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Integrating Resource Governance and Financial Sustainability in Indonesian Public Universities: A Critical Review

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Abstract

Financial sustainability in public higher education increasingly depends on decisions that connect academic resources, institutional autonomy, and public accountability. In Indonesia, these decisions operate within differentiated governance arrangements for ministerial work-unit universities, public service agency universities, and state universities with legal-entity status. This article critically examines how university resource portfolios and financial strategies may be aligned without compromising educational quality, research capacity, or equitable access. A critical narrative review was conducted by synthesizing recent peer-reviewed studies and pertinent Indonesian statutes and regulations. The literature was interpreted across five analytical themes: institutional autonomy, revenue diversification, resource allocation, digital capacity, and governance safeguards. The synthesis identifies three recurring tensions. First, expanded autonomy does not automatically produce financial resilience. Second, diversified income may offer limited protection when operating costs, debt exposure, and institutional capabilities are poorly managed. Third, performance-oriented funding may strengthen accountability but also distort academic priorities when measures are narrowly specified. In response, the article develops an integrated resource–finance governance framework that links strategic priorities, resource inventories, risk-adjusted budgeting, internal control, and balanced indicators of financial health, academic performance, and equity. This framework is a conceptual proposition rather than an empirically tested model. For Indonesian public universities, the findings suggest the importance of mission-aligned income development, lifecycle-based asset planning, transparent cross-subsidy policies, and participatory review. Comparative institutional research is needed to test whether these mechanisms improve resilience across governance categories and regional settings.

Keywords: Higher Education Governance; Financial Sustainability; Resource Management; Institutional Autonomy; Indonesia

BACKGROUND

Public universities are expected to generate knowledge, support social mobility, and contribute to public development while operating within persistent resource constraints. Their educational mission depends on academic staff, administrative expertise, facilities, learning resources, research infrastructure, and reliable information systems. Financial management therefore cannot be treated as a separate technical function: allocation decisions determine which programmes are supported, which facilities are maintained, how faculty workloads are balanced, and whether access remains affordable. Recent scholarship on financial strategy and university governance suggests that institutional performance reflects the interaction of financial choices, organizational capacity, and public-value obligations rather than the size of available budgets alone (Al-Filali et al., 2024; Graves & Erickson, 2024; Rotondo et al., 2025).

These issues are especially salient in Indonesia, where higher education institutions perform the threefold mission of education, research, and community engagement (Tri Dharma Perguruan Tinggi). Law No. 12 of 2012 specifies the principles of accountability, transparency,

non-profit orientation, quality assurance, effectiveness, and efficiency in university autonomy. It also differentiates arrangements based on public service agency financial management and legal-entity status. In practice, the policy environment is commonly described through three institutional configurations: public universities operating as ministry work units (PTN-Satker), public service agencies (PTN-BLU), and legal entities (PTN-BH). These are not simply interchangeable points on a universal ladder; each configuration has different decision rights, financial procedures, reporting obligations, and institutional risks (Republic of Indonesia, 2012a, 2015, 2020).

The key policy dilemma is that greater financial discretion may support timely decisions and innovation, but it also increases the need for internal controls, administrative skills, and stakeholder scrutiny. Empirical research in Indonesia links good university governance with institutional performance and identifies persistent constraints in participatory decision-making, personnel arrangements, and financial transparency (Endawansa & Juwono, 2024; Hariyati et al., 2025). Other analyses suggest that newly autonomous universities may face substantial adjustment costs even when additional revenue sources become available (Ikmah & Yulianto, 2025; Islami et al., 2025).

International research likewise complicates the assumption that competition, performance indicators, and diversified income are universally beneficial. The consequences of performance funding vary with policy design and political context, while financial diversification may be associated with either stronger resilience or continued vulnerability depending on revenue structure, assets, indebtedness, and managerial capacity (Hsieh, 2025; Mukhibad et al., 2025; Plaček et al., 2024; Zheng & Li, 2026). These findings suggest a need to connect resource decisions with financing arrangements and safeguards for academic and social missions.

