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GOVERNING GENERATIVE AI IN ISLAMIC EDUCATIONAL INSTITUTIONS: AN AMANAH–ADL–MASLAHAH FRAMEWORK FOR RESPONSIBLE ADMINISTRATION

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Abstract

The expansion of generative artificial intelligence (GenAI) creates new opportunities for administrative efficiency, data analysis, communication, and decision support in educational institutions, while simultaneously raising concerns about privacy, bias, opacity, cognitive dependence, and blurred human accountability. This study develops a context-sensitive governance framework for GenAI in Islamic educational institutions. It employs an integrative literature review and thematic-comparative analysis of peer-reviewed scholarship on AI in educational leadership and management, responsible AI, AI literacy, digital transformation, and Islamic educational management. The synthesis produces the Amanah–Adl–Maslahah (AAM) Framework, connecting three normative principles with five governance functions: data stewardship, human-in-the-loop decision making, fairness and inclusion, transparency and verification, and capability and continuous evaluation. The framework positions AI as an analytical and administrative support system while retaining moral authority, high-stakes decisions, and institutional accountability with human leaders. Its novelty lies in shifting the discussion from technology adoption to an operational governance architecture that integrates efficiency, accountability, justice, and public benefit in Islamic educational settings. The framework offers a practical basis for institutional policies, standard operating procedures, leadership development, and future empirical research across madrasahs, pesantren, and Islamic schools.

Keywords: Artificial Intelligence; Educational Administration; Islamic Educational Management; Responsible AI; Values-Based Governance

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A. Introduction

Artificial intelligence has moved from a predominantly instructional technology issue to a leadership and governance issue. Recent scholarship shows that AI can support administrative decision-making, communication, resource allocation, and strategic planning, yet the evidence base on school leadership remains considerably thinner than the literature on teaching and learning (Wang, 2021; Fullan et al., 2024; Adams & Thompson, 2025; Sposato, 2025). This shift is particularly relevant to Islamic educational institutions, where management is expected not only to produce efficient outputs but also to protect institutional trust, fairness, moral formation, and accountability.

The literature presents a double gap. First, global AI-in-education research has concentrated heavily on learners, teachers, and higher education, while leaders and administrators remain comparatively underexplored (Bond et al., 2024; Mustafa et al., 2024; Fu et al., 2025). Second, responsible-AI studies identify fairness, privacy, transparency, agency, and human oversight as central principles, but these principles are rarely translated into a governance architecture tailored to Islamic educational management (Mouta et al., 2024; Fu & Weng, 2024; An et al., 2024). In Indonesia, JMPID has already highlighted digital transformation as both an opportunity and a management challenge and has recently linked educational quality with digital transformation, but the governance of generative AI has not yet been articulated as a distinct management problem (Jannah et al., 2023; Pauzi et al., 2025).

Studies of educational leadership further indicate that technology integration depends on leadership vision, competence, organizational support, and the preservation of human judgement (Schmitz et al., 2023; Dai et al., 2025; Kafa, 2025). AI literacy is therefore not merely technical proficiency; it also includes evaluation and ethical judgement (Ng et al., 2021). For Islamic institutions, this creates a need to connect technological capability with values that can guide responsibility, justice, and beneficial outcomes. The rapid diffusion of generative artificial intelligence (GenAI) into educational administration creates an urgent need for governance mechanisms that can ensure its use remains aligned with institutional responsibility, ethical principles, and educational missions. Unlike conventional digital technologies that primarily automate information processing, GenAI can generate recommendations, produce institutional documents, interpret data, and influence managerial decisions. Consequently, the absence of clear governance arrangements may expose Islamic educational institutions to significant risks, including inappropriate data use, biased decision support, reduced human accountability, and excessive reliance on automated outputs. The urgency of this issue is amplified by the fact that many educational institutions are already experimenting with GenAI applications, while policy frameworks, leadership competencies, and ethical safeguards often develop at a slower pace.

