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Cost efficiency in open and distance higher education: a resource-based view of tuition cost formation

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A b s t r a c t

This study examines the cost structure of open and distance higher education (ODHE), explains cost-efficiency mechanisms through the Resource-Based View (RBV), and identifies implications for a cost-based tuition floor. A mixed-method approach with an explanatory sequential design was applied to the Management Study Program at Universitas Terbuka. Quantitative evidence was drawn from e-budgeting records, curriculum data, and institutional documents, while qualitative evidence was obtained from interviews with three key informants and observation. The analysis shows an annual cost of IDR 3,164,600 per student, comprising 62.42% direct costs and 37.58% indirect costs. On a credit-based basis, actual semester cost was IDR 2,500,000 for Non-SIPAS and IDR 3,000,000 for SIPAS, respectively 82.96% and 79.54% below the government BKT benchmark of IDR 14,667,000. RBV interpretation indicates that reusable learning materials, a nationwide tutor network, shared digital infrastructure, accumulated organizational experience, and large student scale create cost advantages through reuse, resource sharing, and fixed-cost spreading. However, student headcount remains the primary driver for several shared costs, creating a risk of imprecise allocation. The study therefore recommends more detailed costing, including activity-based costing for shared resources, and resource optimization that is validated against service-quality indicators before tuition decisions are made. These findings position cost efficiency as an institutional capability rather than a simple reduction in expenditure.

Introduction

Open and distance higher education (ODHE) has a cost architecture that differs fundamentally from face-to-face higher education. Its service capacity is not built primarily around classrooms, but around pre-developed learning materials, digital platforms, tutor networks, administrative systems, and academic support that must remain available across a geographically dispersed student population. This architecture creates substantial upfront and shared costs that can later be distributed across a larger user base. Yet the literature on online higher education has historically focused more on students, instructors, and learning design than on organizational, managerial, and policy dimensions (Martin et al., 2020). The organizational dimension matters because the long-term viability of ODHE depends on an institution's ability to convert resources into reliable academic services at a defensible cost.

Evidence on the economics of technology-enabled higher education is mixed rather than uniformly cost-reducing. Institutions with a larger online share tended to charge lower tuition, while cautioning that quality effects remain important (Deming et al., 2015). The economic benefits of e-learning depend on both economies of scale and economies of scope (Morris, 2008), while distance education can generate scale and scope economies when outputs share institutional resources (Li & Chen, 2012). These findings reinforce the need to identify which ODHE resources are genuinely shareable and which costs still expand with service volume.

Digital transformation does not automatically produce efficiency. Higher education digitalization is an organizational change process involving strategy, processes, human resources, governance, and technology (Castro Benavides et al., 2020). Related evidence also emphasizes the institutional capacity needed to integrate technical and organizational resources (Farias-Gaytan et al., 2023). Strategic, organizational, technological, cultural, and capability barriers can weaken the return from digital investment (Gkrimpizi et al., 2023; Singun, 2025). The rapid expansion of online learning also demonstrated that technology must be accompanied by sound learning design, academic support, and

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sufficient institutional capacity if service quality is to be sustained (Bond et al., 2021; Rapanta et al., 2020; Watermeyer et al., 2021). The relevant managerial question is therefore not simply how much is spent on technology, but how digital and non-digital resources are combined and shared at scale.

In Indonesia, this issue intersects directly with the Single Tuition Cost (*Biaya Kuliah Tunggal*, BKT) and Single Tuition Fee (*Uang Kuliah Tunggal*, UKT) framework. BKT serves as the government reference cost for higher education delivery, while UKT is the tuition fee charged to students (Republic of Indonesia, 2024). A cost formula developed around conventional universities may not fully reflect ODHE, where learning-material development, digital infrastructure, nationwide service networks, and very large student cohorts play a central role. At Universitas Terbuka (UT), active enrolment reached 671,967 students in semester 2024.2, while 91.88% of funding came from non-state-budget sources, including student tuition (Universitas Terbuka, 2024). This funding structure makes costing accuracy strategically important: tuition that is too low may weaken institutional sustainability, whereas tuition that is too high may conflict with the public mandate to widen access.

