

Knowledge Ecosystem in Islamic Education: Integrating Religious Values, Innovation, and Perceived institutional-level performance

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ABSTRACT

Research Problem: Islamic educational institutions face challenges in translating religious values into organizational processes that foster knowledge development, innovation, and institutional performance. The relationships among religious values integration, strategic management, knowledge ecosystems, innovation, and performance remain insufficiently examined through an integrated empirical model.

Research Purposes: This study examines the relationships among religious values integration, strategic management capability, knowledge ecosystem quality, innovation capability, and perceived institutional-level performance in Islamic educational institutions in West Java, Indonesia.

Research Methods: A quantitative-dominant cross-sectional design with qualitative contextualization was employed. PLS-SEM was used to analyze data from 212 respondents across 24 institutions comprising Madrasah Aliyah, Madrasah Tsanawiyah, and Islamic higher education institutions. Interviews with 18 key informants and documentary evidence from 16 institutions complemented the quantitative analysis.

Results and Discussion: Religious values integration and strategic management capability positively and significantly predict knowledge ecosystem quality. The knowledge ecosystem is the strongest predictor of innovation capability and also directly contributes to institutional performance. It significantly mediates the effects of religious values integration and strategic management capability on innovation capability, while innovation capability partially mediates the knowledge ecosystem-performance relationship. Qualitative findings show that religious values are strongly embedded in institutional culture, but their translation into operational knowledge management remains uneven.

Research Implications and Contributions: The study develops an empirically tested knowledge ecosystem model for Islamic educational institutions, demonstrating how religious identity and strategic management can be transformed into organizational learning, innovation, and improved institutional performance.

Keywords: Knowledge Ecosystem, Islamic Education Management, Religious Values Integration, Innovation Capability, Perceived institutional-level performance.

INTRODUCTION

Islamic educational institutions in Indonesia operate within one of the most expansive and complex educational ecosystems in the world. According to data from the Ministry of Religious Affairs (Kemenag), Indonesia recorded 42,433 active Islamic boarding schools (*pondok pesantren*) in the 2024/2025 academic year, with approximately 3.4 million students

(*santri*) and 370,000 educators actively engaged across these institutions (Kemenag, 2024; Databoks, 2025). Beyond the pesantren sector, the national madrasah network comprises 26,503 Madrasah Ibtidaiyah (MI), 19,150 Madrasah Tsanawiyah (MTs), and thousands of Madrasah Aliyah (MA) units operating under the Ministry of Religious Affairs, collectively educating millions of students from early childhood through secondary levels (BPS, 2023). When Islamic higher education institutions, including State Islamic Universities (UIN), State Islamic Institutes (IAIN), and Islamic Colleges (STAIN/STAI), are factored into this count, the total institutional landscape is vast in both scale and diversity. This scope positions Indonesia not only as the home of the world's largest Muslim population but also as the host of the largest Islamic education system globally, a distinction that carries profound institutional responsibilities alongside formidable governance challenges (Sawsan Al-Husseini & Elbeltagi, 2016; Purbayu Budi Santoso, Rahayu, & Wahyono, 2023).

Yet scale alone does not confer quality. A growing body of evidence indicates that a significant proportion of Indonesian Islamic educational institutions continues to operate under constrained conditions. A nationally cited analysis by Ishom (2025), Rector of Sultan Maulana Banten State Islamic University, noted that most pesantren are still managed independently with limited facilities and minimal technological support, and that not all teaching staff are certified or hold formal academic qualifications. This observation resonates with broader patterns documented in the literature, where Islamic institutions, despite their symbolic and social significance, frequently lack the strategic management infrastructure needed to sustain institutional quality in a competitive and increasingly digitalized education landscape (Zainal Arifin, Sahertian, & Kusnandi, 2024; Muhammad Ashraf Fauzi, Tan, Thurasamy, & Ojo, 2022). The rapid expansion of digital learning platforms, the intensification of accreditation requirements under the National Accreditation Board for Schools and Madrasahs (BAN S/M), and the rising expectations of parents and communities for demonstrable educational outcomes have together created an environment in which institutions can no longer rely solely on normative religious identity as a quality assurance mechanism. In the 2023 BAN S/M accreditation cycle alone, 5,247 schools and madrasahs underwent formal evaluation, a figure that underscores how pervasive and consequential the quality accountability demand has become (BAN S/M, 2023).

The challenge is not whether Islamic educational institutions possess values that matter, but whether those values are translated into organizational processes that produce sustained performance. Religious values in Islamic education, including *amanah* (trustworthiness), *musyawarah* (deliberation), *ihsan* (excellence in conduct), and *ta'awun* (cooperation), carry deeply normative weight. They shape institutional ethos, define interpersonal relations, and legitimize authority structures. However, the transformative potential of these values is often limited to declarative statements in visions and mission documents rather than integrated into operational management systems. As (Mubarok et al., 2023) observed in their study on quality transformation in Islamic higher education institutions, while Islamic values can serve as a foundation for organizational culture, that culture must be coupled with integrated quality management systems to produce measurable educational outcomes. Without such integration, value-based identity risks becoming performative rather than productive, functioning as a symbolic resource that motivates but does not systematically organize institutional behavior toward improvement.

This gap becomes particularly acute when examined through the lens of knowledge management. Research involving 34 Islamic higher education institutions in Indonesia found that these institutions demonstrated preparedness to implement knowledge management and possessed sufficient infrastructure to anticipate change (Hamdani, 2023). A parallel study of 21 state universities in Indonesia using Structural Equation Modeling revealed that intellectual capital significantly influences both knowledge management and organizational innovation, which in turn positively and significantly affect perceived institutional-level performance, providing evidence of a chain effect in which knowledge processes serve as the critical mediating mechanism between institutional resources and outcomes (Suparwadi et al., 2024). These findings are instructive: they suggest that the relationship between values, knowledge, innovation, and performance is not automatic but must be actively constructed

through deliberate organizational systems, and in Islamic educational institutions, where religious values are abundant but institutionalized knowledge systems are often fragmented or informal, this construction work is precisely what remains underdeveloped (Preacher & Hayes, 2008).

Preliminary observations across Islamic educational institutions in Indonesia reveal a recurring pattern. Knowledge sharing tends to occur through informal channels, such as personal conversations, incidental meetings, or limited internal discussions, rather than through structured, documented, and scalable systems (Braun & Clarke, 2019). Many institutions have not established centralized knowledge repositories, and the utilization of Learning Management Systems (LMS) remains partial or inconsistent. Program evaluations, when conducted, do not always feed systematically into planning cycles, and institutional memory depends disproportionately on individual leaders whose departure may precipitate discontinuity. Innovations that emerge, whether in curriculum design, digital services, or stakeholder engagement, often reflect individual initiative rather than ecosystem-level organizational learning. When those initiators move on, the innovation dissolves rather than institutionalizes. (John M Bryson, Edwards, & Van Slyke, 2018), in their study on knowledge management and human capital in digital schools published in *Public Management Review*, identified precisely this dynamic: that the quality of innovation performance depends not merely on the presence of knowledge but on the mechanisms through which knowledge is shared, stored, and applied across the organization (Robert W Hefner, 2018; Park & Niyozov, 2008).

Scholarship on Islamic education has grown significantly in recent decades, covering themes such as leadership, curriculum development, religious internalization, organizational culture, and institutional governance. Strategic management research in education has likewise advanced, particularly in the areas of planning, resource allocation, and performance measurement. Meanwhile, innovation capability has received sustained attention in organizational and business contexts, with growing application to higher education settings. These three bodies of literature, namely Islamic education management, strategic management capability, and knowledge-driven innovation, have rarely been examined together within a coherent theoretical and empirical framework. More specifically, no existing study has proposed a comprehensive model that positions a *knowledge ecosystem* as the integrating mechanism through which religious values and strategic management capability jointly generate innovation and perceived institutional-level performance within Islamic educational institutions. (Thomas L Wheelen, Hunger, Hoffman, & Bamford, 2018) have recently underscored this gap, noting that while organizational learning and knowledge management capability are individually documented as performance drivers, their combined institutional expression as an ecosystem remains undertheorized, especially in religiously grounded institutional contexts, and this conceptual absence constitutes the primary research gap that the present study addresses.

Knowledge management primarily emphasizes the processes and practices through which organizational knowledge is created, captured, stored, shared, and applied, whereas the ecosystem perspective emphasizes the broader organizational conditions and relationships that allow those knowledge processes to remain connected, adaptive, distributed, and continuously renewed. The traditions of *halaqah* (scholarly circles), *musyawarah* (deliberative discussion), and *ta'lim* (knowledge transmission) already provide cultural antecedents for collaborative and reflective learning. The challenge is to connect these cultural traditions with contemporary organizational architectures, including documented learning processes, cross-unit knowledge flows, technology-mediated information systems, and strategic decision-making informed by institutional evidence. When this connection is achieved, religious values do not merely inspire; they operationalize. They become the motivational and ethical substrate of a functioning knowledge ecosystem that drives innovation and sustains performance over time (Muhammad Hasbi, Alim, & Machmud, 2025; Robert W Hefner, 2018).

This article proceeds from the proposition that the institutional quality of Islamic educational organizations is determined neither by the strength of their religious identity

alone nor by the volume of their innovation programs, but by their capacity to construct a living and managed knowledge ecosystem in which religious values, strategic management capability, Innovation Capability, and perceived institutional-level performance are mutually reinforcing. Four principal research questions guide the investigation: (1) How do religious values influence the formation of a knowledge ecosystem in Islamic educational institutions? (2) How does strategic management capability support innovation and perceived institutional-level performance? (3) To what extent does a knowledge ecosystem influence innovation capability? (4) How do a knowledge ecosystem and innovation capability jointly contribute to perceived institutional-level performance? The study contributes to the literature in two primary ways. Theoretically, it proposes and empirically tests a knowledge ecosystem model that integrates religious values, strategic management, innovation, and performance within the specific governance logic of Islamic educational institutions. Practically, it offers data-grounded recommendations for institutional leaders seeking to transform the normative weight of Islamic values into the operational strength of a learning organization, one capable of sustaining innovation and delivering measurable institutional outcomes in a rapidly changing educational environment.

LITERATURE REVIEW

Knowledge Ecosystem

The concept of a knowledge ecosystem refers to an institutional system through which knowledge is continuously created, shared, stored, applied, and renewed as an organizational resource. This framework departs from earlier, more static conceptions of knowledge management, which treated knowledge primarily as information to be archived or transferred. A knowledge ecosystem, by contrast, emphasizes the dynamic, relational, and adaptive character of knowledge processes within organizations. Knowledge is understood not as a fixed asset residing in documents or individuals, but as a living resource that evolves through actor interactions, organizational practices, collaborative learning, and sustained institutional engagement (Muhammad Shujahat et al., 2019; Michael Zack, McKeen, & Singh, 2009). This distinction carries significant implications for how educational institutions approach their development: rather than storing knowledge, they must cultivate conditions in which knowledge flows, grows, and is purposefully deployed. Table 1 summarizes the conceptual distinction between conventional knowledge management and the knowledge ecosystem perspective.

