



## **Toward Islamic Technology Governance: An Institutional Policy Framework for Digital Technology Integration in OBE English Curriculum at State Islamic Higher Education Institutions (PTKIN)**

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### **Abstract**

A preceding systematic literature review on digital technology integration in Outcome-Based Education (OBE) at State Islamic Higher Education Institutions (PTKINs) identified a critical gap: the absence of a comprehensive and contextually grounded institutional policy framework to guide the systematic implementation of technology-OBE integration. This study constitutes a conceptual paper grounded in comparative policy analysis, aimed at formulating an Institutional Policy Framework for Technology-OBE (KKKT-OBE) for PTKINs, with a specific focus on English Language Education (TBI) study programs. Employing a Policy Document Analysis approach applied to national regulations (Regulation of the Minister of Education, Culture, Research, and Technology Number 53 of 2023, MBKM policies, Ministry of Religious Affairs regulations) and a comparative analysis of international policy frameworks (OECD Digital Education Outlook 2023, UNESCO ICT in Education Framework, AI Ecological Education Policy Framework by Chan, 2023; EDUCAUSE AI Landscape Study, 2024), this study produces the KKKT-OBE framework consisting of four pillars: (1) Islamic Governance and Leadership, (2) Equitable Digital Infrastructure, (3) Sustained Lecturer Capacity Development, and (4) Digital Quality Assessment and Accountability. The framework explicitly integrates Islamic governance principles—shura (deliberation), amanah (accountability), and mashlahah (public benefit orientation)—as the ethical foundation distinguishing it from generic technology policy frameworks. This study offers an original contribution in the form of a policy model responsive to PTKINs' dual mandate: meeting national academic quality standards while preserving Islamic values and identity as the institution's distinctive characteristic.

**Keywords:** Institutional Policy, Technology Integration, OBE, PTKIN, Islamic Governance, English Language Curriculum

### **Introduction,**

A preceding systematic literature review examining digital technology integration in Outcome-Based Education (OBE) at PTKINs (Hidayah, 2022) generated significant findings while simultaneously identifying a critical gap: although patterns of technology integration in OBE have been well-identified—Technology for Assessment, Technology for Content Delivery, Technology for Collaboration, and Technology for Personalization—their implementation on the ground remains partial, sporadic, and entirely dependent on individual lecturers' initiatives. The absence of a comprehensive institutional policy framework emerges as the most significant factor impeding systemic and sustainable implementation.

This situation is not unique to PTKINs. The EDUCAUSE AI Landscape Study (2024) reveals that globally, 80% of lecturers and staff use AI-based technology tools, yet fewer than one in four institutions have a clear formal policy governing their use. What transpires is "shadow AI"—the massive use of technology without a policy umbrella, without ethical standards, and without accountability mechanisms. In the context of PTKINs, which carry a strong mandate for Islamic

values, the absence of such a policy potentially creates a more serious disorientation: lecturers use technology without ethical guidance aligned with Islamic values, while institutional leadership lacks the instruments to ensure that technology integration supports—rather than negates—the Islamic identity that constitutes PTKINs' distinctive character.

From a national regulatory perspective, Indonesia has, in fact, established a reasonably strong policy foundation. The Regulation of the Minister of Education, Culture, Research, and Technology Number 53 of 2023 establishes CPL as the primary quality assurance benchmark—a mandate that implicitly demands a data-based assessment system realizable efficiently only through digital technology. The MBKM policy opens curriculum flexibility spaces requiring collaborative technology platforms. Meanwhile, the internationalization agenda of PTKINs, driven by the Directorate of Islamic Higher Education—including AUN-QA accreditation targets—necessitates technology governance standards comparable to those of leading international Islamic higher education institutions.

The paradox that emerges is this: national regulations and agendas implicitly demand technology integration, yet not a single regulation explicitly provides operational guidance on how PTKIN institutions should build institutional policies to integrate technology in OBE curricula in a responsible, equitable, and Islamically-grounded manner. This policy gap constitutes the problem statement and *raison d'être* of the present study.