Indonesian studies have addressed education unit costs, financing structures, and cost classification (Sudarmono et al., 2021). In higher education, tracing education costs to relevant units has similar managerial value (Namazi & Zare, 2021). However, limited research explains how the distinctive resource configuration of ODHE produces cost advantages at the study-program level and how those advantages should inform tuition-related decisions. At the same time, research on financial sustainability in higher education emphasizes resource efficiency, revenue diversification, and strategic planning (Abdulaal et al., 2023; Al-Filali et al., 2024). The research gap therefore lies in explaining the internal mechanisms through which an ODHE institution can generate a relatively low cost per student without reducing efficiency to simple expenditure cuts.

Accordingly, the gap addressed in this article is conceptual and empirical: prior studies do not sufficiently explain the internal resource mechanisms through which ODHE generates a study-program-level cost advantage. The use of the Management Study Program as a single case is a deliberate analytical boundary, not the research gap itself. It enables detailed tracing of resource use and allocation, while also limiting transferability to programs with different practicum, laboratory, content-development, or student-support profiles. This distinction is retained in the interpretation of the study limitations.

This article uses the *Resource-Based View* (RBV) as its sole theoretical lens. The focus is not market pricing but the resource side of cost formation and efficiency capacity. Two questions guide the analysis: (1) what is the actual cost structure and cost per student for the Management Study Program within an ODHE system; and (2) how do strategic ODHE resources explain cost efficiency, and what are the implications for a cost-based tuition floor? The study aims to move beyond accounting classification by linking resources, utilization mechanisms, unit cost, and tuition sustainability. This focus is relevant to universities that must simultaneously widen access, safeguard academic quality, and preserve financial resilience.

Literature Review and Analytical Proposition Development

Resource-Based View and ODHE cost efficiency

RBV argues that performance differences are shaped not only by external positioning but also by the ownership and management of resources that are valuable, rare, difficult to imitate, and difficult to substitute (Barney, 1991). In this study, the logic is applied to cost management. Relevant resources include not only physical assets but also knowledge embedded in learning materials, nationwide tutor networks, mature operating routines, digital infrastructure shared across programs, and institutional experience in managing large-scale distance education. When such resources can be reused, shared, and coordinated across a large population, average cost per student can decline without an equivalent reduction in service output.

Applying RBV to a digital context requires caution. Technology becomes a strategic resource only when it is integrated with processes, human capabilities, and governance. Digital-transformation research shows that the value of technology depends on an institution's capacity to integrate technical and organizational resources (Castro Benavides et al., 2020; Farias-Gaytan et al., 2023). Servers, learning systems, and applications therefore cannot be assumed to generate efficiency automatically. Investment, maintenance, cybersecurity, backup capacity, and user support remain real costs. The RBV mechanism lies instead in the institution's ability to use the same infrastructure across a very large number of students and programs while preserving reliability.

Prior information-systems research also supports treating digital capability as a bundle rather than as a standalone asset. IT capability can combine infrastructure, human resources, and IT-enabled intangible resources (Bharadwaj, 2000); sustained advantage may depend less on generic technology than

on organizational and managerial capabilities that are difficult to imitate (Mata et al., 1995). Resource complementarity and contextual moderators are likewise emphasized in RBV-based information-systems research (Wade & Hulland, 2004). Applied to ODHE, these studies imply that servers, applications, learning materials, tutor networks, and operating routines should be evaluated as an integrated resource system whose cost advantage depends on coordinated use at scale.