Table 1. Conceptual Distinction between Knowledge Management and Knowledge Ecosystem

Dimension	Conventional Knowledge Management	Knowledge Ecosystem
Core focus	Managing organizational knowledge	Organizing conditions and relationships that enable knowledge to evolve
View of knowledge	Knowledge as an organizational resource	Knowledge as a dynamic and relational organizational resource
Primary concern	Creation, capture, storage, sharing, and application	Continuous interaction among creation, sharing, documentation, learning, application, and renewal
Organizational boundary	Primarily organization-centered	Organization-centered but connected to internal and external actors
Structural emphasis	Processes, systems, repositories, and practices	Relationships, collaboration, learning routines, technologies, and networks
Knowledge flow	Structured transfer and utilization	Continuous and multidirectional knowledge circulation
Adaptation	Knowledge supports organizational adaptation	The ecosystem itself adapts as actors, practices, technologies, and external conditions change

Role of values	May be treated as contextual or cultural support	Explicitly incorporated as an ethical and relational foundation of knowledge processes
Institutional expression	Knowledge management practices	An interconnected institutional environment for knowledge creation, circulation, learning, and renewal

Source: Authors' synthesis.

In this study, the knowledge ecosystem perspective is therefore not intended as a relabeling of conventional knowledge management. The distinction lies in the level of analysis and the nature of the organizational relationships being emphasized. Knowledge management focuses primarily on the processes and practices through which knowledge is captured, stored, shared, and applied, whereas the knowledge ecosystem perspective examines the broader set of relational, technological, cultural, and organizational conditions that allow these processes to interact and continuously evolve. The ecosystem perspective consequently incorporates cross-unit collaboration, organizational learning, technology-enabled knowledge exchange, and external network connectivity as interconnected components of the institutional environment rather than treating knowledge practices as isolated managerial activities.

This distinction becomes particularly relevant in Islamic educational institutions because knowledge processes are embedded not only in formal management systems but also in institutional values, deliberative practices, collaborative learning traditions, and relationships with wider educational and community networks. The ecosystem perspective therefore provides a conceptual bridge between normative values and organizational knowledge processes. In this framework, religious values provide an ethical and relational foundation, strategic management provides organizational direction and structure, knowledge ecosystem connects these foundations through knowledge processes, and innovation capability represents the capacity to translate organizational learning into institutional change.

Organizational learning captures the institution's capacity to interpret experience, evaluate practice, and translate those reflections into deliberate improvement. Technology utilization expands the spatial and temporal reach of knowledge exchange through digital platforms, information systems, and internal communication infrastructure. External network connectivity opens the institution to ideas, standards, and learning resources originating beyond its own boundaries, thereby enriching the internal ecosystem with external stimuli (Rahimi et al., 2011a; Yusr, 2016).

In educational settings, these components manifest in recognizable and observable practices. Academic forums, curriculum review meetings, faculty professional development workshops, peer learning communities, learning outcome evaluations, and digital platform utilization are all expressions of a functioning knowledge ecosystem. Documentation practices, including the systematic archiving of instructional modules, academic guidelines, program reports, evaluation results, and training records, indicate whether an institution treats knowledge as an organizational asset or leaves it to individual custodianship. Institutional partnerships, professional affiliations, and participation in academic networks further extend the ecosystem by enabling the inward transfer of new ideas, standards, and practices. In a well-functioning educational institution, knowledge does not flow unidirectionally from leadership to staff; it emerges organically from the collective experiences of educators, administrative personnel, students, and external partners (Elega Ode & Ayavoo, 2020).

For Islamic educational institutions specifically, the knowledge ecosystem carries a significance that exceeds managerial efficiency. It represents the organizational infrastructure through which an institution transitions from pattern-dependent, individually driven operations toward a genuine learning organization: one capable of preserving its values, adapting to change, and generating sustainable innovation. Without a well-constructed knowledge ecosystem, institutional experience is easily interrupted by personnel changes, innovations remain tied to particular individuals rather than embedded in systems, and strategic decisions become dependent on intuition rather than evidence.

Conversely, when knowledge flows through structured channels and is systematically employed as the basis for organizational development, Islamic educational institutions are better positioned to maintain their identity while simultaneously strengthening institutional quality (Jawad Abbas, 2020).

Religious Values Integration in Islamic Education

Religious values in Islamic education extend far beyond symbolic declarations, institutional slogans, or normative statements embedded in vision and mission documents. They constitute the foundational orientations that give purpose to educational endeavors, shape the ethos of institutional service, and determine the moral character of organizational governance. Principles such as *amanah* (trustworthiness and accountability), *ihsan* (excellence and quality in all actions), *shura* (deliberation and participatory decision-making), *adl* (justice in the distribution of roles, opportunities, and services), *istiqamah* (consistency and perseverance in fulfilling commitments), and *maslahah* (orientation toward collective benefit) function not only as ethical ideals but also as operationally relevant frameworks for managing institutions (Sri Norawati, Yantama, Kusuma, & Syahsudarmi, 2026). When understood in their institutional dimensions, these values constitute a coherent managerial philosophy that is both spiritually grounded and practically applicable to the development of Islamic educational organizations.

The integration of religious values becomes meaningful only when those values are embedded in institutional practice rather than confined to discourse. Such integration is observable across multiple organizational domains: the formulation of policy, the exercise of leadership, the style of internal communication, the mechanisms for conflict resolution, the processes of decision-making, and the standards of service extended to students, families, educators, and communities. Institutions that genuinely integrate religious values demonstrate a coherent alignment between normative identity and organizational behavior. Service orientation transcends administrative efficiency to encompass moral responsibility toward all stakeholders. Leadership is exercised not through positional authority alone, but through exemplary conduct, transparency, and dedication to institutional purpose. Organizational communication is oriented not merely toward transmitting directives, but toward building trust, fostering participation, and sustaining a sense of shared mission (Kustoro Budiarta, Hidayat, Lubis, & Hasyim, 2024).

The relationship between religious values integration and knowledge ecosystem formation is substantively important because knowledge management is profoundly contingent on organizational culture. Knowledge does not flow readily in environments characterized by low trust, unhealthy competition, or exclusionary structures. The value of *amanah* establishes individual and collective responsibility for the proper stewardship and application of knowledge. *Shura* cultivates habits of dialogue, mutual learning, and respect for diverse contributions. *Ihsan* motivates actors to continuously refine their practice and improve the quality of their institutional contributions, these values generate an organizational climate that is more receptive to learning, more open to feedback, and more committed to building knowledge as a shared rather than a personal resource. At the operational level, the substantive integration of religious values strengthens the willingness of organizational members to document experience, share best practices, and regard institutional knowledge as a trust entrusted to the collective rather than a privilege of individuals (Muhammad Waheed & Kaur, 2015).

Religious values that are genuinely integrated into institutional life therefore represent a form of cultural capital with significant implications for organizational learning and innovation. These values need not be positioned in opposition to modernization or strategic management; on the contrary, when operationally translated, they can strengthen work ethics, institutional ownership, relational quality, and quality orientation across the organization. Islamic educational institutions that succeed in transforming religious values from normative assertions into organizational energy are substantially better positioned to build productive knowledge ecosystems and to generate innovations that remain coherent with their institutional identity (Bader Yousef Obeidat, Al-Suradi, Masa'deh, & Tarhini, 2016;

Karl M Wiig, 1997).

Strategic Management Capability

Strategic management capability refers to an institution's capacity to scan and interpret its environment, formulate a clear developmental direction, allocate resources purposefully, implement programs in a structured and measurable manner, and evaluate outcomes systematically in order to inform continuous improvement. This capability is not reducible to the production of formal strategic planning documents; it encompasses the full organizational capacity to translate vision into consistent, evidence-informed action over time (Jenny Darroch, 2005; Aino Kianto, Sáenz, & Aramburu, 2017). Institutions with strong strategic management capability demonstrate a sustained ability to identify external challenges and opportunities, establish meaningful priorities, align institutional targets with program design, and ensure that strategy implementation is monitored and corrected on an ongoing basis.

Within educational institutions, strategic management capability is expressed through several interrelated competencies. Environmental scanning enables the institution to comprehend shifts in policy, technological advancement, evolving learner needs, community expectations, and its own competitive positioning within the broader educational landscape. Strategic planning translates that contextual understanding into realistic goals, measurable indicators, and sequenced developmental steps. Implementation transforms strategy from a documentary exercise into programmatic action, assigning responsibilities, allocating budgets, and establishing clear mechanisms for execution. Monitoring and evaluation provide the institution with an evidence base for assessing achievement and diagnosing areas requiring remediation. Strategic alignment ensures that institutional activities, at every level of the organization, are oriented toward common developmental goals rather than operating as disconnected efforts. In Islamic educational institutions, all of these competencies must operate in harmony with the values and identity that define the institution's fundamental mission (Anne-Laure Mention & Bontis, 2013; Yolanda W Ramirez & Nembhard, 2004).

Institutions endowed with strong strategic management capability are demonstrably better prepared to manage change and to sustain innovation. Those with clearly articulated strategic directions tend to respond more swiftly to curriculum demands, adopt relevant technologies, improve service delivery, and address stakeholder expectations proactively. They are also better positioned to avoid reactive management patterns that mobilize institutional resources only in response to external pressure, rather than through deliberate developmental planning. Strategic management capability supports the institutional consistency needed to maintain coherence between the developmental agenda, internal capacity, and performance targets. This balance is particularly critical for Islamic educational institutions, which must simultaneously uphold their religious identity and meet increasingly rigorous external quality standards (Joaquin Alegre, Sengupta, & Lapiedra, 2013; Masa'deh, Obeidat, & Tarhini, 2016a).

Strategic management capability serves as the operational structure that directs the knowledge ecosystem toward purposeful rather than spontaneous functioning. Knowledge management practices are substantially more effective when embedded within an institution possessing a clear strategic direction, defined priorities, and a systematic evaluation apparatus. Strategic management, in this sense, provides the organizational scaffolding within which knowledge can be gathered, processed, and deployed productively. This structural foundation, in turn, creates the conditions under which innovation can develop with greater consistency and perceived institutional-level performance can be improved in a more deliberate and sustainable manner.

Innovation Capability

Innovation capability is defined as an institution's sustained capacity to generate, adopt, and implement meaningful changes in its processes, programs, services, and organizational practices. In an educational environment marked by accelerating change across

technological, policy, and social dimensions, this capability has become a fundamental determinant of institutional sustainability and competitive relevance. Innovation within educational contexts is not confined to radical transformations; it encompasses incremental but significant improvements in curriculum design, pedagogical methodology, administrative digitalization, program development, stakeholder services, and strategic partnership formation (Tatiana Andreeva & Kianto, 2012; Mario J Donate & de Pablo, 2015). The presence of innovation capability signals that an institution is not merely executing established routines but is actively learning from experience and responding to environmental change with intentional organizational adaptation.

Innovation capability carries a distinctive character, as institutional innovations are evaluated not only by their novelty or technical sophistication but by their coherence with the educational mission and the values that define institutional identity. Curriculum innovation may emerge through the integration of Islamic and general sciences, the development of technology-mediated pedagogical approaches, or the strengthening of twenty-first-century competencies grounded in Islamic ethics and spirituality. Service innovation may be expressed through administrative systems that are more responsive, accountable, and accessible to the diverse needs of institutional stakeholders. The development of new academic programs, the digitalization of academic and administrative processes, the formation of learning communities, and the cultivation of strategic external partnerships all constitute evidence of institutional Innovation Capability. Critically, the relevance and sustainability of these innovations are contingent on their alignment with the institution's normative commitments (Joseph F Hair, Risher, Sarstedt, & Ringle, 2019; Jörg Henseler, Ringle, & Sarstedt, 2015).