This study draws on relevant international policy frameworks—including the OECD Digital Education Outlook 2023, UNESCO ICT in Education Framework, and the AI Ecological Education Policy Framework—and adapts and contextualizes them within the institutional and value ecosystem of Indonesian PTKINs. The end product is the Institutional Policy Framework for Technology-OBE (KKKT-OBE): a conceptual instrument that can serve as a reference for PTKIN leadership, curriculum coordinators, and policymakers in designing, implementing, and evaluating technology integration policies in a systemic manner.

This study aims to: (1) analyze existing institutional technology-OBE policy gaps at PTKINs; (2) conduct a comparative analysis with relevant international policy frameworks; (3) formulate a contextually appropriate KKKT-OBE for PTKINs; and (4) propose a staged and realistic strategy for implementing the framework.

## **Research Methodology,**

### **Research Approach and Design**

This study employs a comparative policy analysis approach combined with policy document analysis. This approach was selected because the research objective is normative-constructive in nature—not describing existing conditions (is), but formulating what should exist (ought) based on systematic analysis of regulatory documents, international policy frameworks, and findings from prior empirical research.

Comparative policy analysis was conducted at two levels: (1) horizontal comparison between Ministry of Religious Affairs and Ministry of Education and Culture regulations to identify synergies and potential policy conflicts relevant to technology-OBE integration at PTKINs; and (2) vertical comparison between international policy frameworks (OECD, UNESCO, Chan 2023) and the PTKIN

institutional context to identify elements that can be adapted and elements requiring contextual modification.

### **Data Sources**

Research data sources encompass three categories. First, national regulatory documents: Law Number 12 of 2012 on Higher Education; Regulation of the Minister of Education and Culture Number 3 of 2020 on SN-DIKTI; Regulation of the Minister of Education, Culture, Research, and Technology Number 53 of 2023 on Higher Education Quality Assurance; Guidelines for Merdeka Belajar-Kampus Merdeka Curriculum Development; and Ministry of Religious Affairs regulations concerning PTKIN curricula.

Second, international policy frameworks: UNESCO ICT in Education Framework; OECD Digital Education Outlook 2023; AI Ecological Education Policy Framework (Chan, 2023); EDUCAUSE AI Landscape Study 2024; and policy documents from leading Islamic higher education institutions in Southeast Asia (Malaysia, Qatar, Turkey) sharing similar Muslim-majority contexts with PTKINs.

Third, prior empirical research findings: the systematic literature review results from the preceding study (Hidayah, 2022) identifying patterns of technology-OBE integration at PTKINs; the empirical study by Apriani and Hidayah (2019) on ICT use by English language lecturers at IAIN Curup; and Hidayah and Prihantoro (2022) on the impact of ICT on English language learning in the post-pandemic era.

## **Findings and Discussion,**

### **Findings**

#### **Regulatory Demands vs. Institutional Reality**

Regulatory mapping identifies five clusters of policy demands that implicitly or explicitly require technology integration in PTKIN OBE. First, data-based quality assurance demands: the Regulation of the Minister of Education, Culture, Research, and Technology Number 53 of 2023 establishes CPL as the accreditation benchmark—a demand that practically requires a CPL achievement measurement, documentation, and reporting system, only efficiently realizable through digital technology (learning analytics, e-portfolio, LMS). Second, MBKM flexibility demands: student rights to study outside their program for up to 40 credit hours require cross-institutional collaborative technology platforms. Third, internationalization demands: AUN-QA accreditation targets driven by the Directorate of Islamic Higher Education require technology governance standards comparable to international institutions. Fourth, Islamic values integration demands: the Ministry of Religious Affairs' religious moderation agenda must be operationalized into measurable CPL verified through data-based assessment. Fifth, industry relevance demands: MBKM requires curricula responsive to 21st-century world-of-work needs that are deeply technology-infused.

On the other side, the institutional reality of PTKINs reveals conditions not yet ready to respond to these five demands systematically. Hidayah identifies three primary gaps: (1) uneven digital infrastructure—from PTKINs in major cities with adequate connectivity to IAINs in remote districts with limited internet access; (2) fragmented lecturer digital competency—data from Apriani

and Hidayah (2019) showing ICT use still limited to three simple tool types; and (3) the absence of institutional policy overseeing technology use in a directed and Islamically ethical manner [1].