This article addresses three questions: How do Indonesian public-university governance arrangements shape the opportunities and constraints of resource and financial management? What tensions emerge from recent empirical evidence on autonomy, diversification, and performance budgeting? Which integrated managerial mechanisms can improve financial resilience while protecting educational quality and equitable access? The contribution is a critically derived, context-sensitive governance framework and a set of operational indicators intended to support institutional deliberation, not a claim of causal validation.

REVIEW APPROACH

The manuscript is a critical narrative review of higher education governance, resource management, and financial sustainability. It builds on the original Indonesian-language literature-review article and updates its analysis using a purposively assembled body of peer-reviewed journal research published mainly during 2023–2026, supplemented by primary Indonesian legal instruments. Studies were selected for relevance to at least one of five dimensions: (a) financial autonomy and governance; (b) funding diversification and financial resilience; (c) performance-oriented allocation; (d) management of people, facilities, and digital systems; and (e) accountability and equitable access. Comparative evidence from other national systems was included where it illuminated mechanisms rather than to imply direct transferability to Indonesia.

The analytical procedure involved reading study-level claims, separating empirical findings from normative proposals, and comparing points of convergence and disagreement across the thematic dimensions. Regulatory provisions were used to establish the formal institutional context rather than to infer implementation outcomes. The synthesis then translated recurrent tensions into a proposed governance architecture and candidate management indicators. No fieldwork, original survey, statistical meta-analysis, formal appraisal scores, or systematic-review search flow was conducted; accordingly, the article does not report pooled effects, numerical prevalence of themes, or nationally representative estimates. This transparency is important because a critical narrative review can organize and interrogate knowledge without establishing the comprehensiveness of a systematic review.

The scope is further bounded by differences in study populations, accounting conventions, institutional classifications, and policy periods. Findings for universities in Vietnam, Europe, Taiwan, or Hong Kong are interpreted as comparative propositions rather than estimates for Indonesian institutions. Where the empirical literature disagrees, that disagreement is treated as evidence of contextual variation rather than resolved by assertion (Hsieh, 2025; Trinh et al., 2025; Zheng & Li, 2026).

CRITICAL SYNTHESIS AND DISCUSSION

University resources as an interdependent institutional portfolio

Academic resources cannot be assessed as isolated expenditure items. Faculty appointments create recurrent salary commitments and influence teaching loads, mentoring, programme accreditation, research supervision, and community-service capacity. Physical assets require not only acquisition but also utilization schedules, maintenance, accessibility investments, and eventual replacement. Curriculum and library resources depend on recurring renewal; digital platforms introduce licensing, cybersecurity, interoperability, and professional-development costs. A nominally balanced annual budget may therefore conceal deferred maintenance, under-supported staff, or technology systems that are obsolete before their depreciation period ends.

A portfolio perspective distinguishes four resource classes: human and relational capital; physical and research infrastructure; academic and information assets; and digital and administrative capabilities. Their contribution to the university mission is mediated by organizational processes and coordinated investments. Research from Indonesia identifies multiple input, process, output, productivity, and outcome indicators relevant to institutional research performance, illustrating why isolated spending measures are inadequate proxies for academic results (Hermanu et al., 2024). Studies of university sustainability initiatives likewise show that organizational coordination and implementation capacity can determine whether facility-related strategies are carried out as intended (Amaral et al., 2023).

The implication is not that universities should maximize productivity at any cost. Standardized workload or cost ratios can misrepresent fields with intensive laboratory requirements, clinical placements, field research, or community partnerships. A more defensible approach combines minimum service standards, disciplinary differentiation, inclusion measures, and transparent deliberation about the intended contribution of each resource. Strategic-planning research suggests that faculty and administrators do not always experience institutional priorities in the same way, which makes participation essential for translating financial objectives into credible academic choices (Graves & Erickson, 2024).