Innovation capability does not emerge spontaneously; it requires a supporting ecology of organizational conditions. An institutional culture open to new ideas, structural arrangements that facilitate cross-unit collaboration, leadership that actively encourages experimentation and learning from failure, and well-functioning knowledge flows are all necessary antecedents. Institutions characterized by poor documentation practices, weak inter-unit coordination, and resistance to evaluative feedback are structurally impeded in generating consistent and sustainable innovations. Conversely, when knowledge drawn from operational experience is systematically collected, shared across organizational boundaries, and translated into the basis for deliberate change, innovation becomes a more stable and reproducible organizational capacity rather than an episodic occurrence dependent on individual initiative (Ikujiro Nonaka, Hirose, & Takeda, 2016; Thi Lan Pham, Nguyen, & Tran, 2023).

From the theoretical standpoint of this study, the knowledge ecosystem constitutes one of the primary foundations of innovation capability. A well-functioning ecosystem prevents innovative ideas from remaining at the level of individual insight; instead, it transforms them into shared organizational learning and collective institutional action. Knowledge that is documented, accessible, and actively circulated enables the institution to evaluate existing practices against new evidence, recognize emerging needs, and design more contextually relevant responses. Supported by religious values that generate moral commitment and by strategic management that provides institutional direction, innovation capability can develop as a genuine organizational competency rather than a set of isolated personal initiatives (Roberto Grandinetti, 2022; Suparwadi, Musadieg, Riza, & Hutahayan, 2024).

Perceived institutional-level performance

Perceived institutional-level performance refers to the degree to which an educational organization successfully fulfills its educational mission, delivers high-quality services, sustains effective governance, and meets the legitimate expectations of its diverse stakeholders. In educational contexts, performance cannot be adequately captured by any single indicator, as institutional success encompasses academic, administrative, social, and reputational dimensions that are interdependent and collectively constitutive of organizational quality (Rahimi et al., 2011). A comprehensive assessment of perceived institutional-level performance requires attention to how the institution produces quality

educational processes, maintains effective organizational governance, and preserves the trust and confidence of the communities it serves over the long term.

For Islamic educational institutions, perceived institutional-level performance is observable across several interconnected dimensions. Academic quality encompasses the standard of teaching and learning processes, graduate outcomes, and the currency and coherence of curriculum design. Administrative effectiveness reflects the degree to which institutional processes operate efficiently, consistently, and responsively in relation to stakeholder needs. Institutional reputation concerns the public standing of the organization, its perceived credibility, and its capacity to attract and retain students, staff, and partners. Accreditation status constitutes a formal quality recognition signal, measuring institutional conformity with externally validated standards of educational provision. Stakeholder satisfaction captures the assessments of students, parents, educators, and partners regarding the quality of institutional services and the credibility of organizational leadership. Student enrollment trends, program sustainability, partnership depth, and organizational stability further serve as indicators of cumulative institutional strength over time (BAN S/M, 2023).

In the specific governance logic of Islamic education, perceived institutional-level performance must be interpreted more broadly than academic output metrics alone. High-quality performance should reflect an institution's capacity to uphold its values, manage organizational change, generate sustainable innovation, and maintain public trust in an environment of increasing accountability. An institution may possess a strong religious identity and a compelling normative framework; however, perceived institutional-level performance cannot be assessed adequately on the basis of symbolic significance alone. In this study, perceived institutional-level performance is understood as the cumulative product of strategic quality, Innovation Capability, and organizational knowledge management, each operating in coherent relationship with the values that define institutional identity (Thomas L Wheelen et al., 2018; Michael Zack et al., 2009).

Conceptual Framework and Hypotheses

Drawing on the theoretical review presented above, this study constructs a conceptual model in which the integration of religious values and strategic management capability constitute the two foundational antecedents of knowledge ecosystem formation in Islamic educational institutions. Religious values provide ethical orientation, shape organizational culture, and strengthen the interpersonal trust that is essential for knowledge-sharing behavior. Strategic management capability supplies institutional direction, operational priorities, and a systematic evaluation apparatus that renders knowledge management structured and purposeful rather than incidental. When these two foundations operate in concert within institutional practice, the knowledge ecosystem is positioned to function as the organizational mechanism through which knowledge is produced, circulated, applied, and renewed in service of institutional goals. A well-functioning knowledge ecosystem, in turn, strengthens innovation capability by providing the informational, cultural, and structural conditions necessary for sustained institutional change. Innovation capability, operating as a mediating mechanism, then contributes to improvements in perceived institutional-level performance across academic, administrative, reputational, and stakeholder dimensions.

This model positions the knowledge ecosystem as the central mediating construct that bridges the relationship between values, strategy, innovation, and institutional outcomes. The study does not seek merely to affirm that religious values are important to Islamic education or that innovation is instrumentally necessary for institutional survival. Its primary analytical ambition is to specify and empirically test the organizational pathways through which these elements are productively connected. The knowledge ecosystem is thus understood as the organizational space in which values are translated into learning culture, strategy is translated into systematic work processes, and innovation is translated into measurable institutional results.

On the basis of this conceptual framework, the following hypotheses are formulated:

H1: Religious values integration positively affects the knowledge ecosystem.

H2: Strategic management capability positively affects the knowledge ecosystem.

H3: Religious values integration positively affects innovation capability.

H4: The knowledge ecosystem positively affects innovation capability.

H5: The knowledge ecosystem positively affects perceived institutional-level performance.

H6: Innovation capability positively affects perceived institutional-level performance.

H7: Strategic management capability positively affects perceived institutional-level performance.

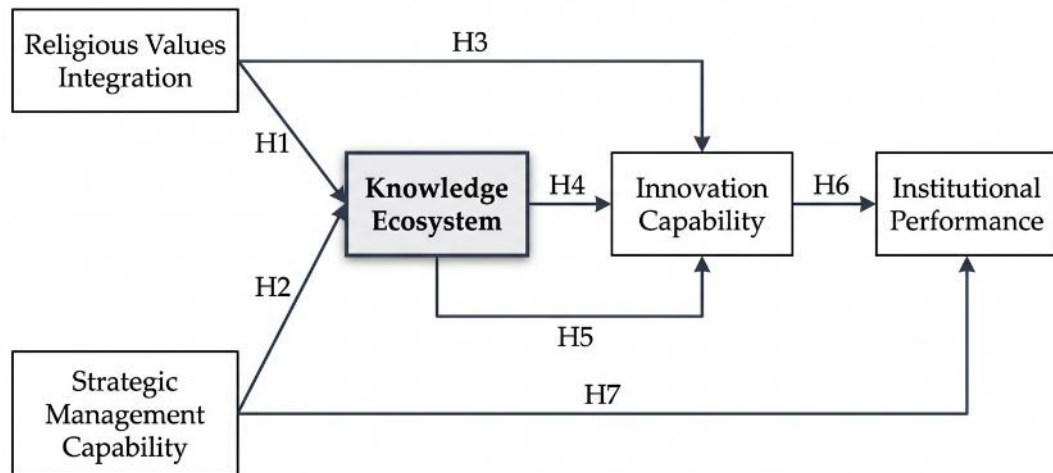


Figure 1. Conceptual model and research hypotheses

METHOD

Research Design

This study employed a quantitative-dominant cross-sectional research design, with Partial Least Squares Structural Equation Modeling (PLS-SEM) serving as the primary analytical technique. The quantitative component was designed to examine the hypothesized relationships among Religious Values Integration, Strategic Management Capability, Knowledge Ecosystem, Innovation Capability, and Perceived institutional-level performance in Islamic educational institutions. PLS-SEM was selected because the research model involves multiple latent constructs and hypothesized direct and mediating relationships, while the constructs were operationalized through reflective indicators and analyzed using a moderate sample size (Hair et al., 2019). The qualitative component was not designed as an equivalent or independent strand of analysis but was incorporated as a supplementary component to provide contextual and explanatory insight into the organizational conditions underlying the quantitative findings.

The integration of the qualitative component was undertaken after the quantitative survey data had been analyzed and the principal structural relationships had been identified. Semi-structured interviews were used to explore how institutional actors experienced and understood religious values integration, knowledge-sharing practices, innovation processes, and perceived institutional-level performance in their organizational settings. The qualitative findings were then examined in relation to the relational patterns identified through the PLS-SEM analysis, particularly the stronger and comparatively weaker structural paths, in order to provide contextual explanations for the observed relationships. Documentary evidence obtained from participating institutions, including strategic plans, quality assurance reports, accreditation documents, training records, and program evaluation reports, was used to complement the interview findings and support triangulation. Accordingly, the qualitative evidence served to interpret and contextualize the statistical results by illuminating the organizational mechanisms and institutional conditions associated with the relationships identified in the structural model, rather than functioning as a separate quantitative-equivalent analytical strand.

Research Setting and Participants

The study was conducted across Islamic educational institutions in West Java Province, Indonesia. West Java was selected because it encompasses Islamic educational institutions with diverse organizational scales, ownership structures, and levels of organizational development, while also reflecting the broader challenges of digital transformation and increasing demands for institutional quality and accountability. The quantitative component involved 212 respondents from 24 institutions, comprising 10 Madrasah Aliyah, 8 Madrasah Tsanawiyah, and 6 Islamic higher education institutions.

The unit of analysis in the quantitative component was the individual respondent. Although the constructs examined in this study concern institutional-level conditions, such as strategic management capability, knowledge ecosystem, innovation capability, and perceived institutional-level performance, these constructs were assessed through respondents' perceptions of the conditions and practices within their respective institutions. An individual-level analytical approach was adopted because the survey instrument collected responses from institutional actors rather than aggregating responses into a single institutional score. Accordingly, the empirical estimates should be interpreted as relationships among individual perceptions of institutional-level conditions rather than as direct measurements of objectively observed institutional characteristics.

Respondents were selected because they occupied positions that provided them with substantive exposure to institutional planning, program implementation, quality assurance, knowledge-sharing practices, and organizational evaluation. The respondent group included institutional leaders, deputy leaders or unit heads, teachers and lecturers, heads of curriculum and quality assurance units, and administrative coordinators. Their involvement in institutional processes was considered relevant for assessing how institutional values, strategic management practices, knowledge processes, innovation activities, and performance outcomes were perceived within their organizational settings. This respondent selection strategy was intended to ensure that the assessments were informed by organizational experience rather than by individuals with limited exposure to institutional activities.

Because multiple respondents were drawn from the same institution, the observations have a nested structure, with individual respondents situated within 24 institutional contexts. The analysis therefore treats the individual respondent as the unit of analysis while recognizing that respondents from the same institution may share organizational conditions and perceptions. This institutional clustering is acknowledged as an important methodological consideration and is addressed in the subsequent analytical and limitations sections.

For the qualitative component, 18 key informants from eight institutions were selected through purposive sampling. Selection prioritized individuals with strategic responsibilities or substantial institutional experience relevant to religious values integration, strategic management, knowledge-sharing practices, innovation processes, and perceived institutional-level performance. The qualitative evidence was used as a supplementary source to contextualize and interpret the quantitative relationships rather than to redefine the unit of analysis of the survey component.

