



University Autonomy and Performance in Indonesia: An Agency Theory Approach

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Abstract

This study investigated how agency costs affected the performance of Indonesian state universities operating under different levels of autonomy those with Legal Entity Status (PTNBH) and those functioning as Public Service Agencies (PTNBLU). Employing a quantitative explanatory design, the research analyzed secondary data from 2020 to 2023, which included financial statements and Key Performance Indicator (IKU) scores. Agency costs were represented by the Operating Expense Ratio (OER) and Asset Turnover Ratio (ATR). The findings revealed that both OER and ATR significantly influenced university performance in both PTNBH and PTNBLU models. PTNBH institutions appeared more responsive to government goals, as indicated by their higher ATR values. Nonetheless, the additional revenue generated through efficient asset utilization was insufficient to offset their elevated operating expenses. The persistently high OER among PTNBH institutions highlighted the need for organizational restructuring to enhance efficiency. Overall, the study provided empirical support for agency theory within non-profit higher education settings and emphasized the critical role of balancing institutional autonomy with strong accountability mechanisms.

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INTRODUCTION

Universities in Indonesia were mandated by Law No. 12 of 2012 to carry out education, research, and community service while adhering to the principles of accountability, transparency, non-profit orientation, quality assurance, and efficiency. From the perspective of agency theory, universities act as agents responsible for implementing the government's objectives, as the principal, in fulfilling these duties (Kivistö & Zalyevska, 2015). The effectiveness of this relationship was expected to result in graduates with strong academic competencies, thus contributing to national development and

competitiveness. However, the agent's self-interest, bounded rationality, and risk aversion (Eisenhardt, 1989) often led to deviations from their intended roles. Indonesia Corruption Watch (ICW, 2023) reported that the education sector ranked among the top five for corruption cases in 2023, with 30 documented incidents. In 2022, the Corruption Eradication Commission (KPK) arrested a university rector for corruption related to student admissions (KPK, 2022), illustrating the risks of moral hazard and opportunistic behavior in the principal-agent relationship.

Since 2020, the Indonesian government has measured university performance through

Key Performance Indicators (IKU). According to Gordon and Fischer (2014), university performance should be assessed in terms of cost efficiency and budget allocation. However, Sulaeman (2022) found that most PTNBLU institutions remained inefficient between 2017 and 2019. Similar agency-related issues were observed internationally. In Vietnam, the lack of internal audits hindered effective budget oversight (Huong et al., 2023), while in Malaysia, universities manipulated KPI metrics to meet formal targets without substantial societal impact (Ahmad et al., 2012). These cases highlighted the persistent challenge of information asymmetry and self-serving agent behavior.

Efforts by principals to monitor agents generate agency costs. While Mehmood (2021) found that universities in the UK faced high agency costs that contributed positively to educational quality, this view contrasts with Jensen and Meckling (1976), who argued that reducing agency costs can enhance efficiency by aligning managerial actions with ownership goals. Fama (1983) also emphasized that clear controls and incentives reduce agency costs and improve organizational performance. These differing perspectives motivated further investigation into how agency costs vary among Indonesian universities with different levels of autonomy.

Given the role of universities in enhancing national human capital, it was essential to strike a balance between institutional autonomy and effective oversight. Differences in autonomy between PTNBH and PTNBLU likely influenced their performance and efficiency. When properly managed, agency costs could potentially contribute to improved educational quality. Mersland et al. (2016) found that in non-profit organizations, broader CEO authority increased agency costs. Similarly, Al Gharsi et al. (2024) suggested that university autonomy affected institutional performance, with greater autonomy enabling more flexible resource management. As the government granted broader authority to PTNBH compared to PTNBLU, this study aimed to explore how such

variations shaped agency costs and performance outcomes across these two models.

LITERATURE REVIEW

This study drew upon previous literature focusing on agency costs in universities with varying degrees of autonomy and performance as measured by Indonesia's Key Performance Indicators (IKU). University performance had been broadly defined. Hayat et al. (2022) described it as the achievement of educational objectives, while Ward (1996) saw it simply as the outcome of the educational process. Gerashchenko (2022) identified several dimensions research, teaching quality, financial sustainability, and managerial effectiveness. In a more contemporary framework, Gharsi (2024) defined performance as the cumulative achievements in teaching and research over a three-year span.