Cost efficiency also has a quality boundary. Savings that reduce system reliability, tutor quality, assessment integrity, or student support do not represent a sustainable resource advantage. Research on online learning consistently shows that effectiveness depends on activity design, instructor presence, institutional support, and the quality of the digital ecosystem (Adedoyin & Soykan, 2023; Dhawan, 2020; Rapanta et al., 2020). Accordingly, this article defines efficiency as the capacity to deliver services at a lower average cost through more productive resource utilization, rather than through mechanical service reduction.

Analytical propositions

Because the study uses a case-study design that integrates quantitative and qualitative evidence, it does not formulate statistical hypotheses. Instead, two analytical propositions guide interpretation. Proposition 1 states that ODHE resources that can be reused and shared across students, programs, and regions will reduce average cost per student as the user base expands. Proposition 2 states that a cost advantage can be sustained only when shared-resource utilization is supported by an allocation system that captures resource consumption with sufficient accuracy and preserves service quality.

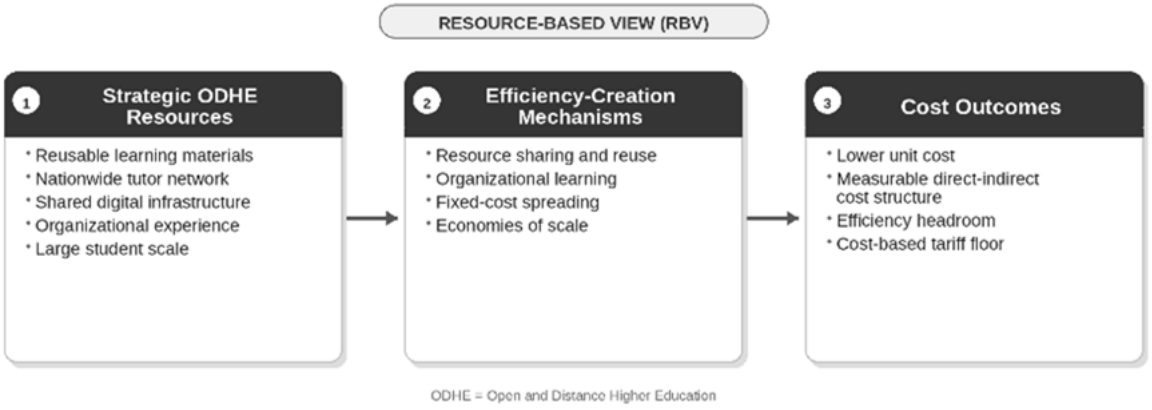


Figure 1. Conceptual framework of ODHE cost efficiency from a Resource-Based View perspective

Figure 1 places strategic resources at the beginning of the cost-efficiency mechanism. Reusable learning materials, a nationwide tutor network, shared digital infrastructure, organizational experience, and large student scale create efficiency through resource sharing, organizational learning, fixed-cost spreading, and economies of scale. The observable outcomes are lower unit cost, a measurable direct-indirect cost structure, efficiency headroom, and a cost-based tuition floor. Market-based theory is intentionally excluded so that the article remains focused on the internal mechanisms of cost formation.

Research Methods

The study was conducted at Universitas Terbuka in South Tangerang and at organizational units involved in delivering the Management Study Program. Data collection was conducted from March through August 2026. The unit of analysis was education delivery cost per student per semester. Cost per credit was used as an intermediate unit so that cost components could be traced before being converted into semester cost per student.

The March-August 2026 period covered document and e-budgeting extraction, curriculum mapping, interviews, observation of relevant academic-support processes, and iterative verification of the cost model. The period was selected to capture the complete analytical sequence from quantitative cost mapping to qualitative explanation and triangulation before the findings were consolidated for reporting.

A mixed-method approach with an *explanatory sequential* design was used. The first stage analyzed quantitative evidence to map the cost structure and estimate actual cost. The second stage used qualitative evidence to explain numerical patterns, resource-utilization mechanisms, and policy considerations that could not be inferred from budget data alone. This sequence was appropriate because

the article treats measured cost as the empirical starting point and organizational explanation as the basis for assessing whether observed efficiency is consistent with RBV mechanisms.