Institutional autonomy and distinct financial control regimes

The institutional forms used in Indonesia require different management instruments. PTN-Satker institutions operate within ordinary central-government budgeting and treasury arrangements. PTN-BLU institutions may manage qualifying service-related revenue more flexibly in accordance with approved business and budget plans, while remaining subject to public-sector fiscal oversight. PTN-BH institutions have separate legal status and specified powers for financial and organizational management; government support and eligible non-budget sources are governed by the higher-education legislation and the relevant implementing regulations. Neither BLU flexibility nor legal-entity status removes the requirement for transparency or accountability (Republic of Indonesia, 2005, 2012a, 2012b, 2015, 2020).

Table 1. Governance arrangements and implications for financial decisions in Indonesian public universities

Arrangement	Primary managerial opportunity	Key governance constraint
PTN-Satker	Alignment with public appropriations and central-budget procedures	Limited flexibility in cash and expenditure timing; strong reliance on treasury and procurement controls
PTN-BLU	Flexible use of qualifying service revenue under approved plans	Business-budget discipline, public reporting, service mandate, and government supervision
PTN-BH	Greater autonomy to organize eligible funding, assets, staffing, and institutional initiatives	Independent oversight, prudent risk management, regulated tuition and borrowing, and public-interest obligations

The comparison in Table 1 is a functional synthesis, not an assertion that one legal form necessarily produces better outcomes. Law No. 12 of 2012 links greater autonomy to quality and accountability, while the PTN-BH funding arrangements in Government Regulation No. 26 of 2015, as amended by Government Regulation No. 8 of 2020, retain differentiated rules for budget and non-budget sources. Borrowing is particularly sensitive: Ministerial Regulation No. 1 of 2026 establishes specific provisions for PTN-BH loans. An institution should therefore examine its legal authority, approved plans, and financial obligations before adopting investment or debt-financing initiatives (Republic of Indonesia, 2012a, 2015, 2020; Ministry of Higher Education, Science and Technology, 2026).

Autonomy is best understood as a combination of discretion and accountability capacity. Research comparing Indonesian PTN-BH and PTN-BLU institutions found meaningful associations between financial ratios and performance, while also revealing operating-cost pressures in legal-entity institutions (Ikmah & Yulianto, 2025). The literature on governance at a major Indonesian PTN-BH highlights the importance of participation, transparent criteria, and reliable disclosure (Endawansa & Juwono, 2024). Consequently, institutions should assess financial decision rights jointly with internal audit independence, accounting competence, conflict-of-interest management, and the quality of public reporting, rather than equating legal autonomy with effective management.

Diversification, revenue quality, and the limits of financial independence

Public universities may combine government appropriations, student-related receipts, research contracts, philanthropy, endowment earnings, partnerships, asset utilization, and other legally permitted revenue. Diversification has an intuitive appeal because it may reduce exposure to one volatile source. Yet income categories differ materially in liquidity, restrictions, timing, predictability, collection costs, and their relation to academic purposes. A grant restricted to equipment may not cover future maintenance; commercial activities can involve start-up losses; and rising tuition may weaken affordability. Revenue quality matters as much as the number of revenue streams.

The evidence is not uniform. A study of Vietnamese universities associated weak financial diversification with vulnerability and showed differences across institutional characteristics (Trinh et al., 2025). A 2026 study linked diversification and university resilience, with institutional autonomy functioning as an intervening mechanism in its research context (Zheng & Li, 2026). By contrast, a panel analysis of Indonesian PTN-BH institutions found that investment assets were positively associated with financial sustainability and debt negatively associated with it, whereas income diversification was not independently associated with improved financial stability in that study (Mukhibad et al., 2025). The studies differ in national

setting, operational definitions, and designs and therefore should not be read as logically contradictory causal estimates.

Qualitative Indonesian evidence adds that financial sustainability is shaped by institutional culture, human-resource readiness, organizational efficiency, business development, and the ability to reinvest in mission-relevant activities (Islami et al., 2025; Lestari et al., 2026). This suggests a more demanding approach to income development: estimate each revenue stream's net contribution, restrictions and implementation risks; match investments to the institution's capabilities; and establish rules that prevent entrepreneurial projects from diverting resources away from teaching, research, and community engagement. Cross-subsidies and student affordability protections should be explicit and monitored rather than assumed to follow from a larger gross revenue base.