International benchmarks for university performance vary. In Malaysia, performance was tracked using the Critical Agenda Projects, focusing on governance, leadership, academia, teaching, and research (Ahmad et al., 2012). In the UK, Mehmood (2021) relied on university league tables published by The Guardian, based on student satisfaction, staffing, spending, and career prospects.

The concept of agency cost was first articulated by Jensen and Meckling (1976), who emphasized the conflicting interests between principals and agents. Agency costs arise when principals invest resources to monitor agents and minimize opportunistic behaviors. Hoang et al. (2019) and Martono et al. (2023) emphasized that agency costs reflect the inefficiencies created when managers act in their own interests while avoiding the full consequences of their actions. These costs were not directly observable but could be proxied by financial ratios such as the operating expense ratio and asset turnover (Mehmood, 2021; Ang et al., 2000; Singh & Davidson, 2003; Raza et al., 2024).

University autonomy has been widely discussed as a means of promoting institutional self-governance and improving performance. Liu and Yan (2019) defined it as the ability of universities to manage themselves without

excessive external intervention. Gharsi (2024) argued that effective use of autonomy enhanced university performance through strategic flexibility. However, within agency theory, increased autonomy could lead to higher information asymmetry and goal conflict, resulting in greater agency costs.

Agency theory has been applied to higher education since the early 2000s. It frames the relationship between governments and universities as one of delegated authority, with principals (governments) providing resources and oversight, while agents (universities) are expected to fulfill performance targets (Kivistö & Zalyevska, 2015; Eisenhardt, 1989). According to Kivistö (2007), three conditions define this agency relationship: task delegation, resource allocation, and performance monitoring.

The Indonesian higher education system includes universities with different autonomy statuses: PTNBH (full autonomy), PTNBLU (limited financial autonomy), and Satker (no autonomy). As of 2024, there were 21 PTNBH, 30 PTNBLU, and 18 Satker universities (pindai.kemdikbud.ac.id). PTNBH institutions operate under Law No. 12/2012, while PTNBLUs are governed by Law No. 1/2004. PTNBHs have broader autonomy over staffing, finance, assets, and infrastructure, but must remain accountable to both the public and the government.

The agency problems seen in Indonesia are not unique. Urbanek (2020) found that Polish universities faced similar challenges and recommended strengthening institutional autonomy. Gharsi (2024) likewise emphasized the benefits of high autonomy in driving university performance. These findings support the hypothesis that increased autonomy, when matched with effective accountability, can help manage agency costs and improve outcomes.

In evaluating university performance, this study used IKU scores as a proxy for institutional quality. While agency theory traditionally used profitability as a performance metric (Jensen & Meckling, 1976), this study aligned with Mehmood (2021), who employed public performance metrics, such as the UK's

Quality Assurance Agency rankings. In Indonesia, the IKU—first introduced in 2020 and revised in 2021 and 2023—reflected a shift toward outcome-based performance indicators aligned with the Merdeka Belajar–Kampus Merdeka (MBKM) initiative. These indicators assessed graduate readiness, curriculum relevance, research output, and engagement with industry and society.

This study applied agency theory to assess how differences in institutional autonomy influence agency costs and, subsequently, university performance. Following Jensen and Meckling (1976), high operating costs were interpreted as a sign of greater agency cost, while higher asset turnover indicated more efficient resource utilization. As universities are expected to pursue independent income generation under autonomy, optimizing these financial ratios was seen as key to achieving improved performance and institutional sustainability. Based on this theoretical framework, the study proposed the following hypotheses:

H1: There was a significant difference in average agency cost between PTNBH and PTNBLU.

H2: PTNBH incurred higher agency costs than PTNBLU.

H3: Agency costs had a negative impact on the performance of PTNBH and PTNBLU.

METHOD

This study employed a quantitative explanatory design using pooled secondary data from 2020 to 2023. Performance data were obtained from the Ministry of Education's IKU dashboard (<https://pindai.kemdikbud.go.id/web/iku>), while agency cost data were extracted from the audited financial statements published on each university's official website.

The population consisted of all Indonesian state universities with Legal Entity (PTNBH) and Public Service Agency (PTNBLU) status under the Ministry of Education, Science, and Technology. A census approach was applied due to the limited and fluctuating number of institutions across the study period. Each observation included annual IKU scores and corresponding financial data from 2020 to 2023,

making the audited financial reports and IKU achievements the unit of analysis.