For Islamic educational institutions, this challenge has a distinctive dimension. Governance cannot be limited to questions of efficiency and technological adoption but must also address questions of trust (amanah), justice (adl), human responsibility, and beneficial outcomes (maslahah). Therefore, a context-sensitive framework is required to translate universal responsible-AI principles into practical governance mechanisms that reflect the values and managerial realities of Islamic education. Without such a framework, institutions may either adopt AI without sufficient ethical control or reject technological innovation without considering its potential contribution to educational improvement. Although previous studies have examined artificial intelligence in education, responsible AI, and digital leadership, important gaps remain. Existing research has predominantly focused on teaching, learning processes, and higher education contexts, while the governance responsibilities of educational leaders and administrators remain comparatively underexplored. Furthermore, responsible-AI principles such as fairness, transparency, privacy protection, and human oversight are frequently discussed at a conceptual level but are rarely transformed into operational governance structures specifically designed for Islamic educational management.

Therefore, this study aims to formulate a context-sensitive governance framework for generative artificial intelligence in Islamic educational institutions. Specifically, this study seeks to: (1) synthesize existing evidence on AI-enabled educational management and responsible AI governance; (2) identify the key ethical and managerial principles required for responsible GenAI adoption in Islamic educational settings; and (3) develop the Amanah–Adl–Maslahah (AAM) Framework as an operational governance model that clarifies the relationship between AI capabilities and human leadership responsibilities. Through these objectives, this study contributes to the emerging discourse on AI governance in education by shifting attention from technology adoption alone toward responsible institutional management. The proposed framework is expected to provide a conceptual and practical foundation for developing institutional policies, standard operating procedures, leadership capacity building, and future empirical investigations in madrasahs, pesantren, and Islamic schools.

B. Method

The integrative literature review method was selected because the objective of this study was not to measure the statistical effect of an intervention, but to synthesize fragmented knowledge from multiple research traditions and develop a context-sensitive governance framework. GenAI governance in Islamic educational institutions is an emerging topic that involves technological, ethical, managerial, and value-based dimensions; therefore, an integrative approach enables the comparison and integration of conceptual frameworks, empirical findings, and responsible-AI principles. This method is particularly appropriate for generating theoretical models

because it allows systematic identification of recurring themes, governance requirements, and relationships between AI capabilities and human leadership responsibilities.

This study used an integrative literature review with a qualitative thematic-comparative approach. Searches were conducted in August 2026 through publisher databases and scholarly search interfaces, prioritizing peer-reviewed journal articles indexed in Scopus or published in reputable national journals, with emphasis on 2021–2026. Search combinations included “artificial intelligence” AND educational leadership/administration/management; responsible AI AND education; AI literacy; digital leadership; and Islamic educational management. Studies were included when they addressed managerial applications, leadership roles, ethical risks, governance principles, digital transformation, or Islamic educational management. Seminal earlier works were retained when conceptually necessary. The analysis proceeded through four stages: source screening and verification; extraction of managerial opportunities, risks, and governance principles; thematic coding; and comparative synthesis between global responsible-AI principles and Islamic management values. Credibility was strengthened through source triangulation across systematic reviews, empirical studies, conceptual frameworks, and relevant JMPID publications. The final synthesis generated governance domains, decision rules, and implementation indicators rather than effect-size estimates.

C. Results and Discussion

From Digital Transformation to AI Governance

The literature demonstrates a clear progression from digitization toward AI-mediated management. Earlier digital transformation debates emphasized infrastructure, data management, curriculum support, and staff capability. JMPID’s discussion of digital transformation similarly identified efficiency and quality opportunities alongside cost, technical-skill, and socio-cultural barriers (Jannah et al., 2023). More recent AI scholarship extends this agenda because GenAI can generate recommendations, summarize institutional information, draft communications, identify patterns, and support decisions at a speed and scale unavailable to conventional information systems (Wang et al., 2024; Adams & Thompson, 2025; Sposato, 2025).

However, greater capability also increases governance risk. Systematic reviews consistently identify privacy, algorithmic bias, transparency, accountability, autonomy, and unequal access as recurring ethical concerns (Mouta et al., 2024; Fu & Weng, 2024; An et al., 2024). Thus, an Islamic educational institution cannot treat GenAI adoption as a procurement decision alone. It is a governance decision concerning what data may enter an AI system, which tasks may be delegated, who verifies outputs, how affected stakeholders can challenge decisions, and who remains accountable when AI-supported recommendations are wrong.