Secondary data included the Management Study Program curriculum, technical guidelines for education delivery, e-budgeting records, policy documents, and institutional reports. Primary data were obtained through in-depth interviews with three key informants: a university leader representing strategic policy, a senior executive responsible for resources and finance, and a faculty leader representing the academic-operational dimension. Observation was used to understand learning activities and inter-unit relationships that shape cost. Informants were selected purposively because the research required actors with direct knowledge of cost decisions, ODHE operations, and tuition policy.

Informants were selected purposively on the basis of decision authority and direct knowledge of the phenomenon rather than demographic representativeness. The three positions represented complementary levels of analysis: institutional strategy, university-wide finance and resource management, and faculty-level academic operations. Each informant was interviewed once using a semi-structured guide. Follow-up clarification was incorporated when needed during transcript checking and triangulation. Observation focused on activities that generate cost, patterns of inter-unit interaction, and the way shared resources support the learning process. Age and gender were not analytical selection criteria and were not used in interpreting responses.

The quantitative stage involved six steps. First, education activities were mapped from learning-material development and tutorials to assessment and academic services. Second, costs directly traceable to academic activities were classified as direct costs. Third, supporting expenditures were grouped as indirect costs and allocated to the study program, with student headcount used as the primary cost driver. Fourth, base cost per credit was calculated. Fifth, credit cost was mapped to the curriculum and converted into cost per student per semester. Sixth, the results were compared with BKT and the prevailing UKT as policy context, rather than as a test of market-based theory.

The qualitative stage used thematic analysis. Interview transcripts were coded around strategic resources, cost drivers, resource sharing, technology, student scale, costing-data limitations, and service sustainability. Triangulation compared interview evidence with e-budgeting data and policy documents. Evidence was considered supportive of the RBV propositions when quantitative patterns and informant explanations jointly indicated that resources were being used more productively through reuse, sharing, organizational experience, and scale. Divergent evidence was treated as a boundary condition, especially where a single cost driver could not adequately represent shared-infrastructure consumption.

To strengthen analytical credibility, the study used source and method triangulation. Numerical results from e-budgeting and costing worksheets were compared with institutional documents and interview explanations. Convergence was recorded when the sources pointed to the same cost mechanism; divergence was retained as a boundary condition rather than removed. This procedure was particularly important for shared costs because a low allocated amount can reflect genuine scale efficiency, an allocation rule, or both. The analysis therefore distinguishes observed cost advantage from claims of perfect cost measurement. Interview material was used to explain the resource mechanisms behind the quantitative patterns, not to replace the accounting evidence.