**Table 1:** Five clusters of policy demands

<b>Policy Demand Cluster</b>	<b>Regulatory Source</b>	<b>Technology Implication</b>	<b>PTKIN Policy Status</b>
Data-Based Quality Assurance	Permendikbudristek No. 53/2023	LMS, learning analytics, CPL e-portfolio	No formal policy yet
MBKM Flexibility	Permendikbud No. 3/2020	Cross-campus collaboration platforms	Sporadic implementation
Internationalization	Directorate of Islamic HE Policy 2024	AUN-QA technology governance standards	Early stage at major UINs
Islamic Values Integration	Ministry of Religious Affairs Regulations	Measurable values-based CPL assessment	No digital instruments yet
Industry Relevance	MBKM Guidelines 2020	Digital literacy in the curriculum	Fragmentary per program

**Comparison with International Policy Frameworks**

Comparison with international policy frameworks yields identification of three primary lessons adaptable to the PTKIN context, along with their respective limitations.

The first lesson, from the UNESCO ICT in Education Framework: the importance of mapping an institution's position in the access-use-integration-transformation continuum before formulating policy. For PTKINs, this mapping is crucial because each institution's position in this continuum varies considerably. Limitation: the UNESCO framework is generic and does not consider religious value context as a policy variable—a dimension that cannot be disregarded in the PTKIN ecosystem.

The second lesson, from the OECD Digital Education Outlook (2023): a sequential approach prioritizing digital literacy before pedagogical integration, supported by a clear governance framework. The OECD recommendation for "emerging" universities to adopt a staged approach is highly relevant for PTKINs with high institutional capacity heterogeneity. Limitation: the OECD context is developed countries with far more homogeneous digital infrastructure than Indonesia's distribution.

The third lesson, from the AI Ecological Education Policy Framework (Chan, 2023): the importance of three interrelated dimensions—pedagogical, governance, and operational—in comprehensive technology policy. Chan's framework also emphasizes the necessity of forming oversight committees involving diverse stakeholders. Its adaptation for PTKINs: an Islamic dimension must be added as a fourth dimension, not merely complementary, but serving as the ethical foundation for all three other dimensions.

**The Institutional Policy Framework for Technology-OBE (KKKT-OBE) For PTKIN**

*Design Principles of KKKT-OBE*

The KKKT-OBE is designed based on four mutually reinforcing design principles. First, the principle of contextualization: this framework does not attempt to import policy models from other contexts wholesale, but builds from the reality of PTKINs—including their limitations. Second, the principle of values integration: Islamic values are not decorative elements of policy, but foundational principles that permeate every component. Third, the principle of gradualism: implementation is designed in stages and sequences, acknowledging the heterogeneity of capacity among different PTKINs. Fourth, the principle of accountability: every policy component must have its success measurable through clear and verifiable indicators.

### ***The Four Pillars of KKKT-OBE***

**Pillar One: Islamic Governance and Leadership.** This is the architectural pillar—who makes decisions, how decisions are made, and what values guide the decision-making process. Operationally, this pillar requires the formation of a Technology-OBE Committee (KTO) at each PTKIN that is cross-functional in nature: involving institutional leadership, curriculum coordinators, IT department heads, lecturer representatives, and student representatives. This composition reflects the principle of shura: decisions about technology affecting all academic community members must be made participatorily, not by a single actor.

The KTO is responsible for: (a) formulating policies on technology use in OBE curricula aligned with Islamic values and national regulations; (b) conducting periodic technology audits to ensure ethical and responsible use; (c) formulating ethical guidelines for AI use in English language learning—including issues of academic integrity (*amanah*), student data privacy, and potential algorithmic bias; and (d) building feedback mechanisms enabling lecturers and students to report technology-related problems or innovations safely. This pillar directly addresses the gap identified by EDUCAUSE (2024): that the majority of institutions lack formal oversight structures for technology.

**Pillar Two: Equitable Digital Infrastructure.** This is the prerequisite pillar—without adequate infrastructure, even the best technology policy cannot be implemented. What distinguishes this pillar from mere device procurement is the keyword "equitable": infrastructure must be designed with the *mashlahah* principle in mind—equitably distributed benefit, not only for those already capable. This means PTKIN's infrastructure policy must explicitly identify and address access inequities between students residing in urban centers and those from remote areas.