Table 2. Evidence-informed tensions in university financial sustainability

Policy proposition	What the reviewed literature suggests	Management interpretation
"More autonomy improves outcomes."	Autonomy can enable discretion, but performance also depends on oversight, cost structure, and governance capacity (Ikmah & Yulianto, 2025; Hariyati et al., 2025).	Audit decision rights and managerial capability before enlarging financial exposure.
"More income streams ensure resilience."	Diversification correlates with resilience in some settings, but the Indonesian evidence does not support a universal positive effect (Mukhibad et al., 2025; Trinh et al., 2025; Zheng & Li, 2026).	Evaluate unrestricted net cash flow, concentration risk, and financing costs—not only gross revenue.
"Performance indicators strengthen quality."	Effects depend on metric design and context; research outcomes and accountability do not respond uniformly (Hsieh, 2025; Plaček et al., 2024).	Use multi-dimensional indicators and qualitative academic review.
"Digitalization automatically increases efficiency."	Digital change depends on institutional culture, governance, competencies, and system integration (Esteve-Mon et al., 2023; Joshi et al., 2025).	Budget for skills, security, integration, and adoption alongside software.

Performance-informed budgets without mission displacement

Annual planning should translate a university's multiyear strategy into resource commitments, with clear links to academic and public outcomes. Performance-informed budgeting can improve the visibility of cost drivers and expose mismatches between expenditure and institutional priorities. However, a fully mechanistic allocation formula may reward activities that are easy to count while marginalizing quality-intensive teaching, basic research, disadvantaged students, or regional community service. Evidence from Central European higher education shows that accountability effects vary substantially with the design of performance-funding schemes (Plaček et al., 2024). Research on funding mechanisms and scientific performance likewise questions the assumption that stronger competition always translates into higher-quality research outcomes.

A more balanced approach combines stable base funding for essential service commitments with transparent, carefully scoped strategic investments. Academic units could submit business cases identifying the educational problem, total lifecycle cost, expected beneficiaries, proposed indicators, legal constraints, and exit conditions. Capital budgeting would include operating implications: a new laboratory should not be funded without a

maintenance and staffing plan. Financial ratios should be interpreted with information on student access, graduate capability, research relevance, and service quality. Evidence on institutional strategic planning and research performance supports using both quantitative and deliberative indicators (Graves & Erickson, 2024; Hermanu et al., 2024).

Financial viability should also be assessed at more than one time horizon. Cash-flow sufficiency measures short-term payment capacity; unrestricted reserves and asset condition reveal medium-term resilience; staffing pipelines, research infrastructure renewal, and revenue quality shape longer-term adaptability. To avoid incentives for gaming, indicators should have explicit definitions, auditable data sources, disaggregated reporting where feasible, and periodic review. The aim is not to convert the university into a profit-maximizing entity but to protect the continuity of its publicly valuable work.

Digital systems, internal assurance, and accountable participation

Digital resource management encompasses far more than acquiring an integrated financial information system. It requires trustworthy master data, stable coding of academic programmes and cost centres, transparent authorizations, interoperable payroll and procurement records, appropriate access permissions, and clear responsibilities for correcting errors. Evidence from studies on digital transformation emphasizes that implementation outcomes arise from interaction among technologies, institutional routines, and staff capabilities (Esteve-Mon et al., 2023; Joshi et al., 2025). More recent analyses highlight the possibility that platform-based management may intensify administrative work and alter professional roles if change management is neglected (Proietti, 2026).