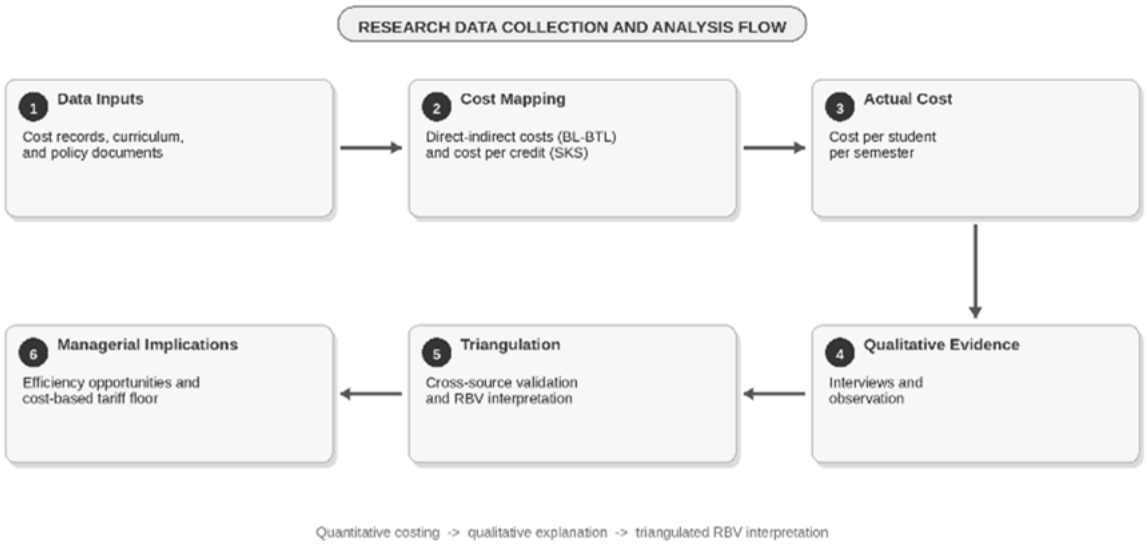


Figure 2. Research data collection and analysis flow

Results and Discussion

Before presenting the cost results, Table 1 summarizes the profiles of the three key informants. The study used elite informants selected for their institutional roles and decision domains. To preserve confidentiality and because age and gender were not variables in the sampling design, demographic identifiers are not reported; the analytically relevant profile is the organizational position and the knowledge domain represented in the study.

Table 1. Informant profiles and analytical roles

Code	Institutional position	Analytical perspective	Basis for inclusion
1	Rector / university leader representing strategic policy	Institutional mandate, BKT/UKT policy, and long-term strategy	Authority over university-level strategic direction and tuition policy
2	Vice Rector for General Affairs, Resources, and Finance	Funding structure, resource allocation, costing, and financial sustainability	Direct responsibility for university-wide resource and financial management
3	Dean of the Faculty of Economics and Business	Academic operations and Management Study Program cost drivers	Direct knowledge of tutorials, learning materials, and faculty-level service delivery

Actual cost structure

The calculation shows an annual cost of IDR 3,164,600 per student. Direct costs amount to IDR 1,975,500 or 62.42%, while indirect costs amount to IDR 1,189,100 or 37.58%. The pattern indicates that ODHE cost in the Management Study Program is not dominated by technology alone. Within direct costs, learning-material development, procurement, and distribution account for 31.92%, while lecturer salaries and allowances account for 23.60%. Within indirect costs, personnel expenditure accounts for 40.66%, followed by depreciation and amortization of fixed assets at 14.21%. Learning materials and human resources therefore remain strategic cost-bearing resources alongside digital infrastructure.

Table 2. Cost structure per student per year

Component	Amount (IDR)	Share	Main cost pattern
Direct costs	1,975,500	62.42%	Learning materials: 31.92% of direct costs; lecturer salaries and allowances: 23.60%
Indirect costs	1,189,100	37.58%	Personnel expenditure: 40.66% of indirect costs; depreciation/amortization: 14.21%
Total	3,164,600	100.00%	Annual cost per student

This finding challenges the common assumption that distance education is driven mainly by technology costs. Digital infrastructure is essential, but learning materials, lecturers, tutors, and administrative staff show that the system is simultaneously content-intensive and labor-intensive. This is consistent with the view that higher education digitalization is a socio-technical transformation rather than a technology procurement project (Castro Benavides et al., 2020; Gkrimpizi et al., 2023). An efficiency agenda that targets only technology spending or academic labor would therefore risk misidentifying the underlying cost architecture. Cost management must distinguish between resources that can genuinely be shared and resources that must still expand with service volume and quality standards.

Semester cost and the gap relative to BKT and UKT

Operationally, this study distinguishes two registration-service packages. Non-SIPAS is treated as the non-package registration option, in which students assemble their course registration without the same semester-package bundle. SIPAS refers to the Semester Package System, in which a structured set of courses and associated learning-service components is bundled by semester. The distinction matters for costing because the SIPAS resource bundle includes different learning-material and service requirements; the two packages are therefore costed separately rather than assumed to have an identical unit cost.