The dependent variable, university performance, was measured using the official IKU scores. These scores reflected achievement across eight performance domains, including graduate employability, student and faculty engagement outside campus, industry collaboration, curriculum quality, and internationalization (DIKTI, 2020). Higher IKU scores indicated stronger institutional performance in academic, managerial, and societal contributions.

Agency costs, as the main independent variable, were assessed using two financial ratios adopted from Mehmood (2021): the Operating Expense Ratio (OER) and Asset Turnover Ratio (ATR). OER captured how much of the institution's income was consumed by operational costs, serving as a proxy for inefficiency and potential waste. A ratio >1 implied that operational costs exceeded revenue, indicating higher agency cost. ATR, on the other hand, measured how effectively an institution utilized its assets to generate income. Higher ATR values suggested lower agency costs and more efficient resource use.

Institutional status was also included as an independent variable, representing the degree of autonomy granted by the government. PTNBHs held broader authority over academic and non-academic matters, while PTNBLUs operated under tighter fiscal supervision. From an agency theory perspective, this difference influenced agency cost dynamics. PTNBHs, with greater autonomy, might face higher agency risks if internal controls were weak, while PTNBLUs, though more constrained, were subject to closer government oversight.

Table 1 Research Variables

Variable	Definition	Indicators
Independent/ Y	University Performance	IKU score
Dependent 1/ X1	Operating Expense Ratio	Operating Expense/ Total Revenue
Dependent 2/ X2	Asset Turnover Ratio	Total Revenue/Total Asset
Dummy Variable/D	University Status	D1:PTNBH:0 D2:PTNBLU:1

This study employed an independent samples t-test to compare the average agency cost between two types of Indonesian state universities. A one-tailed t-test was used to evaluate directional hypotheses regarding agency cost differences. This approach was considered appropriate because the study hypothesized, based on prior research, that agency costs would be higher in PTNBH institutions due to their broader institutional autonomy. As noted by Gharsi (2024), greater autonomy in higher education is associated with changes in performance dynamics, justifying the use of a one-directional test to assess whether PTNBH incurred significantly higher agency costs than PTNBLU.

Further analysis examined the influence of agency cost proxies on institutional performance using hierarchical regression analysis. This method allowed the study to assess both the direct effects of OER and ATR, as well as the moderating impact of university status. The first model included only OER and ATR to evaluate their predictive strength regarding university performance. In the second model, university status (PTNBH vs. PTNBLU) was incorporated to determine whether it accounted for additional variance in performance and influenced the relationship between financial ratios and institutional outcomes.

The following regression equations illustrate the models used:

Model 1:

$$Y = \beta_0 + \beta_1(\text{OER}) + \beta_2(\text{ATR}) + \varepsilon$$

Model 2:

$$Y = \beta_0 + \beta_1(\text{OER}) + \beta_2(\text{ATR}) + \beta_3(\text{Status}) + \varepsilon$$

Model 3:

$$Y = \beta_0 + \beta_1(\text{OER}) + \beta_2(\text{ATR}) + \beta_3(\text{Status}) + \beta_4(\text{OER} \times \text{Status}) + \beta_5(\text{ATR} \times \text{Status}) + \varepsilon$$

Y Dependent variable (educational performance measured by IKU score)

OER First independent variable (Operation Expense Ratio)

ATR Second independent variable (Asset Turnover Ratio)

Status Dummy variable (university status: PTNBH = 0, BLU = 1)

β_0 Constant (intercept, Y value when all independent variables = 0)

- β_1, β_2 Coefficient of influence of OER and ATR on PTNBH
- β_3 Difference in average performance between PTNBH and PTNBLU (without influence of OER and ATR)
- β_4, β_5 The Influence of OER and ATR on PTNBH and PTNBLU
- ϵ Error term (residual error)

The dummy variable used in this study represented university status, with PTNBH coded as 0 and PTNBLU as 1. Therefore, the interpretation of the coefficients for PTNBH is as follows:

- β_1 : The effect of OER on PTNBH performance
- β_2 : The effect of ATR on PTNBH performance
- For PTNBLU, the interpretation is:
- β_3 : The difference in performance between PTNBLU and PTNBH (excluding the effects of OER and ATR)
- $\beta_1 + \beta_4$: The total effect of OER on PTNBLU performance
- $\beta_2 + \beta_5$: The total effect of ATR on PTNBLU performance

A positive and significant β_3 would indicate that PTNBH and PTNBLU differ in performance after controlling for the operating expense ratio and asset turnover ratio. A significant β_4 , which represents the interaction between OER and university status, would suggest that the effect of OER on performance differs between PTNBH and PTNBLU. Likewise, a significant β_5 , the interaction between ATR and university status, would indicate that the effect of ATR on performance also differs across the two types of universities. The comparison of these three coefficients provides insight into whether agency costs are higher in PTNBH than in PTNBLU and whether agency costs have a negative impact on university performance.

RESULTS AND DISCUSSIONS

This study analyzed 110 observations from 51 public universities (21 PTNBH and 30 PTNBLU) over the period of 2020 to 2023. Incomplete data and outliers defined as values with a standardized score greater than 2

(mean/standard deviation > 2) were identified and removed to ensure data quality.

Table 2. Descriptive for Y Variable

Description	PTNBLU	PTNBH
Mean	55.92	65.92
Standard Error	1.74	1.60
Median	58	69.11
Mode	49	80
Standard Deviation	13.59	11.20
Count	61	49
Largest(1)	78	80
Smallest(1)	29	40

Each IKU carried a maximum score of 80 across all eight indicators. As shown in Table 2, PTNBH universities demonstrated a higher average IKU score compared to PTN-BLU institutions. Moreover, the median scores in both groups surpassed their respective means, suggesting a positively skewed distribution. Specifically, over half of the PTNBH institutions achieved IKU scores above 65.92, while more than half of the PTN-BLU institutions scored above 55.92.

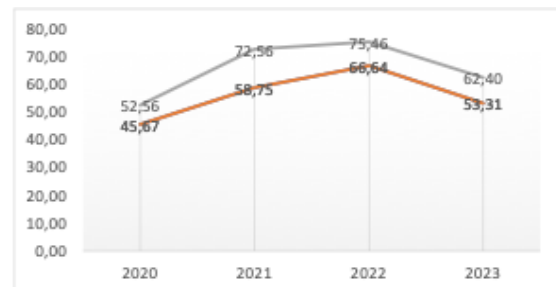


Figure 1 the average IKU scores of PTNBH and PTNBLU 2020 – 2023

Figure 1 illustrated that PTNBH universities consistently achieved higher IKU scores than PTNBLU institutions throughout the observed period. The slope between 2020 and 2021 was steeper for PTNBH, indicating a faster adaptation to the revised IKU assessment system. In contrast, PTNBLU showed a sharper increase between 2021 and 2022, suggesting improved performance management. However, in 2023, both groups experienced a parallel decline of approximately 13 points, signaling shared challenges in sustaining performance.

Table 2 Descriptive Statistic of OER

Description	PTNBLU	PTNBH
Mean	0.72	0.90
Standard Error	0.04	0.02
Median	0.85	0.93
Mode	0.66	#N/A
Standard Deviation	0.32	0.11
Count	61	49.00
Largest(1)	1.13	1.09
Smallest(1)	0.02	0.66

Descriptive analysis of the Operating Expense Ratio (OER) showed that PTNBH institutions had a higher average ratio (0.90) compared to PTNBLU (0.72), implying a greater operational cost burden relative to revenue and thus higher agency costs. This finding supported agency theory as proposed by Jensen and Meckling (1976), which links higher operating expenses with inefficiencies and principal-agent conflicts. Mehmood (2021) also noted similar concerns. Despite higher OER values, PTNBH exhibited a narrower spread (standard deviation of 0.11) compared to PTNBLU (0.32), suggesting more uniform spending behavior among PTNBH institutions. PTNBLU displayed broader variation, with some institutions operating very efficiently (minimum OER of 0.02) and others less so. Notably, no PTNBH institution recorded an OER below 0.66, implying consistent cost levels.

The mode of PTNBLU's OER distribution was 0.66, while PTNBH showed no repeated values, indicating that although their cost structures were consistent in range, they were unique across institutions. Ang et al. (2000) attributed this to the autonomous budgetary practices of fully independent institutions. Overall, PTNBH demonstrated higher but more stable agency costs, while PTNBLU showed greater variance in efficiency, with some institutions outperforming others. These results reinforced the agency theory's emphasis on the need for strong governance frameworks in autonomous institutions.