For financial governance, the practical sequence is to identify decision-critical information, establish definitions and stewardship, implement proportionate controls, and then automate reporting. An internal assurance system should map high-risk processes including procurement, asset use, research contracting, fee assessment, and restricted grants. At the same time, academic representatives and students should have meaningful channels to scrutinize trade-offs. Research on good university governance and internal audit indicates that stronger control and transparent responsibility can support institutional accountability (Hariyati et al., 2025; Kamila & Munajat, 2025). AI-enabled administrative tools may offer additional support, but published syntheses emphasize the need to examine governance effects, data quality, and ethical implications rather than relying on unvalidated automation (Jiang & Abdullah, 2026).

These controls must be proportionate to institutional scale and context. Universities in geographically dispersed regions may incur higher travel, connectivity, maintenance, and service-delivery costs. Uniform efficiency benchmarks can penalize institutions serving remote communities. A responsible management system therefore documents contextual cost drivers, provides exceptions with transparent justification, and evaluates whether savings maintain or degrade access to learning opportunities.

An integrated resource–finance governance framework

Drawing on the reviewed tensions, this article proposes an integrated framework with five mutually reinforcing processes. Strategic mandate defines the institution’s academic, research, community, and equity commitments. Resource intelligence documents people, facilities, programmes, digital systems, commitments, and service gaps. Financial choice evaluates revenue quality, risk exposure, recurrent costs, and budget trade-offs. Institutional assurance provides internal control, stakeholder participation, public disclosure, and quality review. Feedback and reinvestment use documented outcomes to revise the next resource and budget cycle. The framework is conceptual; its value lies in making linkages explicit and testable rather than in asserting that these mechanisms have already improved performance.

Each process requires a distinctive evidence base. The resource inventory should include staffing and asset condition rather than headcounts and acquisition values alone. Budget proposals should distinguish restricted from unrestricted resources and include plausible downside scenarios. Assurance should document decisions and exceptions, while performance review should examine unintended consequences such as deferred maintenance or affordability pressures. Integrated planning tools, including strategy maps and balanced

scorecards, have been proposed for financial sustainability in higher education, but their indicators should be adapted to a university's particular mission and regulatory constraints (Al-Filali et al., 2024).

Table 3. Proposed monitoring indicators for an integrated governance scorecard

Domain	Candidate indicator and evidence source	Interpretation safeguard
Resource capacity	Staff workload distribution; vacancy and professional-development data; facility condition register	Differentiate programmes and remote-campus cost structures.
Financial resilience	Operating cash coverage; unrestricted liquidity; share and volatility of revenues; debt-service obligations	Disclose restrictions, accounting conventions, and one-off receipts.
Educational quality	Student progression; learning-outcome evidence; accreditation findings; graduate and employer feedback	Do not equate low cost per student with better learning.
Research/community mission	Research delivery against commitments; outputs and demonstrated community benefits	Interpret disciplinary variation and long lead times.
Governance integrity	Audit follow-up closure; conflict-of-interest declarations; disclosure timeliness	Verify closure using underlying evidence, not self-reported status.
Equity and access	Aid coverage; affordability burden; accessibility and geographic participation	Disaggregate by student circumstances where lawful and ethical.

Table 3 is a design proposal, not a set of measured indicators for a named institution. Before implementation, university leaders should specify operational definitions, baselines, responsibility for data collection, review frequency, risk thresholds, and a documented escalation procedure. For example, greater use of a campus asset is beneficial only when additional operating and safety costs are justified by academic or community value. An improving operating surplus may similarly be misleading if it depends on postponing essential maintenance or narrowing access for disadvantaged students. In this sense, responsible financial management requires interpretation of a balanced indicator set, not simple maximization of any one number.

The framework can be operationalized sequentially. In the diagnostic phase, an institution maps resource commitments and financial reporting obligations against its strategic plan. In the design phase, it revises budget assumptions, revenue-risk screening, indicator definitions, and the delegation of decision rights. In the review phase, academic leadership, finance officers, internal assurance units, and student representatives examine results and corrective actions using verifiable evidence. These stages can be repeated in existing planning cycles; no change in legal status is a prerequisite for strengthening transparency or evidence-based decision-making.