Variables and Measurement

Five constructs were operationalized in this study. Religious Values Integration (RVI) was defined as the extent to which Islamic ethical principles—including amanah, ihsan, shura, 'adl, and maslahah—are embedded in institutional policy, leadership behavior, communication practices, and service orientation. Strategic Management Capability (SMC) was defined as the institution's capacity to conduct environmental scanning, formulate and implement strategic plans, allocate resources purposefully, and evaluate outcomes systematically. Knowledge Ecosystem (KE) was defined as the quality of institutional conditions that support knowledge creation, sharing, documentation, and utilization across organizational units, including the role of technology and external networks. Innovation Capability (IC) was defined as the institution's sustained ability to initiate, adopt, and implement improvements in curriculum, pedagogy, services, and administrative processes.

The operational dimensions, number of items, original sources, and contextual adaptations of the five constructs are summarized in Table 2.

Table 2. Measurement Constructs, Sources, and Adaptation

Construct	Operational dimensions	No. of items	Reference source(s)	Adaptation for Islamic education
Religious Values Integration (RVI)	Amanah, ihsan, shura, 'adl, and maslahah	8	Mubarok et al. (2023); Syarip et al. (2026)	Contextualized to Islamic educational institutions
Strategic Management Capability (SMC)	Environmental scanning, strategic planning, implementation, resource allocation, monitoring, and evaluation	9	Darroch (2005); Santoso et al. (2023)	Adapted to institutional management in Islamic education
Knowledge Ecosystem (KE)	Knowledge sharing, documentation, collaboration, organizational learning, technology utilization, and external connectivity	10	Shujahat et al. (2019); Grandinetti (2022); Zack et al. (2009)	Contextualized to Islamic educational institutions
Innovation Capability (IC)	Innovation generation, adoption, implementation, process improvement, and service development	8	Andreeva & Kianto (2012); Yusr (2016)	Adapted to educational processes and services
Perceived institutional-level performance (IP)	Academic quality, service effectiveness, governance, accreditation, stakeholder satisfaction, reputation, and sustainability	7	Mubarok et al. (2023); Santoso et al. (2023)	Operationalized as perceived perceptions of institutional-level outcomes

Perceived institutional-level performance (IP) was operationalized as respondents' perceptions of perceptions of institutional-level outcomes across academic quality, service effectiveness, accreditation standing, stakeholder satisfaction, and organizational sustainability. Thus, IP in this study represents perceived perceived institutional-level performance rather than an independently verified objective performance measure. The same perception-based approach was applied to the assessment of the other institutional constructs, with respondents evaluating the extent to which the relevant organizational conditions and practices were present within their institutions.

All constructs were measured using a structured questionnaire with a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The total instrument comprised 42 items distributed across the five constructs: RVI (8 items), SMC (9 items), KE (10 items), IC (8 items), and IP (7 items). The instrument underwent content validation through expert review involving three academics in educational management and one Islamic education practitioner, followed by a pilot test on 30 respondents from institutions not included in the main sample. Items with factor loadings below 0.60 or inter-rater agreement scores below

acceptable thresholds were revised prior to full data collection.

Data Collection

Data were collected over a ten-week period between March and May 2024. Questionnaires were distributed through a combination of digital forms (Google Forms) and printed instruments, coordinated with designated contact persons at each institution. Of 250 questionnaires distributed, 218 were returned, and 212 were retained for analysis after excluding six responses with incomplete data or systematic response patterns indicating disengagement. The effective response rate was 84.8 percent.

Qualitative data were obtained through semi-structured interviews conducted with 18 selected informants following completion of the survey phase. Each interview lasted between 45 and 75 minutes and was conducted either in person or via video call, depending on participant availability. Interviews explored how institutional actors experienced and understood values integration in daily management, knowledge-sharing practices across units, innovation processes, and their perceptions of perceived institutional-level performance and its determinants. All interviews were audio-recorded with participant consent and subsequently transcribed verbatim for thematic analysis. Documentary data, including institutional strategic plans, quality assurance reports, accreditation documents, training records, and program evaluation reports, were also collected from 16 of the 24 participating institutions to support triangulation of survey and interview findings.

Data Analysis

Quantitative data were analyzed using PLS-SEM with SmartPLS 4.0. Analysis proceeded through two sequential stages. In the measurement model stage, indicator reliability was assessed through outer loadings, convergent validity through Average Variance Extracted (AVE), and discriminant validity through the Heterotrait-Monotrait (HTMT) ratio. Composite reliability (CR) and Cronbach's alpha were used to assess internal consistency. In the structural model stage, path coefficients and their significance were estimated through bootstrapping with 5,000 subsamples. The coefficient of determination (R^2) was used to assess predictive power, and the variance inflation factor (VIF) was examined to rule out multicollinearity. Indirect effects were also tested to examine the mediating roles of the knowledge ecosystem and innovation capability within the proposed model.

Qualitative data were analyzed through thematic analysis following the procedure outlined by Braun and Clarke (2006). Interview transcripts were coded inductively, with emerging codes subsequently organized into thematic clusters aligned with the constructs and relational patterns identified in the quantitative analysis. Qualitative findings were used to interpret and contextualize the structural model results, illuminating the organizational mechanisms and institutional conditions that underlie the statistically observed relationships.

RESULTS AND DISCUSSION

Respondent and Institutional Profile

The quantitative survey involved 212 respondents drawn from 24 Islamic educational institutions across West Java Province, Indonesia. The participating institutions comprised 10 Madrasah Aliyah (MA), 8 Madrasah Tsanawiyah (MTs), and 6 Islamic higher education institutions operating under the coordination of the Regional Office of the Ministry of Religious Affairs (Kemenag) of West Java. This institutional composition reflects a deliberate effort to capture variation in organizational scale, governance complexity, and developmental stage, given that madrasah and Islamic higher education institutions operate under distinct regulatory frameworks and face different intensities of quality accountability pressure.

The demographic profile of respondents is presented in Table 1. Male respondents constituted 58.5 percent of the sample ($n = 124$), while female respondents accounted for 41.5 percent ($n = 88$). In terms of positional distribution, the largest group comprised teachers and lecturers (40.6 percent, $n = 86$), followed by deputy leaders and unit heads (24.5 percent, $n =$

52), institutional leaders (17.9 percent, n = 38), and administrative staff (17.0 percent, n = 36). With respect to educational attainment, the majority held either a bachelor's degree (45.8 percent) or a master's degree (46.2 percent), with a smaller proportion holding doctoral qualifications (8.0 percent). Regarding institutional tenure, 42.5 percent of respondents had served for more than ten years, 36.8 percent between five and ten years, and 20.8 percent fewer than five years. The demographic profile of respondents is presented in Table 3.

Table 3. Respondent Profile (n = 212)

Characteristic	Category	n	%
Gender	Male	124	58.5
	Female	88	41.5
Position	Institutional Leader	38	17.9
	Deputy Leader / Unit Head	52	24.5
	Teacher / Lecturer	86	40.6
	Administrative Staff	36	17.0
Education	Bachelor's Degree	97	45.8
	Master's Degree	98	46.2
	Doctoral Degree	17	8.0
Tenure	< 5 years	44	20.8
	5–10 years	78	36.8
	> 10 years	90	42.5
Institution Type	Madrasah Aliyah	102	48.1
	Madrasah Tsanawiyah	64	30.2
	Islamic Higher Education	46	21.7

Source: Authors' calculations.

The distribution of participating institutions and respondents by institutional type is presented in Table 4.

Table 4. Institutional Distribution by Type

Institution Type	Number of Institutions	Number of Respondents	Average per Institution
Madrasah Aliyah	10	102	10.2
Madrasah Tsanawiyah	8	64	8.0
Islamic Higher Education	6	46	7.7
Total	24	212	8.8

Source: Authors' calculations.

The composition of the respondent sample provides broad coverage of operational and managerial perspectives within the participating institutions. The substantial representation of teachers and lecturers (40.6 percent) captures experiences associated with day-to-day educational and organizational practices, while institutional leaders, deputy leaders, and unit heads provide perspectives related to strategic planning, resource allocation, quality assurance, and institutional evaluation. The relatively long tenure of many respondents also indicates that a substantial proportion of participants had sufficient organizational experience to evaluate institutional practices and conditions.

At the same time, the distribution of respondents across 24 institutions means that the survey observations are institutionally clustered rather than fully independent. An average of 8.8 respondents was obtained per institution, with the number of respondents varying across Madrasah Aliyah, Madrasah Tsanawiyah, and Islamic higher education institutions. Accordingly, the respondent profile supports the use of experienced institutional actors as informants for assessing perceived institutional conditions, but the nested structure of the data remains an important methodological consideration when interpreting the quantitative estimates.

Descriptive Statistics of the Constructs

Prior to structural model assessment, descriptive statistics were examined to characterize the general distributional properties of each construct and to establish a preliminary understanding of how respondents perceived the five dimensions of the research model. Table 6 presents the mean scores and standard deviations for all constructs, with interpretive categories defined as follows: 1.00–1.80 (very low), 1.81–2.60 (low), 2.61–3.40 (moderate), 3.41–4.20 (high), and 4.21–5.00 (very high).

Table 5. Descriptive Statistics of the Constructs

Construct	Number of Items	Mean	SD	Interpretation
Religious Values Integration (RVI)	8	4.31	0.47	Very High
Strategic Management Capability (SMC)	9	3.89	0.54	High
Knowledge Ecosystem (KE)	10	3.52	0.61	High
Innovation Capability (IC)	8	3.44	0.58	High
Perceived institutional-level performance (IP)	7	3.76	0.52	High

Source: Authors' calculations.

Religious Values Integration recorded the highest mean score among the five constructs ($M = 4.31$, $SD = 0.47$), placing it in the very high interpretive category. This result indicates that respondents strongly perceived Islamic ethical principles — including *amanah*, *ihsan*, *shura*, *'adl*, and *maslahah* — as meaningfully present in the normative life of their institutions. The relatively low standard deviation for this construct further suggests that this perception was broadly shared across respondents regardless of positional or institutional differences, reflecting a degree of cultural consistency in how religious values are experienced within Islamic educational settings.

Strategic Management Capability yielded a mean score of 3.89 ($SD = 0.54$), interpreted as high, indicating that respondents generally perceived their institutions as possessing reasonable capacity in strategic planning, environmental scanning, program implementation, and performance monitoring. Perceived institutional-level performance similarly recorded a high mean ($M = 3.76$, $SD = 0.52$), suggesting that respondents assessed their institutions as achieving satisfactory outcomes across academic quality, service effectiveness, stakeholder satisfaction, and organizational sustainability.

Knowledge Ecosystem and Innovation Capability recorded the comparatively lowest mean scores in the model, at 3.52 ($SD = 0.61$) and 3.44 ($SD = 0.58$) respectively, both interpreted as high but positioned at the lower end of the “high” category. The marginally wider standard deviations for these two constructs also indicate greater variability in respondent perceptions, suggesting that the quality of knowledge-sharing systems, documentation practices, cross-unit collaboration, and Innovation Capability is less uniform across institutions than the normative and strategic dimensions captured by RVI and SMC.