This governance orientation also aligns with current educational leadership research. Dai et al. (2025) distinguish the informational strengths of AI from the political, contextual, and value-laden roles of leaders. Kafa (2025) found that school leaders recognize administrative benefits but remain constrained by limited knowledge, training, and support. Berkovich (2025) further shows that GenAI is already entering school leadership work, making institutional rules more urgent than purely prospective debate.

The Amanah–Adl–Maslahah (AAM) Governance Logic

The synthesis produced three mutually reinforcing normative principles. Amanah refers to responsible stewardship: institutional data, authority, and technological capability are entrusted resources rather than unrestricted assets. Adl requires fair treatment, non-discrimination, explainability sufficient for contestation, and protection of stakeholders who may be disadvantaged by automated classifications. Maslahah requires AI adoption to produce demonstrable educational and organizational benefit while avoiding preventable harm. These principles are not presented as substitutes for technical AI ethics; instead, they contextualize and strengthen responsible-AI requirements within Islamic educational management.

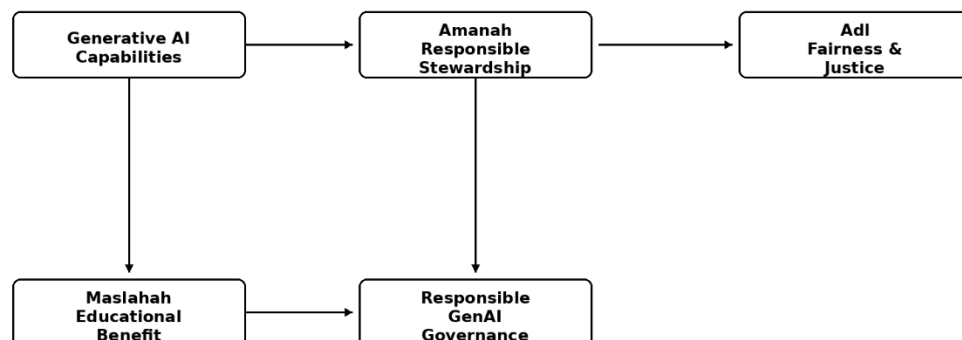


Figure 1. Conceptual Logic of the Amanah–Adl–Maslahah (AAM) Governance Framework.

The figure represents the authors' synthesis showing how AI capabilities are filtered through Islamic governance principles before becoming responsible institutional practices.

Table 1. Normative Logic of the AAM Framework

AAM principle	Governance question	Operational requirement	Primary risk controlled
Amanah	Who is responsible for data, prompts, outputs, and final decisions?	Named human owner; data minimization; access control; audit trail; prohibited-data rules	Privacy leakage, unowned decisions, careless delegation
Adl	Could AI-supported processes disadvantage particular students, staff, or groups?	Bias checks; accessible appeal mechanism; multi-source verification; inclusion review	Discrimination, digital exclusion, unfair profiling
Maslahah	Does the use of AI create verified educational or administrative benefit greater than its risk?	Use-case justification; proportionality; pilot testing; outcome and harm monitoring	Technology solutionism, unnecessary automation, mission drift

The novelty of AAM lies in converting values into decision rules. Amanah is operationalized through stewardship and traceability; adl through fairness review and contestability; and maslahah through proportionality and outcome evaluation. This responds to a limitation in much AI ethics literature: principles are often stated at a high level without specifying how institutional leaders should govern everyday administrative use (An et al., 2024; Fu & Weng, 2024). It also extends the leadership orientation in JMPID. Whereas transformative leadership in madrasahs has emphasized responsibility, role modelling, deliberation, and capacity building (Abidin et al., 2023), AAM applies comparable leadership responsibilities to algorithmically assisted administration.

Five Governance Functions for Responsible GenAI Administration

Data stewardship. AI systems should receive only data necessary for a legitimate institutional purpose. Student records, financial information, counseling notes, disability information, and other sensitive records should not be entered into public GenAI services without approved safeguards. Data provenance, access rights, retention, and deletion must be documented. This operationalizes amanah and

addresses the privacy and security concerns repeatedly identified in responsible-AI research (Mouta et al., 2024; Fu & Weng, 2024).