Operationally, this pillar encompasses: (a) honest and data-driven infrastructure mapping—accurately identifying connectivity conditions, student device ownership, and campus bandwidth capacity; (b) an "adaptive technology" strategy—selecting and developing technology solutions that can operate under low-bandwidth or even offline conditions; (c) programs for providing devices to students without access, for instance through laptop or tablet lending schemes; and (d) development of local-language digital content with Islamic content that can be accessed without dependence on premium-connection-requiring foreign platforms.

Data from BPS (2024) on national internet penetration of 72.78% and household computer ownership of only 18.52% must serve as the realistic baseline for infrastructure planning. PTKINs cannot design technology policies assuming all students have equal access—a policy that disregards this reality will structurally discriminate against economically disadvantaged students.

**Pillar Three: Sustained Lecturer Capacity Development.** The studies by Apriani and Hidayah (2019) and Hidayah and Prihantoro (2022) at IAIN Curup consistently demonstrate that the lecturer

competency gap is the most critical factor in effective technology implementation. The third pillar responds to this reality by emphasizing the word "sustained": capacity development is not a one-off program, but a continuous and structured process.

The capacity development framework in KKKT-OBE adopts a three-layer model. The first layer is foundational digital literacy—ensuring all TBI lecturers possess minimum competencies in LMS use, digital collaboration tools, and technology ethics from an Islamic perspective. The second layer is TPACK for OBE—developing lecturers' ability to design technology-based learning experiences aligned with CPL: how to select the right technology for specific learning outcomes. The third layer is research literacy on technology—encouraging lecturers not merely to be technology users, but critical investigators of technology's impact on English language learning in PTKIN contexts, whose findings can be published as scholarly contributions.

Recommended capacity development mechanisms include: communities of practice among TBI lecturers across PTKINs; peer mentoring programs between more advanced PTKINs and those newly developing; and collaboration with international Islamic higher education institutions in developing content and methodology.

Pillar Four: Digital Quality Assessment and Accountability. This pillar is the mechanism ensuring the three preceding pillars function as intended and are accountable to the academic community, to the Ministry of Religious Affairs, and to students as the primary beneficiaries. The principle of amanah constitutes its ethical foundation: institutions hold the trust of students and society, and that trust demands transparent accountability.

Operationally, this pillar encompasses four elements. First, a digital data-based CPL achievement monitoring system—not merely periodic qualitative reports, but a learning analytics dashboard enabling study programs to see in real time how much technology contributes to each CPMK's achievement. Second, systematic technology impact evaluation—using LMS data to identify usage patterns, engagement, and correlations between specific technologies and improved learning outcome achievement. Third, structured student feedback mechanisms—regular surveys on technology-based learning experiences, the results of which serve as inputs for policy improvement in subsequent cycles. Fourth, annual technology ethics audits—conducted by the KTO to ensure student data use, technology platform selection, and digital assessment practices meet Islamic ethical standards and applicable data protection regulations.

### **The Inter-Pillar Architecture**

The four pillars of KKKT-OBE do not operate independently, but within an architecture of mutual interdependence. The Islamic Governance and Leadership Pillar (Pillar 1) functions as the coordination center, determining direction, standards, and priorities for the three other pillars. The Equitable Digital Infrastructure Pillar (Pillar 2) constitutes the prerequisite for establishing the minimum boundary of implementation possibility. The Lecturer Capacity Development Pillar (Pillar 3) is the enabler determining whether available infrastructure can be used with effective pedagogical grounding. The Quality Assessment Pillar (Pillar 4) is the feedback mechanism ensuring the three preceding pillars continue to develop and adapt.

Islamic Values Integration does not constitute a fifth independent pillar, but rather a transversal dimension flowing through the entire framework: it is present in how Pillar 1 makes

decisions (shura), in how Pillar 2 distributes access (mashlahah), in how Pillar 3 shapes lecturer character (amanah), and in how Pillar 4 accounts for its results to all stakeholders (amanah).