Credit-based costing produces an actual semester cost of IDR 2,500,000 per student for Non-SIPAS and IDR 3,000,000 for SIPAS. Both figures are far below the government BKT benchmark of IDR 14,667,000, by 82.96% and 79.54%, respectively. Nevertheless, actual cost remains above the highest UKT used as a comparison, IDR 2,400,000. The gap is IDR 100,000, or about 4%, for Non-SIPAS and IDR 600,000, or about 20%, for SIPAS. The result is important because it shows that a cost advantage relative to BKT does not automatically imply tuition adequacy.

Table 3. Actual semester cost, BKT benchmark, and tuition funding gap

Package	Actual cost	BKT benchmark	Actual cost below BKT	Gap vs UKT IDR 2.4 million
Non-SIPAS	IDR 2,500,000	IDR 14,667,000	82.96%	IDR 100,000 (4%)
SIPAS	IDR 3,000,000	IDR 14,667,000	79.54%	IDR 600,000 (20%)

The large difference between actual cost and BKT should not be interpreted as proof that the entire gap represents pure efficiency. Two explanations operate simultaneously. First, ODHE genuinely benefits from scale mechanisms that allow resources to be shared across a large population. Second, the BKT formula was developed around delivery processes that are not fully identical to ODHE. Moreover, the current allocation method uses student headcount as the primary cost driver for several indirect-cost pools. A single driver may not adequately capture the consumption of servers, cybersecurity, storage, technical support, or other shared services whose resource requirements do not always increase proportionally with enrolment. The BKT gap is therefore strong evidence of cost advantage and formula mismatch, but not proof that unit cost is free from under-allocation risk.

Resource-Based View interpretation

From an RBV perspective, the relatively low cost can be explained by a resource configuration accumulated over a long period. Learning materials can be reused across cohorts and consumed by a very large number of students; a nationwide tutor network distributes academic capacity without requiring a full lecturer structure in each location; digital infrastructure serves multiple programs simultaneously; and organizational experience creates mature routines for learning-material production, registration, tutorials, assessment, and student services. These resources are complementary. Their economic value emerges from integration within the ODHE operating system rather than from any resource in isolation.

This mechanism provides a deeper explanation than simply stating that "more students reduce cost." Scale creates advantage only when fixed costs can be spread without coordination costs and quality requirements rising faster than the user base. If enrolment growth requires tutor, server, service-support, and quality-control capacity to expand disproportionately, the scale advantage will narrow. Valuable resources under RBV therefore include the capability to orchestrate scale. Interview evidence supports this interpretation: academic leadership identified tutorials and learning materials as major cost drivers, while resource-management leadership emphasized digitalization and better feasibility data as prerequisites for more precise study-program costing.

Digital-transformation literature reinforces this interpretation. Institutions need strategy, human capability, culture, and governance for technology investments to generate performance improvement (Farias-Gaytan et al., 2023; Singun, 2025). Financial-sustainability research likewise emphasizes resource planning and capacity management rather than revenue growth alone (Abdulaal et al., 2023; Al-Filali et al., 2024). The contribution of RBV in this study is therefore to locate ODHE cost advantage in resource architecture: what can be reused, what can be shared, and what organizational capabilities allow shared use to remain reliable at scale.

Efficiency headroom and the quality boundary

The simulation results indicate potential cost efficiency of approximately 6.79%–8.81% through optimization of shared resources and technology. For Non-SIPAS, the semester cost of IDR 2,500,000 could decline to approximately IDR 2,279,750–IDR 2,330,173; for SIPAS, IDR 3,000,000 could decline to IDR 2,735,700–IDR 2,796,207. These figures should be interpreted as managerial scenarios rather than automatic cost-cutting targets. Savings are valid only if academic services, system reliability, assessment integrity, student support, and tutor quality can be maintained.