Table 3 Descriptive Statistic of ATR

Description	PTNBLU	PTNBH
Mean	0.19	0.52
Standard Error	0.02	0.02
Median	0.15	0.52
Mode	0.70	#N/A
Standard Deviation	0.14	0.13
Count	61	49
Largest(1)	0.70	0.74
Smallest(1)	0.00	0.23

Regarding Asset Turnover Ratio (ATR), PTNBH outperformed PTNBLU with an average of 0.52 versus 0.19. This reflected more effective use of assets to generate revenue. Ang et al. (2000) and Singh & Davidson (2003) highlighted ATR as a key indicator of institutional efficiency. PTNBH's ATR distribution was symmetrical, with the median matching the mean, while PTNBLU's median (0.15) fell below the mean, indicating a skew toward lower efficiency. The most frequent ATR value for PTNBLU was 0.70, whereas PTNBH had no repeated values, underscoring institutional uniqueness.

Standard deviations were similar for both groups, but minimum ATR values varied significantly: PTNBH recorded a minimum of 0.23, while PTNBLU included a zero, suggesting complete asset underutilization in at least one institution. These contrasts echoed the findings of Gharsi et al. (2024), who argued that autonomous, accountable institutions tend to manage their fixed assets more effectively. PTNBH's higher and more consistent ATR suggested stronger institutional strategies, while PTNBLU showed uneven performance. These findings aligned with agency theory, which underscores the importance of oversight in maintaining resource efficiency across varied governance structures. There was an imbalance in the number of observations between PTNBH and PTNBLU groups, with PTNBLU contributing 61 data points and PTNBH only 49. Therefore, the researcher employed a t-Test: Two-Sample Assuming Unequal Variances to account for this discrepancy.

Table 4. t-Test:Two-Sample Assuming Unequal Variances

Description	X1 PTN BLU	X1 PT NB H	X2 PTN BLU	X2 PT NB H
df	77		107	
t Stat	-4.17		-12.71	
P(T<=t) one-tail	0.00		0.00	
t Critical one-tail	1.66		1.66	

Source : Data Processed 2025

The t-statistic obtained for variable X1 was -4.172 with 77 degrees of freedom, which was lower than the critical one-tail t-value of -1.664. The one-tailed p-value was 0.000039, well below the 0.05 significance level. These results indicated a statistically significant difference in the mean value of X1 between the two groups, with PTNBH showing a significantly higher average than PTNBLU. This suggests that institutional status may influence the value of variable X1. Similarly, the t-statistic for the Asset Turnover Ratio (ATR) was -12.714, which was far below the critical one-tail t-value of -1.659. This confirmed that the average ATR of PTNBH was significantly higher than that of PTNBLU, indicating more optimal asset utilization performance in PTNBH institutions.

The study tested three hierarchical regression models to examine the hypothesis that agency costs negatively affect university performance. This approach enabled the researcher to assess the incremental contribution of each group of variables. Model 1 examined the effects of agency cost proxies. Results revealed that the Operating Expense Ratio (OER) had a significant negative effect on performance ($\beta = -10.82$), while the Asset Turnover Ratio (ATR) had a significant positive effect ($\beta = 14.41$). The model explained 7% of performance variance ($R^2 = 0.07$).

Model 2 added university status, which significantly affected performance ($\beta = -18.55$), indicating that PTNBLU performed worse than PTNBH. Interestingly, the ATR coefficient reversed direction and became negative ($\beta = -$

17.08), while OER remained significantly negative ($\beta = -15.78$). This model increased explanatory power to 25.3% ($R^2 = 0.253$). Model 3 included interaction terms (OER \times Status and ATR \times Status). The interaction between OER and status was not significant, but the interaction between ATR and status was significantly negative ($\beta = -42.55$), pushing R^2 to 0.298. These findings imply that the effect of ATR on performance differed between university types, while the effect of OER remained consistent.