**Staged Implementation Strategy**

**Three Implementation Phases**

Acknowledging the heterogeneity of PTKIN capacities, KKKT-OBE is designed for implementation in three phases that can be adapted to each institution's conditions. These phases are indicative—not prescriptive—because PTKINs with higher capacity can progress more rapidly, while PTKINs beginning digital transformation require more time.

Phase One: Foundation (Years 1-2). The priority of this phase is to establish the minimum conditions enabling KKKT-OBE implementation: forming the KTO, conducting infrastructure and lecturer competency audits, formulating basic technology use policies, and launching the first-layer digital literacy program for all TBI lecturers. Success indicators for this phase are: KTO formed and actively meeting, an institutional technology capacity map available, and 100% of TBI lecturers having completed the foundational digital literacy program.

Phase Two: Integration (Years 3-4). In this phase, technology begins to be systematically integrated into OBE curricula—no longer as individual lecturer initiatives, but as standardized institutional practice. LMS is established as the official platform for CPL assessment; e-portfolio is implemented as a learning achievement documentation instrument; and the TPACK for OBE program is launched as the second-layer capacity development program. Success indicators: at least 70% of TBI courses use LMS for formative assessment; student e-portfolios cover at least three core CPMK per semester.

Phase Three: Transformation (Year 5 onward). This phase is characterized by institutional capacity to use data from technology systems as the basis for curriculum decision-making—no longer merely as an administrative tool. The learning analytics dashboard provides real-time information on CPL achievement; research programs on technology's impact on English language learning at PTKINs are launched; and PTKINs begin contributing to the regional/national knowledge ecosystem on technology-OBE in Islamic contexts. Success indicators: learning analytics reports are used in annual curriculum evaluation meetings; at least one research article on technology-OBE at PTKINs is published per year by TBI lecturers.

**Table 2:** Three Implementation Phases of KKKT-OBE

<b>Phase</b>	<b>Pillar Priority</b>	<b>Duration</b>	<b>Key Indicators</b>
1 – Foundation	Governance (P1) + Infrastructure Mapping (P2)	1–2 years	KTO formed; audit complete; 100% lecturers complete foundational digital literacy
2 – Integration	Infrastructure (P2) + Lecturer Capacity (P3)	2 years	70% courses use LMS; e-portfolio active; TPACK layer 2 running
3 – Transformation	Quality Assessment (P4) + all pillars	Ongoing	Learning analytics informs policy; technology-OBE research is published annually.

**Critical Success Factors**

Based on comparison with other institutional experiences and PTKIN context analysis, four factors are most determinative for successful KKKT-OBE implementation. First, top leadership

commitment: Rectors and Deans must be policy champions—not merely document signatories. Without genuine leadership support in the form of budget allocation, time prioritization, and symbolic legitimacy, KKKT-OBE will be degraded to a policy document that is never implemented.

Second, realistic and equitable budget allocation: KKKT-OBE implementation requires genuine investment for infrastructure, platform licenses, lecturer development programs, and monitoring systems. PTKINs need to advocate for dedicated digital transformation budget allocations in annual work plans (RKA), ensuring the distribution of these allocations considers the *mashlahah* principle—prioritizing PTKINs and programs most in need.

Third, a cross-PTKIN support ecosystem: no PTKIN needs to start from scratch. Forming a consortium or network of PTKINs in technology-OBE implementation—where more advanced PTKINs serve as mentors for those newly developing—will accelerate the collective learning curve and avoid duplicating mistakes. The Directorate of Islamic Higher Education of the Ministry of Religious Affairs has a crucial role in facilitating this network.

Fourth, a culture of reflection and continuous learning: KKKT-OBE implementation is not a project with a definite completion date, but a process of institutional cultural transformation requiring a learning-from-experience mentality—including from failure. Institutions that succeed are those building honest evaluation mechanisms and using the results to continuously refine policy, not merely reporting success to external authorities.

## **Discussion**

### **KKKT-OBE as a Bridge for the Dual Mandate**

The most significant conceptual contribution of KKKT-OBE is its capacity to position technology policy not as an additional source of complexity for PTKINs, but as an instrument that bridges the dual mandate—national academic and Islamic values. The LPM UIN Jambi study (2026) has identified this paradox as a genuine source of institutional confusion. KKKT-OBE offers a practical resolution: by making Islamic Values Integration a transversal dimension, every technology policy decision automatically passes through an Islamic values filter—not as a procedural obstacle, but as a compass of orientation.