Table 4. Potential efficiency range from resource-optimization scenarios

Package	Actual cost	Range after efficiency	Potential efficiency
Non-SIPAS	IDR 2,500,000	IDR 2,279,750-2,330,173	6.79%-8.81%
SIPAS	IDR 3,000,000	IDR 2,735,700-2,796,207	6.79%-8.81%

Managerial implications for cost allocation and resource governance

The costing results imply that efficiency management should begin with a clearer distinction between resource sharing and resource allocation. Student headcount is useful as a broad allocation driver because it provides a consistent basis across programs, but it does not necessarily reflect how every shared resource is consumed. Digital infrastructure, technical support, learning-material development, tutorials,

and assessment activities may respond differently to changes in student volume. A more detailed costing system should therefore retain headcount where it is economically appropriate while testing activity-sensitive drivers for cost pools whose consumption is shaped by usage intensity, service configuration, or academic workload. This refinement would not invalidate the observed cost advantage; instead, it would improve confidence that the advantage reflects productive resource use rather than an allocation convention.

Resource optimization should also be governed through capacity and quality thresholds. Reusable learning materials, shared systems, and nationwide tutor networks create value because the same institutional capability can serve a large student population, yet each resource has an operating limit. Additional enrolment may eventually require more tutor groups, server capacity, help-desk support, assessment processing, and quality assurance. For that reason, the 6.79%-8.81% efficiency range in this study should be treated as a scenario for managerial testing rather than an across-the-board budget reduction target. Implementation should be staged by activity and accompanied by indicators of system reliability, student support, tutor performance, assessment integrity, and service continuity. Efficiency is sustainable only when resource productivity improves without transferring hidden costs or quality risks to students and academic units.

For tuition governance, the practical implication is to maintain a transparent sequence between cost measurement, efficiency assessment, and the eventual tariff decision. Actual resource cost should first be traced and allocated with an auditable logic; realistic efficiency headroom can then be tested; only after those two steps should affordability, regulation, access objectives, and alternative funding sources be considered in setting the tuition charged to students. This sequence is particularly relevant for a public legal entity university because a cost-based tuition floor is a resource requirement, not an automatic price recommendation. A stronger audit trail from activity to cost pool, cost driver, study-program allocation, and semester cost would improve internal planning and provide a more defensible basis for dialogue on BKT design. It would also help management distinguish genuine economies of scale from apparent savings created by broad allocation rules, thereby aligning the RBV interpretation with accountable financial management.

This quality boundary is consistent with evidence from online learning. Shifting services to digital channels can increase flexibility, but outcomes still depend on learning design, institutional support, and organizational capacity (Bond et al., 2021; Martin et al., 2020). If quality deteriorates, apparent efficiency merely transfers cost to students or creates academic risk. Efficiency initiatives should therefore be assessed through activity-specific cost-benefit logic, for example tutorial-group optimization, controlled reuse and revision cycles for learning materials, administrative automation, or shared digital infrastructure. Each intervention should be accompanied by service-quality indicators before and after implementation.

Implications for a cost-based tuition floor

A resource-based cost analysis alone does not determine the final tuition fee that students should pay. Because the article intentionally uses RBV rather than market-based theory, it addresses a more fundamental question: what resource-based cost must be recovered to sustain service delivery, and how far can that cost be reduced legitimately through institutional capability? This study reveals that actual cost was used as the starting point for a resource-based tuition floor and supplemented by allocations for research, development, and operating reserves. This produced IDR 2,750,000 for Non-SIPAS and IDR 3,300,000 for SIPAS. These amounts are better interpreted as resource-based funding requirements than as market prices.

This distinction is particularly important for a public legal entity university. Sustainability allocations are not commercial profit; they provide room to maintain academic development, system quality, research, and operating resilience. Higher-education financial-sustainability research similarly shows that long-term continuity requires resource management, revenue-development capacity, and planning for future pressures (Abdulaal et al., 2023; Al-Filali et al., 2024; Sari et al., 2023). From an RBV perspective, such allocations help prevent strategic resources from deteriorating through underinvestment.