Table 5 Hypothesis Test Result

	Model 1	Model 2	Model 3
N-Obs	110	110	110
β_0 Intercept	64.18*	88.99*	77.38*
β_1 (OER)	-10.82*	-15.78*	-17.83
β_2 (ATR)	14.41*	-17.08*	-8.82
β_3 (D)		-18	-3.93
β_4 (OER \times D)			2.21
β_5 (ATR \times D)			-42.55*
R Square	0.07	0.253	0.298
F	4.055*	11.998*	8.829*

*sig : 0,05

Descriptive and inferential analyses confirmed that agency costs were higher in PTNBH, reflected by a higher average OER. This supports agency theory (Jensen & Meckling, 1976), which posits that greater autonomy can lead to increased conflicts of interest between principals and agents. The higher agency costs in PTNBH stem from broader autonomy and flexible resource allocation, whereas PTNBLU operated under tighter fiscal control. Supporting this, Urbanek (2020) and Gharsi et al. (2024) noted that institutions with greater autonomy often exhibit both enhanced performance and more complex cost management.

Regression results further confirmed this, as PTNBH consistently showed higher OER values. Although this may signal inefficiency, some argue that higher expenditures may reflect investments in quality (Mehmood, 2021). Therefore, higher agency costs in PTNBH should be seen not as waste, but as a consequence of broader managerial responsibilities and strategic spending.

Moreover, regression models revealed that agency costs had divergent effects on performance depending on institutional status. In Model 2 (parallel regression), status affected the intercept but not the slope, implying a uniform relationship between the predictors and performance across groups. Conversely, Model 3 (dissimilar regression) revealed both intercept and slope differences. ATR significantly improved performance in PTNBH, but reduced it in PTNBLU. This divergence highlights the importance of institutional context in interpreting managerial efficiency, echoing Gujarati (2009).

These findings align with agency theory and are further illuminated through the lens of New Public Management (NPM), which emphasizes autonomy, output-based governance, and managerial accountability. PTNBH exemplifies this model, leveraging autonomy for strategic asset utilization and performance planning. Urbanek (2020) and Gharsi et al. (2024) support the view that institutional autonomy can enhance performance, provided strong governance mechanisms are in place.

Regression analysis confirmed that OER had a consistently negative effect, while ATR had a positive effect on performance especially for PTNBH. These findings validate prior studies (Ang et al., 2000; Singh & Davidson, 2003), highlighting the dangers of unmanaged operational spending and the benefits of effective asset utilization. However, Mehmood (2021) suggested that operational spending, if well-targeted, can also lead to performance gains.

This study found that both OER and ATR significantly influenced performance across both PTNBH and PTNBLU institutions. PTNBH showed higher ATR values, indicating more productive asset management. This supports Sdiq & Abdullah (2022), who emphasized that unrestrained operational costs and low asset efficiency reduce performance. Although PTNBH managed assets more effectively, high operational costs posed sustainability concerns. Kontuš (2021) warned that low asset turnover might reflect unproductive management practices and reduce institutional value. Thus, institutional

autonomy must be accompanied by strong oversight.

The study used IKU scores as an outcome-based measure of performance, consistent with NPM principles that prioritize real-world impact over procedural compliance (Pollitt & Bouckaert, 2011). Regression analysis also served as a predictive tool, enabling performance estimation and confidence interval interpretation. With 110 observations and a 95% confidence level, the findings are generalizable to the broader population of Indonesian public universities.

CONCLUSION

This study confirmed that agency cost measured through Operating Expense Ratio (OER) and Asset Turnover Ratio (ATR) significantly affected university performance. Higher OER reduced performance, while higher ATR improved it. Institutional status mattered: PTNBH universities generally performed better than PTNBLU. Moreover, the interaction between ATR and status showed a significant negative effect, suggesting asset efficiency worked differently depending on the level of autonomy, while OER's effect remained consistent across groups.

These findings support agency theory, emphasizing the risks of inefficiency when autonomy is not matched by strong governance. They also align with Urbanek (2020) and Gharsi et al. (2024), who argue that autonomy can enhance performance but also increase complexity and cost. In line with New Public Management (NPM), universities must balance independence with accountability and results-based management.

Practically, PTNBH should review operational spending to improve efficiency, while PTNBLU should strengthen asset use. Policymakers must tailor oversight systems to institutional structures and ensure performance evaluations like the IKU reflect these differences. Future research may extend this agency-based model by adding governance or transparency variables and using mixed-method approaches for deeper insight into university management practices.

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