Illustrative decision pathways and risk-adjusted planning

An integrated governance approach becomes clearer when applied to competing budget proposals. Consider a hypothetical public university choosing between upgrading a teaching laboratory and developing a revenue-generating professional training centre. The laboratory proposal may have lower near-term receipts but provide essential student learning capacity, enhance research reliability, and reduce safety risks. The training centre may generate tuition-like service income but require marketing, specialist staff, and recurring platform costs. A decision based only on projected gross revenue would favor the activity that appears immediately commercial, while a decision based only on historical allocations could

overlook needed innovation. A balanced appraisal compares the full cost of ownership, expected educational and community benefits, funding restrictions, risk exposure, and reversibility of both investments. This example is illustrative and does not describe an observed university decision.

The proposed appraisal proceeds through four connected questions. First, what public or academic problem would remain unresolved if the investment were postponed? Second, how much unrestricted funding, rather than headline revenue, is available over the relevant lifecycle? Third, which stakeholders bear financial or non-financial risks if expected demand, staff availability, or procurement schedules change? Fourth, which indicators could reveal an adverse effect on programme quality or accessibility before it becomes difficult to reverse? These questions help distinguish a feasible financial project from one that is merely attractive on an income forecast. They also protect necessary academic services that cannot reasonably become self-financing, particularly when their beneficiaries are diffuse or their returns materialize after several years.

Scenario analysis offers a practical means of linking this appraisal to institutional resilience. Universities can prepare a reference budget and two internally consistent stress scenarios without treating either as a forecast: one might assume reduced discretionary receipts, while another might assume higher energy and maintenance costs or delayed external research payments. Each scenario would trace implications for liquidity, restricted-fund availability, staffing commitments, and essential services. Management should document which commitments are legally or academically non-discretionary, which expenditures can be rescheduled, and which contingency reserves are genuinely usable. Financial stress testing is thus a means of testing the adaptability of resource commitments, not a numerical claim about a university's probability of financial distress. Its scope and assumptions should be disclosed to those responsible for review.

For revenue diversification, the same logic requires disaggregating the portfolio into unrestricted public support, student contributions, contractually restricted grants, endowment earnings, and commercial net income. Two portfolios with equal gross revenue and the same number of sources may have very different risk profiles if one depends on time-limited grants or expensive debt. The apparent disagreement between empirical findings on diversification becomes more understandable when such differences are considered: studies estimate distinct aspects of sustainability and involve institutions with different abilities to absorb volatility (Mukhibad et al., 2025; Trinh et al., 2025; Zheng & Li, 2026). Consequently, institutions should monitor revenue concentration and volatility alongside the cost of earning income, the share available for core obligations, and the exposure arising from contractual restrictions.

The governance scorecard also needs an explicit equity guardrail. A programme-level decision to increase service charges, consolidate teaching locations, or reduce low-enrolment courses can improve short-term cost ratios while burdening students who have fewer alternatives. Universities should therefore examine affordability, financial-aid accessibility, student progression, and the distribution of travel or connectivity costs alongside aggregate operating outcomes. A proposal that generates cash but materially restricts access to a needed educational service should be subjected to a documented public-interest justification and mitigation plan. This is consistent with the non-profit and quality principles of Indonesian higher-education autonomy and the statutory requirement that legal-entity public universities retain an affordable public mission (Republic of Indonesia, 2012a).

None of these appraisal criteria implies that financial outcomes are unimportant. On the contrary, insolvency risk, underfunded assets, and weak controls threaten educational continuity. The contribution of a mission-sensitive framework is that it makes trade-offs observable and assigns them to an accountable decision process. For a research-intensive institution, large specialized laboratories may justify a different capital-to-operating balance than for a teaching-oriented institution. For a regional university, travel and distributed provision may represent essential service costs rather than avoidable inefficiencies. A valid

management comparison must therefore consider institutional mission, programme mix, geography, and service obligations before labeling one budget structure superior to another.