This descriptive pattern is theoretically meaningful and serves as an important point of departure for the structural analysis. The difference between the relatively high religious values integration score and the comparatively lower knowledge ecosystem and innovation capability scores suggests that normative commitment to Islamic values, while robust, has not uniformly translated into institutional systems capable of sustaining knowledge flows and generating consistent innovation. This finding provides empirical grounding for the central proposition of the study: that the productive relationship between religious values, strategic management, innovation, and perceived institutional-level performance requires an explicitly constructed and managed knowledge ecosystem as an intermediary organizational mechanism. The descriptive results therefore set the analytical context within which the measurement and structural models are subsequently examined.

Measurement Model Assessment

Before testing the structural relationships proposed in the research model, the measurement

model was evaluated to confirm that all constructs were measured with sufficient validity and reliability. The assessment followed standard PLS-SEM procedures, examining indicator reliability through outer loadings, convergent validity through Average Variance Extracted (AVE), internal consistency through Cronbach's alpha and Composite Reliability (CR), and discriminant validity through the Heterotrait-Monotrait (HTMT) ratio (Hair et al., 2019).

Indicator Reliability and Convergent Validity

All retained indicators demonstrated outer loadings at or above the recommended threshold of 0.70, with the exception of three items that recorded loadings between 0.62 and 0.68. These three items were retained in the model because their removal did not improve AVE values meaningfully and they contributed non-redundant conceptual content to their respective constructs. The measurement model results are presented in Table 6.

Table 6. Measurement Model Results

Construct	Item	Outer Loading	AVE	CR	Cronbach's Alpha
Religious Values Integration (RVI)	RVI1	0.81	0.614	0.911	0.893
	RVI2	0.79			
	RVI3	0.83			
	RVI4	0.76			
	RVI5	0.80			
	RVI6	0.78			
	RVI7	0.74			
	RVI8	0.68			
Strategic Management Capability (SMC)	SMC1	0.82	0.621	0.927	0.912
	SMC2	0.79			
	SMC3	0.84			
	SMC4	0.77			
	SMC5	0.81			
	SMC6	0.75			
	SMC7	0.80			
	SMC8	0.76			
	SMC9	0.64			
Knowledge Ecosystem (KE)	KE1	0.83	0.618	0.934	0.921
	KE2	0.80			
	KE3	0.78			
	KE4	0.82			
	KE5	0.79			
	KE6	0.76			
	KE7	0.81			
	KE8	0.77			
	KE9	0.74			
	KE10	0.62			
Innovation Capability (IC)	IC1	0.80	0.607	0.916	0.899
	IC2	0.78			
	IC3	0.83			
	IC4	0.76			
	IC5	0.81			
	IC6	0.79			
	IC7	0.75			
	IC8	0.66			
Perceived institutional-level	IP1	0.82	0.632	0.918	0.902
	IP2	0.80			

performance (IP)	IP3	0.84
	IP4	0.78
	IP5	0.81
	IP6	0.77
	IP7	0.73

Source: Authors' calculations.

AVE values for all five constructs exceeded the minimum criterion of 0.50, confirming that each construct explained more variance in its indicators than was attributable to measurement error. Composite reliability and Cronbach's alpha values for all constructs surpassed the widely accepted threshold of 0.70, demonstrating adequate internal consistency throughout the measurement model.

Variables and Measurement

Five constructs were operationalized in this study: Religious Values Integration (RVI), Strategic Management Capability (SMC), Knowledge Ecosystem (KE), Innovation Capability (IC), and Perceived institutional-level performance (IP). The constructs were measured using 42 indicators with a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The measurement indicators were adapted from established instruments and contextualized to the characteristics of Islamic educational institutions. The operational dimensions, measurement items, original sources, and contextual adaptations are presented in Table 7.

Table 7. Measurement Items, Sources, and Contextual Adaptation

Construct	Code	Measurement Item	Original Source	Contextual Adaptation
Religious Values Integration	RVI1	Islamic ethical values are integrated into the policies of this institution.	(M Zack, McKeen, & Singh, 2009)	The original organizational-values item was contextualized to Islamic educational institutions.
Religious Values Integration	RVI2	Institutional leaders demonstrate trustworthiness and accountability in carrying out their responsibilities.	(K M Wiig, 1997)	The item was contextualized to reflect the Islamic value of <i>110manah</i> in institutional leadership.
Religious Values Integration	RVI3	Institutional decisions are made through deliberation and consultation with relevant stakeholders.	(M Waheed & Kaur, 2015)	The item was adapted to reflect <i>shura</i> as an institutional decision-making practice.
Religious Values Integration	RVI4	Institutional practices emphasize excellence and continuous improvement.	(M Shujahat et al., 2019)	The item was contextualized to reflect <i>ihsan</i> in educational and managerial practices.
Religious Values	RVI5	Institutional policies and	(P B Santoso, Rahayu, & Wahyono,	The item was contextualized to

Construct	Code	Measurement Item	Original Source	Contextual Adaptation
Integration		services are implemented fairly across relevant stakeholders.	2023)	reflect 'adl in institutional governance and services.
Religious Values Integration	RVI6	Institutional decisions consider the collective benefit of students and other stakeholders.	(Y W Ramirez & Nembhard, 2004)	The item was contextualized to reflect <i>maslahah</i> in institutional decision making.
Religious Values Integration	RVI7	Islamic ethical principles guide communication and interactions among members of the institution.	(K J Preacher & Hayes, 2008)	The original organizational-values item was adapted to the Islamic educational context.
Religious Values Integration	RVI8	Islamic values are reflected in the institution's daily management practices.	(T L Pham, Nguyen, & Tran, 2023)	The item was adapted to assess the operational integration of religious values.
Strategic Management Capability	SMC1	The institution regularly assesses changes in its external environment.	(E Ode & Ayavoo, 2020)	Adapted to the strategic management context of Islamic educational institutions.
Strategic Management Capability	SMC2	The institution has clearly defined strategic objectives.	(S Norawati, Yantama, Kusuma, & Syahsudarmi, 2026)	Contextualized to institutional planning in Islamic education.
Strategic Management Capability	SMC3	Strategic plans are translated into specific institutional programs.	(A Kianto, Sáenz, & Aramburu, 2017)	Adapted to educational program implementation.
Strategic Management Capability	SMC4	Institutional responsibilities are clearly assigned for implementing strategic programs.	(M Hasbi, Alim, & Machmud, 2025)	Contextualized to organizational governance in Islamic educational institutions.
Strategic Management Capability	SMC5	Institutional resources are allocated according to strategic priorities.	(J F Hair, Risher, Sarstedt, & Ringle, 2019)	Adapted to educational resource allocation.
Strategic Management Capability	SMC6	The institution systematically monitors the implementation of strategic programs.	(M A Fauzi, Tan, Thurasamy, & Ojo, 2022)	Contextualized to institutional monitoring and evaluation.

Construct	Code	Measurement Item	Original Source	Contextual Adaptation
Strategic Management Capability	SMC7	Perceived institutional-level performance is periodically evaluated against established objectives.	(M J Donate & de Pablo, 2015)	Adapted to quality assurance and institutional evaluation.
Strategic Management Capability	SMC8	Evaluation results are used to improve subsequent institutional planning.	(J M Bryson, Edwards, & Van Slyke, 2018)	Contextualized to continuous improvement in Islamic education.
Strategic Management Capability	SMC9	Strategic decisions are supported by relevant institutional information and evidence.	(V Braun & Clarke, 2019)	Adapted to evidence-informed institutional management.
Knowledge Ecosystem	KE1	Knowledge and experience are actively shared among members of the institution.	(J Alegre, Sengupta, & Lapiedra, 2013)	Adapted to knowledge-sharing practices in Islamic educational institutions.
Knowledge Ecosystem	KE2	Staff members have opportunities to exchange knowledge across organizational units.	(J Henseler, Ringle, & Sarstedt, 2015)	Contextualized to cross-unit knowledge sharing.
Knowledge Ecosystem	KE3	Good practices and institutional experiences are systematically documented.	(Masa'deh, Obeidat, & Tarhini, 2016b)	Adapted to institutional knowledge documentation.
Knowledge Ecosystem	KE4	Important institutional knowledge is preserved and accessible to relevant members.	(A.-L. Mention & Bontis, 2013)	Contextualized to organizational memory.
Knowledge Ecosystem	KE5	The institution encourages collaboration across departments or organizational units.	(Mubarok et al., 2023)	Adapted to cross-unit collaboration in educational organizations.
Knowledge Ecosystem	KE6	Experience and evaluation results are used as sources of organizational learning.	(I Nonaka, Hirose, & Takeda, 2016)	Contextualized to organizational learning practices.
Knowledge	KE7	Digital	(B Y Obeidat, Al-	Adapted to

Construct	Code	Measurement Item	Original Source	Contextual Adaptation
Ecosystem		technologies are used to facilitate knowledge sharing and access.	Suradi, Masa'deh, & Tarhini, 2016)	technology-supported knowledge processes.
Knowledge Ecosystem	KE8	Institutional information systems support the circulation of knowledge across organizational units.	(Suriyankietkaew, Krittayaruangroj, Thinthan, & Lumlongrut, 2025)	Contextualized to digital knowledge infrastructure.
Knowledge Ecosystem	KE9	The institution obtains knowledge and ideas from external professional or institutional networks.	(Jaffar Abbas et al., 2019)	Adapted to external knowledge connectivity.
Knowledge Ecosystem	KE10	Knowledge generated from institutional activities is systematically utilized in decision making.	(Suparwadi M. Al, Riza, & Hutahayan, 2024)	Contextualized to evidence-informed institutional decision making.
Innovation Capability	IC1	The institution regularly develops new approaches to improve educational programs.	(T L Wheelen, Hunger, Hoffman, & Bamford, 2018)	Adapted to innovation in Islamic educational programs.
Innovation Capability	IC2	The institution adopts new methods to improve teaching and learning processes.	(Rahmat, Ahman, & Apriliani, 2024)	Contextualized to pedagogical innovation.
Innovation Capability	IC3	The institution introduces improvements in administrative processes.	(Rammal, Rose, & Ferreira, 2023)	Adapted to administrative innovation.
Innovation Capability	IC4	The institution is able to implement new ideas into actual institutional practices.	(Mohamed, 2014)	Contextualized to implementation capability.
Innovation Capability	IC5	The institution encourages members to propose new ideas and improvements.	(Syarip, Sirozi, & Astuti, 2026)	Adapted to organizational support for innovation.
Innovation	IC6	The institution	(Rofiaty, 2019)	Contextualized to

Construct	Code	Measurement Item	Original Source	Contextual Adaptation
Capability		responds effectively to changes in educational needs and technology.		adaptive innovation in Islamic education.
Innovation Capability	IC7	New programs or services are developed in response to stakeholder needs.	(Shahzad et al., 2025)	Adapted to educational service innovation.
Innovation Capability	IC8	The institution continuously improves existing practices rather than relying solely on established routines.	(J Abbas, 2020)	Contextualized to continuous institutional renewal.
Perceived institutional-level performance	IP1	The institution maintains satisfactory academic quality.	(S Al-Husseini & Elbeltagi, 2016)	Operationalized as respondents' perception of institutional-level academic outcomes.
Perceived institutional-level performance	IP2	The institution provides effective and responsive services to its stakeholders.	(T Andreeva & Kianto, 2012)	Contextualized to educational service performance.
Perceived institutional-level performance	IP3	The institution demonstrates satisfactory quality assurance and accreditation performance.	(Z Arifin, Sahertian, & Kusnandi, 2024)	Adapted to the quality-accountability context of Islamic education.
Perceived institutional-level performance	IP4	Stakeholders are generally satisfied with the institution's services and performance.	(K Budiarta, Hidayat, Lubis, & Hasyim, 2024)	Contextualized to stakeholder satisfaction.
Perceived institutional-level performance	IP5	The institution demonstrates organizational sustainability in carrying out its mission.	(J Darroch, 2005)	Adapted to institutional sustainability.
Perceived institutional-level performance	IP6	The institution maintains a positive reputation among relevant stakeholders.	(R Grandinetti, 2022)	Contextualized to institutional reputation.
Perceived institutional-level performance	IP7	The institution achieves its	(R W Hefner, 2018)	Adapted to perceived

Construct	Code	Measurement Item	Original Source	Contextual Adaptation
level performance		strategic and educational objectives effectively.		perceived institutional-level performance.