Human-in-the-loop decision making. AI may summarize, compare, forecast, or propose options, but high-stakes decisions student admission, sanctions, staff appraisal, dismissal, scholarship allocation, or religious and moral guidance must remain under accountable human authority. This is consistent with Wang's (2021) symbiotic decision-making perspective and Dai et al.'s (2025) division between AI's informational role and leaders' contextual-political judgement. Human oversight must be substantive, not ceremonial.

Fairness and inclusion. Institutions should test whether AI-supported procedures systematically disadvantage groups because of incomplete data, language differences, socioeconomic conditions, disability, gender, geography, or digital access. Adl requires leaders to provide a route for explanation, correction, and appeal. This is especially important in Islamic education because quality improvement cannot be separated from equitable access and dignified treatment.

Transparency and verification. GenAI outputs are probabilistic and can contain fabricated or misleading information. Leaders and staff therefore need verification routines, source checking, disclosure when AI materially contributes to official documents, and clear boundaries for automated communication. Studies of ChatGPT and GenAI repeatedly stress the need for fact-checking, human oversight, and critical literacy (Kasneci et al., 2023; Tlili et al., 2023; Yusuf et al., 2024).

Capability and continuous evaluation. Responsible adoption requires AI literacy, professional learning, and periodic review of outcomes. AI literacy encompasses understanding, use, evaluation, and ethics rather than tool operation alone (Ng et al., 2021). Leadership research also shows that training and organizational support are decisive for meaningful technology integration (Schmitz et al., 2023; Kafa, 2025). Institutions should therefore monitor time savings, error rates, stakeholder satisfaction, inequity signals, incidents, and mission alignment.

A Risk-Based Delegation Matrix

The AAM Framework proposes that the degree of AI autonomy should decrease as the ethical, legal, and educational consequences of a task increase. Routine, reversible, low-sensitivity tasks can use greater automation; high-stakes and value-laden tasks require stronger human control. This avoids both blanket prohibition and uncritical automation.

Table 2. Risk-Based Delegation Matrix for GenAI in Islamic Educational Administration

Risk level	Examples	Permitted AI role	Required control
Low	Meeting summaries; non-sensitive scheduling; first drafts of routine notices	Automate with review	Human spot-check; no sensitive data
Moderate	Resource planning; policy comparison; parent communication drafts; trend analysis	Recommend or draft	Named reviewer; source verification; documented prompt/output
High	Admissions; disciplinary sanctions; staff appraisal; scholarship decisions; counseling recommendations	Decision support only	Human committee decision; bias review; explanation and appeal
Prohibited/exceptional	Final religious rulings; fully automated dismissal or exclusion; unapproved processing of sensitive personal data	No autonomous decision	Qualified human authority and institutional approval