The three-dimensional curriculum relevance proposed—integration of scholarship, Islamic values, and Indonesian identity—is reflected in the KKKT-OBE architecture: Pillar 1 reflects the Islamic dimension (Islamic values-based governance); Pillar 2 reflects the Indonesian dimension (equitable in the context of diverse Indonesia); while Pillars 3 and 4 reflect the scholarly dimension (evidence-based pedagogical competency and data-based accountability).

### **Position in the Global Technology Policy Landscape**

KKKT-OBE situates itself in dialogue with global policy frameworks while maintaining the originality of its context. From Chan (2023), KKKT-OBE adopts a multidimensional approach and emphasizes the importance of governance oversight. From OECD (2023), KKKT-OBE adopts the principles of gradualism and implementation sequentiality. From UNESCO, KKKT-OBE adopts the access-to-transformation continuum as an institutional journey map.

However, KKKT-OBE adds something possessed by none of these international frameworks: Islamic ethical foundations as an organizing principle that cannot be reduced to mere "local

adaptation." Shura, amanah, and mashlahah are not Arabic terms affixed to a Western framework—they are normative principles that substantively alter how policy is designed, implemented, and evaluated. This is KKKT-OBE's original contribution to Islamic educational technology policy literature.

### **Limitations and Future Research Agenda**

As a conceptual study, KKKT-OBE has inherent limitations that must be honestly acknowledged. First, this framework has not been empirically tested in the field, neither in terms of feasibility (implementation viability) nor efficacy (effectiveness in achieving goals). Second, the Islamic Values Integration principles in KKKT-OBE are formulated based on Islamic academic literature analysis, but have not been validated through consultation with Islamic scholars or jurisprudence experts possessing a deep understanding of technology ethics from an Islamic perspective. Third, the proposed three-phase implementation strategy is indicative and has not been calibrated based on empirical institutional feasibility studies.

These limitations simultaneously define an urgent future research agenda: (1) case studies of KKKT-OBE implementation at one or two selected PTKINs as a pilot study; (2) validation of Islamic Values Integration components through focus group discussions with Islamic education governance experts; (3) development of standardized KKKT-OBE implementation success measurement instruments; and (4) comparative studies on technology-OBE policies at Islamic higher education institutions in other countries (Malaysia, Qatar, Turkey) as international benchmarking.

### **Conclusion and Suggestion**

This study has successfully formulated the Institutional Policy Framework for Technology-OBE (KKKT-OBE) for PTKINs—a conceptual response to the critical gap identified in the preceding study: the absence of comprehensive institutional policy as the primary factor impeding the systemic implementation of digital technology integration in OBE English language curricula at PTKINs.

KKKT-OBE consists of four mutually reinforcing pillars: Islamic Governance and Leadership, Equitable Digital Infrastructure, Sustained Lecturer Capacity Development, and Digital Quality Assessment and Accountability. The entire framework is grounded in Islamic Values Integration as a transversal dimension—not merely a decorative element, but a foundational principle that substantively distinguishes KKKT-OBE from existing generic technology policy frameworks.

This study makes three primary contributions. First, a conceptual contribution: KKKT-OBE is the first technology-OBE policy framework explicitly designed for the Indonesian PTKIN institutional ecosystem—filling a gap unmet by existing international frameworks. Second, a practical contribution: KKKT-OBE provides staged and realistic operational guidance for PTKIN leadership, TBI curriculum coordinators, and policymakers at the Directorate of Islamic Higher Education of the Ministry of Religious Affairs. Third, a normative contribution: KKKT-OBE demonstrates how Islamic governance principles (shura, amanah, mashlahah) can be concretely operationalized in

educational technology policy—a bridge between the Islamic scholarly tradition and the demands of higher education modernization.

For the broader research program, this paper—together with the preceding systematic literature review [1]—forms a theoretical and policy foundation that urgently needs empirical testing. The most pressing next step is a KKKT-OBE pilot implementation at selected PTKINs, whose results will constitute an empirical contribution to the development of a contextually grounded, sustainable, and Islamically-oriented technology-OBE governance model.

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