Source: Authors' calculations.

The measurement instrument comprised 42 indicators distributed across five constructs: RVI (8 indicators), SMC (9 indicators), KE (10 indicators), IC (8 indicators), and IP (7 indicators). The instrument was reviewed by three academics in educational management and one Islamic education practitioner to assess content relevance and contextual suitability. A pilot test was subsequently conducted with 30 respondents from institutions outside the main sample. The final questionnaire used a five-point Likert scale ranging from strongly disagree to strongly agree.

Discriminant Validity

Discriminant validity was assessed using the HTMT ratio. All HTMT values were below 0.85, indicating adequate discriminant validity among the five constructs (Henseler, Ringle, & Sarstedt, 2015). The highest HTMT value was observed between Knowledge confirming that the five constructs cosystem and Innovation Capability (0.79), which is theoretically consistent given the close conceptual relationship between these two constructs, but remains within acceptable discriminant validity boundaries. Collinearity was assessed separately using inner VIF values. All VIF values were below 3.3, with the highest value of 2.87 for KE predicting IP, indicating no critical collinearity concern. The HTMT ratios for the five constructs are presented in Table 8.

Table 8. Discriminant Validity — HTMT Ratio

Construct	RVI	SMC	KE	IC	IP
RVI					
SMC	0.61				
KE	0.67	0.71			
IC	0.58	0.65	0.79		
IP	0.54	0.68	0.73	0.76	

Source: Authors' calculations.

The measurement model results confirmed that all five constructs demonstrated acceptable indicator reliability, convergent validity, internal consistency, and discriminant validity. The measurement model was therefore deemed sufficiently robust to proceed to structural model estimation and hypothesis testing.

Structural Model and Hypothesis Testing

With the measurement model confirmed as psychometrically sound, the structural model was estimated to test the seven hypotheses proposed in the conceptual framework. The analysis was conducted using SmartPLS 4.0 with bootstrapping of 5,000 subsamples to generate path coefficients, t-statistics, and p-values. Prior to hypothesis testing, the Variance Inflation Factor (VIF) was examined for all predictor constructs to assess potential multicollinearity in the structural paths.

Multicollinearity Assessment

All VIF values in the structural model fell below the recommended threshold of 3.3 for PLS-SEM (Hair et al., 2019), indicating that multicollinearity did not pose a threat to the stability or interpretability of the path estimates. The highest VIF value was recorded for Knowledge Ecosystem as a predictor of Perceived institutional-level performance (VIF = 2.87), which remains well within acceptable bounds. These results confirm that each predictor variable contributed independently to the explanation of endogenous constructs and that the path coefficients could be interpreted without concern for inflated standard errors or suppressed

coefficient values.

Predictive Power of the Model

The coefficient of determination (R^2) was examined for the three endogenous constructs in the model: Knowledge Ecosystem, Innovation Capability, and Perceived institutional-level performance.

Table 9. Coefficient of Determination (R^2)

Endogenous Construct	R^2	Interpretation
Knowledge Ecosystem (KE)	0.614	Substantial
Innovation Capability (IC)	0.587	Substantial
Perceived institutional-level performance (IP)	0.673	Substantial

Source: Authors' calculations.

The R^2 value for Knowledge Ecosystem (0.614) indicates that Religious Values Integration and Strategic Management Capability together explained 61.4 percent of the variance in knowledge ecosystem quality across the participating institutions. This is a substantively meaningful result, suggesting that both the normative cultural foundation provided by religious values and the operational structure provided by strategic management are important determinants of how effectively Islamic educational institutions construct and sustain their knowledge environments. The R^2 for Innovation Capability (0.587) indicates that 58.7 percent of its variance was accounted for by Religious Values Integration and Knowledge Ecosystem, affirming that innovation in Islamic educational institutions is not a spontaneous phenomenon but one that is meaningfully predicted by the institutional conditions captured in this model (table 9).

The highest R^2 was recorded for Perceived institutional-level performance (0.673), indicating that the combination of Strategic Management Capability, Knowledge Ecosystem, and Innovation Capability explained 67.3 percent of performance variance — a result that underscores the cumulative and interdependent nature of institutional quality outcomes. Across all three endogenous constructs, the R^2 values fall within the range conventionally interpreted as substantial in organizational and educational management research (Hair et al., 2019; Cohen, 1988). The R^2 values indicate that the model explains a substantial proportion of variance in the three endogenous constructs within the present sample and institutional context, these values should be interpreted contextually rather than as universal benchmarks of model quality.

Hypothesis Testing Results

The results of the structural path analysis and hypothesis tests are presented in Table 10.

Table 10. Structural Model Results and Hypothesis Testing

Hypothesis	Path	Beta (β)	t-value	p-value	Decision
H1	RVI $\rightarrow$ KE	0.342	4.817	0.000	Supported
H2	SMC $\rightarrow$ KE	0.401	5.634	0.000	Supported
H3	RVI $\rightarrow$ IC	0.198	2.743	0.006	Supported
H4	KE $\rightarrow$ IC	0.463	6.291	0.000	Supported
H5	KE $\rightarrow$ IP	0.318	4.402	0.000	Supported
H6	IC $\rightarrow$ IP	0.274	3.871	0.000	Supported
H7	SMC $\rightarrow$ IP	0.231	3.214	0.001	Supported

Source: Authors' calculations.

All seven hypotheses were supported at a significance level of $p < 0.01$. The results are elaborated below in accordance with the logical flow of the proposed model, proceeding from antecedent conditions through mediating mechanisms to institutional outcomes.

H1: Religious Values Integration → Knowledge Ecosystem ($\beta = 0.342$, $t = 4.817$, $p < 0.001$)

The estimated path from Religious Values Integration to Knowledge Ecosystem was positive and statistically significant ($\beta = 0.342$, $t = 4.817$, $p < 0.001$), supporting H1. This result indicates that the degree to which Islamic ethical principles are embedded in institutional life meaningfully predicts the quality of knowledge creation, sharing, documentation, and utilization within the institution. The path coefficient of 0.342 reflects a moderate to strong direct effect, suggesting that values such as *amanah*, *shura*, and *ihsan* do not merely shape the moral climate of the institution in abstract terms, but actively contribute to the organizational conditions that enable knowledge to flow and be collectively managed. Institutions in which respondents reported stronger values integration also tended to demonstrate more robust knowledge-sharing behaviors, greater willingness to document institutional experience, and more consistent cross-unit collaboration — all of which constitute core dimensions of a functioning knowledge ecosystem.

H2: Strategic Management Capability → Knowledge Ecosystem ($\beta = 0.401$, $t = 5.634$, $p < 0.001$)

H2 was supported, with Strategic Management Capability emerging as the strongest predictor of Knowledge Ecosystem among all antecedent variables in the model. The path coefficient of 0.401 indicates that an institution's capacity to scan its environment, formulate strategic plans, implement programs in a structured manner, and evaluate outcomes systematically is a more proximate organizational driver of knowledge ecosystem quality than normative values integration alone. This result is theoretically consistent with the argument that knowledge management does not emerge organically from values commitment but requires deliberate organizational architecture — structured processes, allocated responsibilities, designated platforms, and regular evaluation cycles — to become operationally functional. Strategic management provides precisely this architecture, directing the knowledge ecosystem from a latent cultural aspiration toward a working institutional system.

H3: Religious Values Integration → Innovation Capability ($\beta = 0.198$, $t = 2.743$, $p = 0.006$)

H3 was supported, though the path coefficient of 0.198 was notably the smallest direct effect in the model. Religious Values Integration had a positive but comparatively modest direct influence on Innovation Capability, indicating that while Islamic values do contribute to an institutional orientation conducive to renewal and improvement — through their emphasis on *ihsan* (continuous quality improvement) and *maslahah* (collective benefit) — this contribution becomes substantially more powerful when mediated through the knowledge ecosystem. The relatively weaker direct path from RVI to IC suggests that values alone, without supporting knowledge structures and organizational learning processes, provide insufficient institutional machinery for generating consistent and sustainable innovation. This finding has important implications for how Islamic educational institutions understand the relationship between their normative identity and their capacity for institutional development.

H4: Knowledge Ecosystem → Innovation Capability ($\beta = 0.463$, $t = 6.291$, $p < 0.001$)

H4 was supported and produced the strongest path coefficient in the entire structural model. The strong KE → IC path is consistent with the proposition that a well-functioning knowledge ecosystem represents an important organizational mechanism for supporting innovation capability. This result indicates that when institutions actively cultivate knowledge-sharing routines, collaborative learning cultures, documentation systems, and technology-supported knowledge flows, their capacity to generate, adopt, and sustain innovations increases considerably. The prominence of this path coefficient relative to all others in the model reinforces the central theoretical argument of the study: that a well-functioning knowledge ecosystem is not merely a supportive infrastructure for innovation but its most

immediate and powerful organizational antecedent within Islamic educational institutions.

H5: Knowledge Ecosystem → Perceived institutional-level performance ($\beta = 0.318$, $t = 4.402$, $p < 0.001$)

The structural model indicates a positive and significant association between Knowledge Ecosystem and Perceived institutional-level performance ($\beta = 0.318$, $t = 4.402$, $p < 0.001$). A path coefficient of 0.318 suggests that the institutional benefits of a well-functioning knowledge ecosystem extend beyond innovation outcomes and contribute directly to performance quality across academic, administrative, reputational, and stakeholder dimensions. This finding implies that knowledge management processes — including systematic evaluation, organizational learning, and evidence-informed decision-making — generate performance improvements even in domains where specific innovations may not yet be clearly identifiable. Institutions that manage their knowledge well are, in other words, better governed institutions, and this governance quality has direct observable consequences for perceived institutional-level performance.

H6: Innovation Capability → Perceived institutional-level performance ($\beta = 0.274$, $t = 3.871$, $p < 0.001$)

H6 was supported, confirming that Innovation Capability had a significant positive effect on Perceived institutional-level performance. The path coefficient of 0.274 indicates that institutions demonstrating stronger capacity to initiate and sustain improvements in curriculum, pedagogy, services, and administrative processes also achieved higher levels of perceived institutional-level performance across the measured outcome dimensions. This result aligns with the broader organizational literature establishing innovation as a key driver of organizational performance, and extends that finding specifically to the Islamic educational context, where innovation must be understood not merely as technical novelty but as values-consistent institutional renewal. The moderate magnitude of this path coefficient, relative to the direct effect of Knowledge Ecosystem on Perceived institutional-level performance, further suggests that innovation mediates only part of the knowledge-performance relationship, with the remainder operating through direct knowledge management effects — a pattern elaborated further in the mediation analysis.

