefits, who bears the risk, what rights are at stake, and what are the long-term consequences?

In the controlling and evaluation function, the OEA-IEM framework shifts the orientation of control away from mere fault-finding and toward accountability and learning. Financial audits, quality audits, learning evaluation, and performance monitoring remain important, but their design must guard against indicator manipulation. An overly punitive evaluation system can drive staff to conceal problems, while a system with no consequences at all can normalize negligence. The principle of adl demands balance: clear standards, sufficient evidence, the opportunity to explain, proportional consequences, and developmental follow-up. For AI, evaluation must also include audits of the model and its data, impact on vulnerable groups, and procedures for discontinuation when a system fails to meet its purpose or causes harm (mudarat) (UNESCO, 2021; Atallah, 2026).

In the function of innovation and knowledge development, ijtihad can be read as an intellectual ethos for responding to new problems through disciplined reasoning, not as a license for unfounded improvisation. Institutions need to build internal research capacity: needs assessments, program evaluation, action research, data analysis, benchmarking studies, and small-scale policy

experimentation. The resulting knowledge is then fed back into the planning cycle. In this way, IEM becomes more than a consumer of Western theory or a mere repeater of classical concepts; it becomes a field of study capable of generating middle-range theory grounded in the context of pesantren, madrasahs, Islamic schools, and Islamic higher-education institutions. Such theory can be tested, critiqued, and empirically refined without losing its normative orientation.

In AI governance, OEA-IEM can be translated into six layers of control. First, purpose fit: AI is used only when the problem and its expected benefit are clear. Second, epistemic validity: data, models, and outputs must be verifiable in accordance with the level of risk involved. Third, human protection: privacy, dignity, fairness, and the right of appeal are guaranteed. Fourth, competent oversight: significant decisions are never fully automated. Fifth, maqasid auditing: benefits and harms are assessed multidimensionally rather than through efficiency alone. Sixth, continuous evaluation: a system is discontinued or modified when evidence points to negative impact. This framework intersects with UNESCO's principles and maqasid-based AI-governance research, yet retains a distinctive IEM character, since institutional responsibility is understood simultaneously as professional accountability and moral amanah (Miao & Holmes, 2023; Atallah, 2026).

Theoretical Implications and a Critique of Weak Patterns of Integration

The principal contribution of this reconstruction is its rejection of three weak forms of integration. The first is terminological integration — replacing 'leadership' with imamah, 'planning' with tadbir, or 'quality' with ihsan without changing the underlying assumptions or practices. Such translation of terms may be pedagogically useful, but it produces no new theory if the causal relationships, the conception of the human being, the sources of knowledge, and the value criteria all remain unchanged. The second is citational integration — attaching a Qur'anic verse or hadith to a modern theory without explaining its argumentative function. The third is apologetic integration — searching for resemblances to 'prove' that every modern finding 'already exists in Islam.' This third pattern disregards the history of science and, in fact, weakens the Islamic tradition, since religious texts are forced to bear empirical claims they were never intended to carry.

A stronger alternative is structural integration. At the ontological level, a theory's assumptions about human beings and organizational purpose are examined. At the epistemological level, its sources of evidence, methods, limits of inference, and the position of values within knowledge are examined. At the axiological level, its purposes, its distribution of benefits and risks, and its long-term impact are examined. Only after this process is a modern theory adopted, modified, or rejected. Performance management, for example, can be used because it clarifies expectations and feedback, but it must be modified when its indicators encourage destructive competition or discourage collaborative work. Data analytics can be used for early warning, but must never become a mechanism for permanently labeling students. AI can assist administration and learning, but pedagogical and moral authority must remain with human beings.

This framework also corrects the overly rigid dichotomy between 'religious sciences' and 'secular sciences.' From the standpoint of Islamic epistemology, what matters is not whether a discipline carries a religious label but its object, method, degree of certainty, purpose, and manner of application. Mathematics, statistics, psychology, computer science, and organizational theory can all become integral parts of IEM when they serve the amanah of education. Conversely, religious knowledge can itself be misused when deployed to justify domination, resistance to criticism, or unjust decisions. The integration of knowledge therefore demands epistemic adab: recognizing the

limits of one's competence, distinguishing certainty from conjecture, acknowledging error, and granting strong evidence the right to correct policy.

Theoretically, OEA-IEM positions IEM as a normative-empirical science. It is normative because the purposes and limits of action are not entirely generated by data; it is empirical because the effectiveness of means, human conditions, and policy impacts must all be tested against reality. Consequently, IEM research cannot rely solely on textual interpretation, nor can it rely solely on data collection. Mature research needs to clarify how normative concepts are operationalized, how indicators are constructed, and how empirical findings are fed back to refine practical understanding. This model opens a new research agenda, including the development of a maqasid index for school governance, instruments measuring organizational amanah and justice, AI-governance models for madrasahs, and longitudinal studies on the relationship between adab culture and teacher quality and wellbeing.

A limitation of this study lies in its conceptual nature. The OEA-IEM framework has not yet been tested against field data across different types of institutions, so the relationships among its propositions still require empirical validation. The Islamic intellectual tradition is also far more plural than the figures discussed here; this article has not elaborated in detail the differences among theological schools, *usul al-fiqh*, *tasawwuf*, or philosophy. In addition, AI is developing so rapidly that its governance principles will need periodic revisiting. These limitations, however, only reinforce the point that the philosophy of science is not meant to close a discussion but to serve as a mechanism for maintaining intellectual discipline as theory and technology continue to evolve.

CONCLUSION

The philosophy of science provides the foundation needed to ensure that Islamic educational management does not stop at adopting modern management techniques merely relabeled as Islamic. This study has shown that a tawhidic ontology positions human beings as servant (*abd*) and vicegerent (*khalifah*), knowledge as amanah, and educational institutions as purposeful communities responsible for developing human beings in their entirety; that Islamic epistemology integrates revelation, reason, empirical evidence, verified experience, and scholarly authority in an orderly manner, so that decisions can be held accountable on both normative and evidentiary grounds; and that maqasid-based axiology directs the use of knowledge toward justice, amanah, *ihsan*, human dignity, *maslahah*, and sustainability. Through the OEA-IEM framework, these three dimensions are derived into planning, organizing, leadership, human resource development, evaluation, innovation, and technology governance. Modern science, including systems approaches, data analytics, digital transformation, and AI, is positioned as an important instrument but not one that is morally autonomous. The practical implication is that Islamic educational institutions need to build evidence-based decision-making combined with *tabayyun*, multidimensional quality indicators, substantive *syura* mechanisms, ethical audits of technology, the protection of data and learners' dignity, and an organizational culture capable of learning from its mistakes. Future research should empirically test this framework across madrasahs, *pesantren*, Islamic schools, and Islamic higher-education institutions, while also developing measurement instruments capable of linking maqasid and organizational values to modern indicators of educational quality.

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