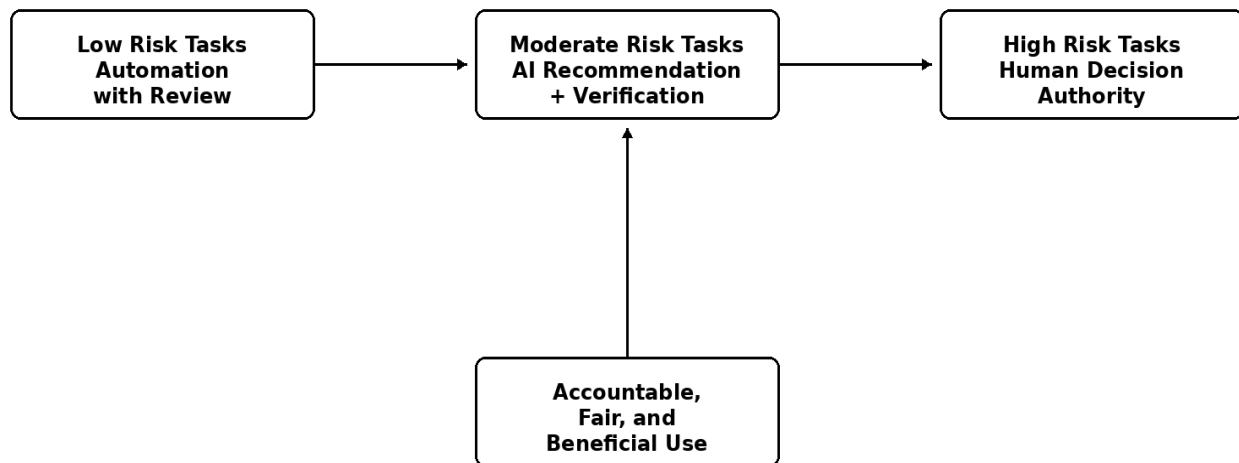


Figure 2. Risk-Based AI Delegation Model for Islamic Educational Administration

Figure 2 demonstrates the authors' interpretation that responsible GenAI governance requires differentiated levels of AI autonomy. The model indicates that AI may support routine and reversible administrative tasks, but its decision authority must progressively decrease when decisions involve ethical consequences, legal implications, or human dignity. Therefore, the central finding is not whether AI should be used or avoided, but how institutional leaders determine appropriate boundaries between automation and human accountability.

Implementation Pathway and Contribution to Islamic Educational Management

Implementation can begin with an institutional AI inventory: what tools are already used, by whom, for what data, and for which decisions. The second step is use-case classification using the risk matrix. Third, leaders should establish an AI governance team that combines management, IT/data protection, academic or curriculum representation, and persons competent in institutional Islamic values. Fourth, the institution should issue a concise policy covering approved tools, prohibited data, verification, disclosure, record keeping, incident reporting, and appeal. Fifth, staff development should combine technical AI literacy with ethical judgement and scenario-based practice. Finally, the institution should review benefits and harms at fixed intervals and discontinue uses that fail the *maslahah* test.

This pathway complements rather than replaces existing digital transformation efforts. JMPID's recent work links curriculum management, student achievement, and educational quality within digital transformation (Pauzi et al., 2025), while its earlier work stresses that digital transformation requires appropriate strategies and improved

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managerial digital skills (Jannah et al., 2023). AAM adds a governance layer: the central question is no longer only whether technology improves efficiency or quality, but whether the institution can demonstrate accountable, fair, and beneficial use throughout the AI lifecycle.

The framework also contributes to the international debate by bringing culturally grounded values into responsible AI without abandoning universal safeguards. The global literature increasingly calls for human-centered AI, clearer accountability, and leadership capacity (Fu & Weng, 2024; Arar et al., 2026; Sposato, 2025). AAM shows how those concerns can be translated into a values-based management architecture for Islamic educational institutions. The model is intentionally applicable across countries because its governance functions stewardship, human oversight, fairness, transparency, and evaluation are transferable, while the normative language allows Islamic institutions to articulate why those functions matter within their own mission.

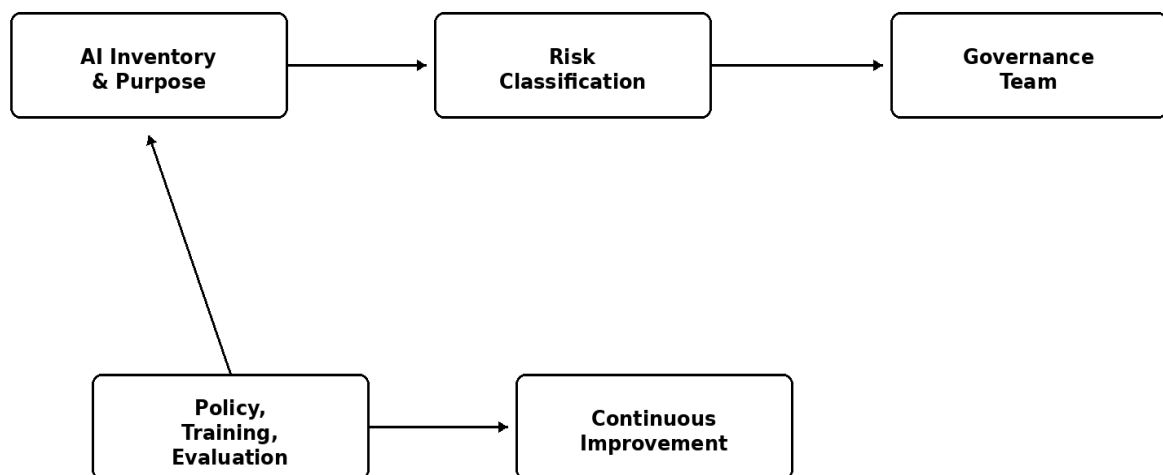


Figure 3. Institutional Implementation Pathway for Responsible GenAI Adoption

Figure 3 reflects the study's finding that GenAI governance should be approached as an institutional change process rather than a one-time technology adoption decision. The pathway emphasizes that successful implementation depends on sequential governance activities, beginning with identifying existing AI practices and ending with continuous evaluation of educational benefits and risks. This finding highlights the leadership responsibility required to transform AI capability into accountable institutional practice.