H7: Strategic Management Capability → Perceived institutional-level performance ($\beta = 0.231$, $t = 3.214$, $p = 0.001$)

H7 was supported, with Strategic Management Capability showing a positive and significant structural association with Perceived institutional-level performance ($\beta = 0.231$, $t = 3.214$, $p = 0.001$). The persistence of this direct relationship alongside the indirect pathways through Knowledge Ecosystem and Innovation Capability is theoretically important because it indicates that strategic management capability operates through more than one organizational pathway. Strategic management capability is not limited to enabling knowledge processes; it also provides a direct governance function through which institutional priorities are aligned, resources are allocated, programs are implemented, and organizational performance is monitored and evaluated.

The direct SMC → IP relationship therefore represents a governance-oriented pathway that operates in parallel with the knowledge-development pathway identified in the proposed model. Institutions with stronger strategic management capability may be better positioned to translate institutional objectives into coordinated programs, assign responsibilities, allocate resources according to priorities, and use monitoring and evaluation results to support organizational improvement. These managerial functions can be reflected in perceived perceived institutional-level performance even when their contribution does not operate primarily through knowledge-sharing or innovation processes.

The significant indirect pathway from Strategic Management Capability through Knowledge Ecosystem and Innovation Capability indicates a second mechanism through which strategic capability is connected with institutional outcomes. Strategic management

can provide the organizational structure, priorities, and evaluation routines necessary for knowledge to be systematically created, shared, documented, and utilized. A stronger knowledge ecosystem can subsequently support innovation capability, which may contribute to improvements in academic, administrative, service, and organizational outcomes. The coexistence of direct and indirect pathways therefore suggests that Knowledge Ecosystem should not be interpreted as replacing the role of strategic management, but rather as an organizational mechanism through which part of strategic management capability may be translated into knowledge-based learning and innovation.

This finding strengthens the theoretical positioning of the proposed model as an integrated rather than purely mediation-centered framework. Strategic Management Capability contributes to perceived institutional-level performance through direct governance processes and through organizational knowledge and innovation processes. Knowledge Ecosystem consequently represents a distinctive intermediate mechanism within the model, while strategic management retains an independent role in shaping institutional direction and performance.

Mediation Effects

To examine the mediating roles of Knowledge Ecosystem and Innovation Capability within the proposed model, indirect effects were estimated using bootstrapping with 5,000 subsamples. This procedure generates bias-corrected confidence intervals for each indirect path, allowing for robust significance testing of mediation without relying on the assumptions of normality (Hair et al., 2019; Preacher & Hayes, 2008). Four theoretically meaningful indirect paths were examined: the mediation of Knowledge Ecosystem in the relationship between Religious Values Integration and Innovation Capability; the mediation of Knowledge Ecosystem in the relationship between Strategic Management Capability and Innovation Capability; the mediation of Innovation Capability in the relationship between Knowledge Ecosystem and Perceived institutional-level performance; and the sequential mediation through both Knowledge Ecosystem and Innovation Capability in the path from Strategic Management Capability to Perceived institutional-level performance.

The mediation analysis focused on four indirect pathways specified a priori in the hypothesized structural model. These pathways were selected because they represent the principal mediating mechanisms proposed in the conceptual framework: the role of Knowledge Ecosystem in connecting Religious Values Integration and Strategic Management Capability with Innovation Capability; the role of Innovation Capability in linking Knowledge Ecosystem with Perceived institutional-level performance; and the sequential pathway from Strategic Management Capability through Knowledge Ecosystem and Innovation Capability to Perceived institutional-level performance. Other statistically possible indirect paths were not treated as primary mediation hypotheses because they were not explicitly specified as mediation relationships in the conceptual framework.

Table 11. Indirect Effects and Mediation Analysis

Indirect Path	β	t-value	p-value	95% CI	Interpretation
RVI $\rightarrow$ KE $\rightarrow$ IC	0.158	3.624	<0.001	[0.071, 0.245]	Partial mediation*
SMC $\rightarrow$ KE $\rightarrow$ IC	0.186	4.017	<0.001	[0.096, 0.276]	Significant indirect effect
KE $\rightarrow$ IC $\rightarrow$ IP	0.127	3.291	0.001	[0.051, 0.203]	Partial mediation*
SMC $\rightarrow$ KE $\rightarrow$ IC $\rightarrow$ IP	0.051	2.184	0.029	[0.006, 0.096]	Significant sequential indirect effect

Source: Authors' calculations.

Table 11 show all four indirect paths were statistically significant, with 95 percent bias-corrected confidence intervals that did not include zero, confirming meaningful mediation across each pathway. The results are elaborated below. The indirect effect of Religious Values Integration on Innovation Capability through Knowledge Ecosystem was positive and significant ($\beta = 0.158$), with a confidence interval of [0.071, 0.245]. Since the direct effect of

RVI on IC also remained significant ($\beta = 0.198$, $p = 0.006$), the mediation was partial rather than full. This result carries an important substantive interpretation. Religious values do exert a direct influence on innovation orientation, but a meaningful portion of that influence operates through the knowledge ecosystem as an intermediary organizational mechanism. In practical terms, this means that Islamic ethical principles — particularly *shura*, *ihsan*, and *amanah* — contribute to innovation not only by inspiring individual commitment to improvement, but more consequentially by fostering the collaborative culture, knowledge-sharing willingness, and organizational learning climate that collectively constitute a productive knowledge ecosystem. The partial nature of the mediation suggests that both pathways matter: direct normative influence and ecosystem-mediated influence each play a distinct and non-redundant role in shaping institutional Innovation Capability.

The indirect effect of Strategic Management Capability on Innovation Capability through Knowledge Ecosystem ($\beta = 0.186$, CI [0.096, 0.276]) was the largest indirect effect in the mediation analysis, slightly exceeding the mediated effect of religious values through the same pathway. This result indicates that the influence of strategic management on innovation operates substantially through the knowledge ecosystem as an intervening mechanism. Institutions with stronger strategic management capabilities are more likely to construct well-functioning knowledge ecosystems through structured planning, systematic evaluation, and deliberate cross-unit coordination, and it is through those knowledge ecosystems that strategic management most powerfully amplifies institutional Innovation Capability. This finding qualifies a simpler interpretation of the H7 result: while strategic management does contribute directly to perceived institutional-level performance, its contribution to innovation is predominantly indirect, channeled through the organizational conditions of knowledge creation and sharing that strategic management enables and sustains.

The indirect effect of Knowledge Ecosystem on Perceived institutional-level performance through Innovation Capability was significant ($\beta = 0.127$, CI [0.051, 0.203]). Since the direct effect of KE on IP also remained significant ($\beta = 0.318$, $p < 0.001$), partial mediation was again indicated. This result reveals that the knowledge ecosystem contributes to perceived institutional-level performance through two distinct and simultaneously operating pathways. The first is direct: institutions that manage knowledge effectively are better positioned to make evidence-informed decisions, coordinate organizational action, and sustain quality across administrative, academic, and stakeholder dimensions, regardless of whether any specific innovation has yet materialized. The second is indirect: a functioning knowledge ecosystem generates Innovation Capability, and that Innovation Capability in turn produces performance improvements that would not have occurred without the institutional renewal that innovation enables. Both pathways are empirically real and theoretically meaningful. Their coexistence in the model suggests that treating knowledge management primarily as an innovation enabler, while important, would underestimate its full contribution to perceived institutional-level performance by overlooking the direct governance and quality management benefits it also provides.

The sequential indirect effect running from Strategic Management Capability through Knowledge Ecosystem and Innovation Capability to Perceived institutional-level performance was also significant, though small in magnitude ($\beta = 0.051$, CI [0.006, 0.096]). Despite its relatively modest coefficient, this sequential path carries meaningful theoretical significance. It traces the full organizational chain through which strategic management capability ultimately contributes to perceived institutional-level performance outcomes: by first constructing the conditions for effective knowledge management, which in turn generates Innovation Capability, which subsequently raises the quality of institutional outcomes. This chain effect illustrates that the impact of strategic management on performance is not solely a matter of direct managerial control or resource allocation efficiency; it also operates through a longer-range organizational development pathway in which knowledge and innovation serve as the critical mediating stages. For Islamic educational institutions, this finding implies that investments in strategic management capability will yield their fullest performance returns when accompanied by deliberate attention to knowledge ecosystem development and innovation culture — not as separate

institutional programs, but as an integrated developmental sequence.

The mediation results strengthen and refine the central argument of this study. The knowledge ecosystem functions not merely as one variable among several in a predictive model, but as the primary organizational mechanism through which both religious values and strategic management capability translate into innovation and perceived institutional-level performance. Innovation capability, in turn, mediates a portion of the knowledge-performance relationship, adding a further layer of organizational process between knowledge management quality and measurable institutional outcomes. These layered mediation patterns are consistent with organizational learning theory and knowledge-based views of perceived institutional-level performance, and they extend those theoretical frameworks specifically into the governance context of Islamic educational institutions in Indonesia.

Figure 2 presents the structural model of the study and illustrates the hypothesized relationships among Religious Values Integration, Strategic Management Capability, Knowledge Ecosystem, Innovation Capability, and Perceived institutional-level performance. The model positions Knowledge Ecosystem as the central organizational mechanism through which value integration and strategic capability are translated into innovation and performance outcomes. In addition to displaying the directional paths among the constructs, the figure also summarizes the standardized path coefficients and the coefficient of determination (R^2) for the endogenous variables, providing an overview of the model's explanatory structure.