The main policy implication is to separate three questions that are often conflated: what the actual cost is, how much realistic efficiency headroom exists, and what tuition fee should ultimately be charged. The first two can be addressed through a resource-based framework. The third requires additional consideration of access, ability to pay, regulation, and alternative funding sources. This separation prevents tuition from mechanically following a single cost estimate while also preventing affordability policy from ignoring the real resource cost of service delivery.

Novelty and contribution

The study contributes in three ways. First, RBV is operationalized as a framework for interpreting the cost architecture of ODHE rather than solely as a theory of competitive advantage. Second, the article shows that digital resources, learning materials, tutor networks, and organizational experience operate as a resource bundle that generates cost advantage through reuse and sharing. Third, it identifies an important boundary to cost-advantage interpretation: economies of scale should be evaluated together with allocation accuracy and service-quality indicators. Low cost is therefore treated not as an end in itself, but as the outcome of an institutional capability to use strategic resources productively.

The evidence should not be read as a claim that Universitas Terbuka has formally adopted RBV as a declared management policy. Rather, the observed operating practices are consistent with RBV mechanisms. The cost data show that learning materials are developed for repeated use, digital infrastructure and administrative systems are shared across programs, and fixed resources are spread across a very large student population. Interview evidence further identifies the nationwide tutor network, learning-material development, digitalization, and resource sharing as mechanisms that shape cost. Thus, RBV is used here as an analytical lens to explain empirically observed resource deployment, not as a label that the institution itself formally applies to its operations.

Conclusion

The Management Study Program within the ODHE system has an estimated annual cost of IDR 3,164,600 per student, with direct costs accounting for 62.42% and indirect costs for 37.58%. On a credit-based basis, actual semester cost is IDR 2,500,000 for Non-SIPAS and IDR 3,000,000 for SIPAS. These amounts are far below the government BKT benchmark but remain above the comparison UKT for both service packages. From a Resource-Based View perspective, the cost advantage is primarily associated with the institution's ability to combine reusable learning materials, a nationwide tutor network, shared digital infrastructure, accumulated organizational experience, and large student scale. These resources reduce average cost through reuse, resource sharing, and fixed-cost spreading, but their value depends on the institution's ability to protect quality and control coordination costs. Efficiency should therefore not be translated into mechanical expenditure cuts. The simulation indicates 6.79%-8.81% potential efficiency, which should be validated against service-quality indicators before implementation. Managerially, the study supports a more granular costing system, including activity-based costing for shared components, so that a cost-based tuition floor reflects resource consumption more accurately. The single-program design is a deliberate case boundary that addresses the research gap through an in-depth study-program analysis, but it limits external transferability rather than constituting a failure to address the gap. In addition, student headcount is used as the primary driver for several indirect-cost pools, so shared infrastructure may be under- or over-allocated.

The RBV lens also has boundaries: it emphasizes internal resources and capabilities and therefore does not directly test external market demand, willingness to pay, regulatory responses, or competitive pricing. The study interprets RBV mechanisms from cost patterns, documents, and managerial interviews rather than causally testing VRIN attributes or measuring the marginal contribution of each strategic resource. Finally, the qualitative evidence comes from senior institutional decision makers and does not include student or tutor perspectives. Future research should compare the Management Study Program with other FEB programs such as Accounting, Development Economics, Islamic Economics, Tourism, Public Financial Accounting, and Entrepreneurship; apply multiple activity-sensitive cost drivers; incorporate student and tutor perspectives; and examine the longitudinal relationship between digitalization, cost, and academic quality. At the policy level, the findings support a BKT formula for ODHE that is more sensitive to learning-material development, technology, resource sharing, and economies of scale while still recognizing long-term investment requirements.

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