Research Propositions and Limitations

The framework generates testable propositions for subsequent empirical studies. First, higher AI literacy among educational leaders should be associated with stronger verification and lower uncritical reliance on GenAI. Second, institutions with explicit AAM-aligned policies should exhibit clearer accountability and fewer privacy or fairness incidents than institutions relying on informal individual practices. Third, human-in-the-

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loop arrangements should produce greater stakeholder trust in high-stakes AI-supported decisions than automation-dominant arrangements. Fourth, perceived alignment between AI use and institutional Islamic values should mediate staff acceptance of responsible AI policies. These propositions can be tested through surveys, comparative case studies, design-based research, or mixed methods.

The principal limitation is that this study is conceptual and literature-based; it does not claim empirical validation of the AAM Framework. The AI landscape also changes rapidly, meaning governance controls require periodic updating. In addition, Islamic educational institutions vary substantially across national regulations, organizational forms, and interpretations of institutional values. Future research should therefore validate the framework in diverse madrasahs, pesantren, and Islamic schools and examine how local regulation modifies its operational indicators.

D. Closing

Generative AI can strengthen Islamic educational management when it is governed as a decision-support capability rather than treated as an autonomous authority. This study concludes that responsible GenAI adoption requires an integrated governance approach based on the simultaneous application of amanah, adl, and maslahah. The principal novelty of this research lies in the development of the Amanah–Adl–Maslahah (AAM) Framework, which moves beyond previous technology-adoption perspectives by transforming Islamic ethical principles into operational governance mechanisms. Unlike approaches that discuss responsible AI primarily through general principles such as transparency, fairness, and accountability, AAM provides a context-sensitive architecture that connects normative values with five practical governance functions: data stewardship, human-in-the-loop decision making, fairness and inclusion, transparency and verification, and capability with continuous evaluation.

The research contributes theoretically by positioning AI governance in Islamic educational institutions as a managerial responsibility rather than merely a technological challenge. The framework demonstrates that AI capability must be mediated through human responsibility, ethical judgement, and institutional mission alignment. Practically, the findings recommend that Islamic educational institutions should: (1) establish institutional GenAI governance policies defining permitted uses, prohibited data practices, and accountability mechanisms; (2) create AI governance teams involving educational leaders, technical experts, and representatives with competence in institutional Islamic values; (3) implement risk-based delegation procedures that limit AI autonomy in high-stakes decisions such as admissions, disciplinary actions, staff evaluation, and scholarship allocation; (4) strengthen AI literacy programs that integrate technical competence with ethical evaluation; and (5) conduct periodic assessments of AI benefits, risks, fairness, and alignment with institutional objectives. Although this study is conceptual and requires empirical validation, the AAM Framework provides a foundation for future research and institutional experimentation. Subsequent studies

should examine the framework through empirical testing across madrasahs, pesantren, and Islamic schools by measuring its relationship with trust, administrative efficiency, decision quality, equity, and institutional accountability. Therefore, this research advances the discussion of AI in education from the question of whether institutions should adopt AI toward the more fundamental question of how AI can be governed responsibly to preserve human dignity, justice, and educational benefit.

AI Use Disclosure

The authors acknowledge the use of artificial intelligence applications during the preparation of this manuscript. AI applications were used only as supporting tools for language editing, academic writing refinement, and improving the clarity of academic expression. Specifically, ChatGPT was used to assist in reviewing sentence structure and enhancing the readability of the manuscript. The authors did not use AI applications to generate research findings, conduct literature analysis, develop the conceptual framework, or replace scholarly judgement in interpreting the results. All theoretical arguments, methodological decisions, analyses, and conclusions were developed, verified, and approved by the authors. The authors remain fully responsible for the accuracy, originality, and integrity of the manuscript.

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