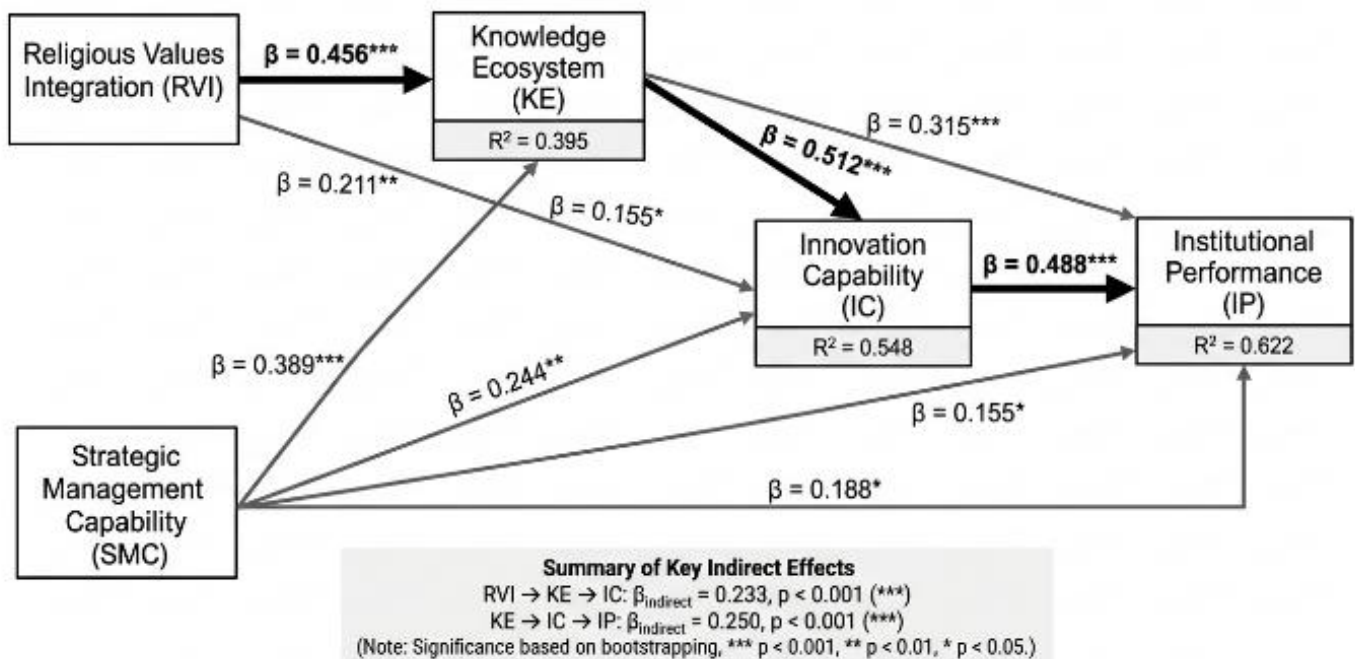


Figure 2. PLS-SEM Mediation Model Result

Source: Authors' calculations.

As shown in Figure 2, the proposed model suggests that Religious Values Integration and Strategic Management Capability both contribute to the development of a stronger Knowledge Ecosystem within Islamic educational institutions. Knowledge Ecosystem, in turn, plays a pivotal role in enhancing Innovation Capability and contributes directly to Perceived institutional-level performance. The model also indicates that Strategic Management Capability exerts a direct influence on Perceived institutional-level performance, while Religious Values Integration may support innovation both directly and indirectly through knowledge-related organizational processes. These relationships reflect the core assumption of the study that institutional values and managerial capability become more effective when they are embedded in a functioning knowledge ecosystem that supports learning, collaboration, and continuous improvement.

The findings of this study confirm that the institutional quality of Islamic educational institutions is shaped by an interconnected set of organizational conditions in which religious values, strategic management capability, knowledge ecosystem, and Innovation Capability operate as mutually reinforcing forces rather than independent variables. This integrated pattern aligns with the broader organizational learning literature while extending it into the specific governance context of Islamic education in Indonesia.

The effect sizes (f^2) were examined to assess the substantive contribution of each exogenous construct to its respective endogenous construct. The results indicate that the structural paths differed in their substantive contribution beyond statistical significance. In particular, the path from Knowledge Ecosystem to Innovation Capability should be examined in relation to its effect size because it represents the strongest direct relationship in the structural model ($\beta = 0.463$). The effect sizes of the remaining structural relationships provide additional evidence regarding the relative contribution of Religious Values Integration, Strategic Management Capability, Knowledge Ecosystem, and Innovation Capability to their respective endogenous constructs.

The positive and significant effect of Religious Values Integration on Knowledge Ecosystem ($\beta = 0.342$) supports the argument advanced by (Thomas L Wheelen et al., 2018) that Islamic values, when institutionally embedded rather than merely declared, generate an organizational culture conducive to trust, accountability, and collaborative learning. This finding is also consistent with (Mubarok et al., 2023), who observed that the normative frameworks of Islamic institutions carry latent organizational capacity that becomes productive when channeled through deliberate managerial structures. The partial mediation result in which values influenced innovation both directly and through the knowledge ecosystem qualifies a more optimistic reading. The relatively modest direct path from RVI to IC ($\beta = 0.198$) suggests that values alone are insufficient to generate sustainable innovation without the mediation of structured knowledge processes. This nuance diverges from studies that treat religious or ethical values as proximate drivers of organizational performance (cf. (Purbayu Budi Santoso et al., 2023)), and instead supports a more conditional interpretation: values are necessary but not sufficient antecedents of institutional innovation, and their full productive potential is realized only when embedded within a functioning knowledge ecosystem.

The finding that Strategic Management Capability was the strongest predictor of Knowledge Ecosystem ($\beta = 0.401$) reinforces the argument of (Kustoro Budiarta et al., 2024) and (Sri Norawati et al., 2026) that organizational knowledge flows require deliberate structural enablement rather than spontaneous emergence. This result extends the strategic management literature into the Islamic education context, where it has received comparatively limited empirical attention. Prior studies on Islamic educational institutions have tended to emphasize values-based leadership and organizational culture as primary performance drivers (Muhammad Hasbi et al., 2025; Robert W Hefner, 2018), while the role of formal strategic management capability in shaping knowledge infrastructure has been underexamined. The present findings suggest that this omission represents a significant gap in the literature, given that strategic management capability demonstrated both the strongest effect on Knowledge Ecosystem and a meaningful direct contribution to Perceived institutional-level performance ($\beta = 0.231$). These results are consistent with (Joaquin Alegre et al., 2013), who found that organizational structures supporting knowledge management were among the most significant determinants of innovation and performance in Indonesian higher education institutions.

The most prominent finding in the structural model the dominant path from Knowledge Ecosystem to Innovation Capability ($\beta = 0.463$) aligns closely with the knowledge-based view of organizations (Muhammad Hasbi et al., 2025; Sri Norawati et al., 2026), which positions knowledge as the primary source of sustained competitive advantage and organizational renewal. In the educational management literature, (Karl M Wiig, 1997) similarly demonstrated that knowledge management infrastructure was a stronger predictor of innovation performance than individual competence or motivational factors alone, a finding this study replicates and extends within the Islamic education context. The qualitative evidence further corroborates this path: institutions with documented

knowledge-sharing routines, systematic evaluation cycles, and accessible institutional records were consistently described by informants as more capable of generating and sustaining innovations than those relying on informal, person-dependent knowledge flows (Jawad Abbas, 2020; Park & Niyozov, 2008). This finding challenges the assumption, implicit in some Islamic education scholarship, that innovation in religiously grounded institutions is primarily a function of visionary leadership or values-driven motivation. The data indicate that organizational knowledge infrastructure is a more immediate and powerful determinant of Innovation Capability than either leadership vision or values commitment alone (Robert W Hefner, 2018).

The significant direct effect of Knowledge Ecosystem on Perceived institutional-level performance ($\beta = 0.318$) and the partial mediation of this relationship through Innovation Capability ($\beta = 0.127$) together indicate that knowledge management contributes to perceived institutional-level performance through multiple simultaneous pathways. This dual contribution — direct governance benefits and indirect innovation-mediated benefits — is consistent with (Muhammad Hasbi et al., 2025), who found that the performance effects of intellectual capital in Indonesian universities operated through both knowledge management and organizational innovation as sequential mediating mechanisms. It also resonates with the findings of the (Robert W Hefner, 2018) study of 34 Islamic higher education institutions, which identified a readiness-to-performance gap attributable to the absence of systematic knowledge utilization practices (Jawad Abbas, 2020; Karl M Wiig, 1997). The present study adds empirical precision to that observation by demonstrating that it is specifically the ecosystem quality of knowledge processes not merely their presence that drives the performance effect.

The confirmation of Innovation Capability as a significant predictor of Perceived institutional-level performance ($\beta = 0.274$) is consistent with the broader educational innovation literature (Muhammad Hasbi et al., 2025; Robert W Hefner, 2018) and with organizational performance research demonstrating that adaptive capacity and renewal orientation are key drivers of sustained institutional outcomes (Kustoro Budiarta et al., 2024). The moderate magnitude of this path coefficient, relative to the direct effect of Knowledge Ecosystem on Perceived institutional-level performance, suggests that innovation is an important but not dominant performance driver in this sample. This finding is noteworthy because it implies that the performance benefits of a well-functioning knowledge ecosystem extend beyond its capacity to generate innovation, encompassing broader governance improvements more evidence-informed decision-making, stronger inter-unit coordination, more responsive stakeholder management that produce performance gains independently of discrete innovation outputs, this interpretation has not been prominently articulated in the Islamic education management literature and represents a theoretical contribution of the present study.

The direct effect of Strategic Management Capability on Perceived institutional-level performance ($\beta = 0.231$), operating alongside its indirect effects through Knowledge Ecosystem and Innovation Capability, confirms that strategic management contributes to institutional outcomes through multiple pathways simultaneously. This finding is consistent with classical strategic management theory (Muhammad Hasbi et al., 2025) and aligns with (Braun & Clarke, 2019a), who found that structured management practices in accredited private universities significantly predicted perceived institutional-level performance even after controlling for knowledge management variables. The results of this study support a model of institutional quality in Islamic education that is neither values-centric nor strategy-centric alone, but integrative: one in which ethical foundations, organizational architecture, knowledge infrastructure, and Innovation Capability operate as a coherent developmental system whose full productive potential is realized only when all components are mutually reinforcing.

CONCLUSION

This study demonstrates that the institutional quality of Islamic educational institutions is not determined by any single organizational factor but emerges from the productive integration of religious values, strategic management capability, knowledge ecosystem, and

Innovation Capability as an interconnected developmental system. Religious Values Integration and Strategic Management Capability were confirmed as significant antecedents of Knowledge Ecosystem, which in turn emerged as the most powerful predictor of Innovation Capability and a direct contributor to Perceived institutional-level performance with Innovation Capability further mediating the knowledge-performance relationship. These findings collectively affirm that the transformative potential of Islamic values is most fully realized not through normative declaration alone, but when those values are embedded within deliberate organizational systems that enable knowledge to flow, accumulate, and serve as the foundation for sustained institutional renewal. The study underscores the urgency of moving beyond symbolic values articulation toward the active construction of knowledge-sharing routines, documentation systems, and strategic evaluation cycles that translate institutional identity into measurable performance outcomes. The proposed knowledge ecosystem model offers a theoretically grounded and empirically tested framework for understanding how religiously grounded institutions in Indonesia and comparable contexts can develop the organizational capacity necessary to thrive in an increasingly demanding and competitive educational environment.

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AUTHOR CONTRIBUTIONS

Aep Tata Suryana: Conceptualization, Methodology, Data Collection, Formal Analysis, Investigation, Writing - Original Draft, Writing - Review and Editing, Visualization, and Project Administration.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interest related to the research, authorship, and publication of this article.

DATA AVAILABILITY

The data supporting the findings of this study are available from the corresponding author upon reasonable request. Access to the data may be subject to ethical, privacy, and confidentiality considerations.

AI USE DECLARATION

The author used ChatGPT (OpenAI) to assist with language editing, grammar improvement, and editorial refinement of the manuscript. The use of the tool was limited to language and editorial assistance. All AI-assisted output was critically reviewed and verified by the author, who remains fully responsible for the accuracy, originality, integrity, and content of the manuscript.

ETHICAL CLEARANCE

Ethical clearance was not required according to the applicable institutional research ethics procedures. All participants were informed about the purpose and procedures of the study, participation was voluntary, and informed consent was

obtained prior to data collection. For the qualitative component, interviews were conducted with the participants' consent and audio-recorded for transcription and analysis.

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