Assignment of responsibility and context-sensitive implementation

Implementation requires a clear separation between proposing investments, authorizing expenditure, recording transactions, reviewing academic effects, and testing compliance. Academic units can specify educational need and feasible outcomes; planning and finance officers can test affordability, revenue restrictions, and cash-flow assumptions; procurement and asset units can document lifecycle obligations; and internal assurance functions can verify the adequacy of controls and the closure of deficiencies. Governing bodies should receive integrated evidence rather than parallel financial and academic reports that cannot be reconciled. Students and other affected groups should have appropriate access to the rationale for decisions involving affordability or service availability. This distribution of responsibilities is a normative design proposal and must be adjusted to each institution's statutes and delegated authorities (Endawansa & Juwono, 2024; Kamila & Munajat, 2025).

For universities serving island and remote communities, adopting integrated planning may initially require relatively simple tools rather than large enterprise systems. A controlled spreadsheet or modest reporting layer can be suitable if definitions, document custody, approval rights, and reconciliation procedures are reliable. Digital investments should be staged according to connectivity, technical support, user training, privacy requirements, and long-term maintenance capability. Research on digital transformation cautions that technological installations alone do not ensure organizational change (Esteve-Mon et al., 2023; Joshi et al., 2025; Proietti, 2026). In this context, a well-governed minimum dataset may provide more value than a sophisticated dashboard fed by incomplete or inconsistent records.

An initial implementation cycle could select a small set of academically material budget decisions, publish their indicators and baseline definitions, and review the resulting evidence at the end of the planning period. Evaluation should record deviations and unintended consequences, including staff workload increases, postponed maintenance, or inequitable student costs. Subsequent cycles may expand the indicator set only after data reliability is established. Such a staged process keeps the model auditable and adaptable while avoiding premature claims that integrated information or a new organizational status has already achieved financial sustainability.

Implications, limitations, and future research

For university executives, the immediate implication is to treat financial resilience as the capacity to sustain institutional commitments under plausible shocks, not solely as annual revenue growth. For finance and planning units, the priority is to connect programme plans to lifecycle resource costs and traceable risk assessments. For quality-assurance and internal-audit units, the priority is to examine whether savings, new businesses, and digital investments maintain academic quality, access, and compliance. For public authorities, differentiated funding and reporting arrangements should recognize institutional missions and geography while preserving adequate oversight and transparency (Hsieh, 2025; Rotondo et al., 2025).

Several limitations constrain this synthesis. First, the purposive review is not exhaustive and may omit relevant studies or unpublished evidence. Second, cross-national findings are sensitive to institutional classification and fiscal rules, so their transfer to Indonesia requires contextual testing. Third, the proposed scorecard has not been piloted or psychometrically validated and no causal effects have been estimated. Fourth, this article does not evaluate a specific Indonesian university's financial statements, management systems, or academic outcomes. These boundaries prevent claims that a particular institution has already achieved sustainability or that any individual strategy is universally effective.

Future studies should compare PTN-Satker, PTN-BLU, and PTN-BH institutions using longitudinal financial statements and programme-level service measures, with attention to restricted income, reserve adequacy, asset renewal, and affordability. Mixed-method research could investigate how governance capacity moderates the relation between autonomy and resilience, while regional case studies could examine archipelagic cost structures, connectivity constraints, and partnerships. Testing the proposed framework would require prespecified

indicators, credible comparison groups where feasible, and participation by institutional stakeholders to identify unanticipated trade-offs.

SUMMARY

Sustainable Indonesian public universities require coordinated management of academic resources, financing choices, and public accountability. The literature indicates that neither legal autonomy nor revenue diversification guarantees resilience: governance capacity, cost structure, and institutional mission shape their effects. This article proposes an integrated resource–finance framework linking resource inventories, risk-adjusted budgeting, assurance, and balanced academic and equity indicators. University leaders should prioritize traceable decisions, lifecycle asset planning, mission-aligned income, and transparent affordability protections. The framework remains conceptual and should be tested through comparative and longitudinal evidence before claims of effectiveness are made.

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