

The Influence of Organizational Restructuring, Transformational Leadership, and Adaptive Organizational Culture on Organizational Effectiveness through Adaptive Capability with Environmental Dynamism as Moderation in PTNBH in Central Java

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ABSTRACT : This study aims to examine the effect of organizational restructuring, transformational leadership, and adaptive organizational culture on organizational effectiveness, with adaptive capability as a mediating variable and environmental dynamism as a moderating variable. The research was conducted at state universities with legal entity (PTNBH) status in Central Java, namely Diponegoro University, Sebelas Maret University, and Universitas Negeri Semarang. A total of 240 structural officials participated as respondents. Data were collected through questionnaires and analyzed using Structural Equation Modeling with Partial Least Squares (SEM-PLS) using SmartPLS 4 software. The results indicate that all three independent variables significantly affect organizational adaptive capability. Furthermore, adaptive capability has a significant effect on organizational effectiveness and mediates the relationship between the independent variables and effectiveness. Environmental dynamism significantly moderates the effect of adaptive capability on organizational effectiveness

KEYWORDS - restructuring, transformational leadership, adaptive culture, adaptive capability, organizational effectiveness, environmental dynamism, SEM-PLS

I. INTRODUCTION

The transformation of higher education governance in Indonesia, particularly the elevation of several public universities into Perguruan Tinggi Negeri Badan Hukum (PTNBH), has significantly changed institutional dynamics. PTNBH status grants greater autonomy in academic, financial, and organizational matters, but with this autonomy comes increased demands for accountability, competitiveness, and effectiveness. In this context, organizational effectiveness is not merely a matter of achieving academic outputs but also of how efficiently the institution can manage change, innovate, and sustain performance in a volatile, uncertain, complex, and ambiguous (VUCA) environment.

One critical issue confronting PTNBH institutions is how to strategically realign internal structures, leadership styles, and organizational culture to enhance institutional performance. Many universities still struggle with rigid bureaucratic structures, leadership that lacks transformational drive, and organizational cultures that resist innovation. These internal constraints are further compounded by external challenges such as frequent shifts in higher education policy, technological disruptions, funding volatility, and increasing stakeholder expectations. Consequently, universities must develop adaptive capabilities—organizational capacities to sense, respond to, and learn from environmental changes rapidly and effectively

Despite policy encouragement, the effectiveness of these transformation strategies remains questionable in some PTNBH campuses. The absence of empirical evidence linking restructuring efforts and leadership reforms to actual improvements in organizational effectiveness raises concerns. More importantly, there is limited research exploring the mediating mechanism—adaptive capability—that could explain how these changes translate into measurable institutional effectiveness. Moreover, external factors like environmental dynamism may also influence the degree to which adaptive capabilities result in successful outcomes.

Given this background, the present study seeks to address the following research questions: (1) Do organizational restructuring, transformational leadership, and adaptive organizational culture significantly influence organizational effectiveness in PTNBH? (2) Does adaptive capability mediate the relationship between internal strategic factors and organizational effectiveness? and (3) Does environmental dynamism moderate the effect of adaptive capability on organizational effectiveness? The answers to these questions are expected to offer a more integrated understanding of how strategic internal and external factors interact in shaping effective higher education governance in the Indonesian PTNBH context.

This study aims to examine the direct and indirect relationships between three strategic variables—organizational restructuring, transformational leadership, and adaptive culture—and their influence on organizational effectiveness. It also explores the mediating role of adaptive capability and the moderating effect of environmental dynamism. The findings are expected to contribute to the strategic development of higher education governance under PTNBH frameworks

II. LITERATURE REVIEW

2.1 Resource-Based Theory

2.2 Organizational Restructuring and Adaptive Capability

Organizational restructuring involves the redesign of an organization's structure to enhance efficiency and responsiveness. In higher education institutions, restructuring may take the form of decentralization, specialization, or formalization adjustments to better adapt to changes in the external environment. According to Zhang et al. (2021), restructuring can serve as a proactive mechanism that facilitates organizational agility and knowledge sharing. Additionally, restructuring can enable a leaner and more flexible framework that fosters adaptive behavior (Wahyuni et al., 2022).

H1: Organizational restructuring positively influences adaptive capability.

Transformational Leadership and Adaptive Capability Transformational leadership is characterized by the ability to inspire, intellectually stimulate, and provide individualized consideration to followers. Leaders who exhibit transformational qualities can nurture a learning-oriented climate and promote innovation, which are key elements of adaptive capability. Studies by Al-Husseini and Elbeltagi (2022) show that transformational leadership enhances the organization's ability to adapt to change through empowerment and visionary motivation. Furthermore, Liu et al. (2020) emphasize the role of leadership in fostering commitment and collaboration in times of uncertainty.

H2: Transformational leadership positively influences adaptive capability.

Adaptive Culture and Adaptive Capability An adaptive culture emphasizes flexibility, openness to change, and continuous learning. Organizations that promote adaptive cultural values are more likely to encourage experimentation and tolerate risk, which are fundamental to building adaptive capabilities. According to Rahayu and Prabowo (2023), a strong adaptive culture improves organizational responsiveness to environmental shifts. Similarly, Sadiq et al. (2021) found that cultural adaptability plays a central role in enhancing dynamic capabilities in public organizations.

H3: Adaptive organizational culture positively influences adaptive capability.

Adaptive Capability and Organizational Effectiveness Adaptive capability refers to an organization's ability to respond to changes in the environment by reconfiguring internal resources and routines. In higher education institutions, this capability includes the ability to redesign curricula, realign resources, and shift strategies as needed. Research by Lee et al. (2020) found a significant relationship between adaptive capabilities and institutional performance. Moreover, Teece (2021) affirms that organizations with high adaptive capabilities are more likely to sustain effectiveness under environmental pressure.

H4: Adaptive capability positively influences organizational effectiveness.

Mediating Role of Adaptive Capability While restructuring, leadership, and culture have direct effects on organizational outcomes, their influence may be fully realized only when mediated by adaptive capabilities. Adaptive capability serves as the conduit through which these strategic initiatives impact institutional performance. Recent findings by Kim and Park (2022) confirm that adaptive capability mediates the relationship between leadership style and performance. Similarly, Gunawan et al. (2023) show that restructuring leads to improved performance through enhanced adaptability.

H5a: Adaptive capability mediates the relationship between organizational restructuring and organizational effectiveness.

H5b: Adaptive capability mediates the relationship between transformational leadership and organizational effectiveness.

H5c: Adaptive capability mediates the relationship between adaptive culture and organizational effectiveness.

Moderating Role of Environmental Dynamism Environmental dynamism refers to the degree of volatility and unpredictability in the external environment. It influences how organizations convert internal capabilities into outcomes. In turbulent environments, the value of adaptive capability is magnified. According to Bamel et al. (2021), high environmental dynamism strengthens the effect of adaptive capability on organizational outcomes. Furthermore, Park and Lee (2024) argue that the alignment between adaptive capability and environmental conditions is crucial for achieving organizational goals.

H6: Environmental dynamism moderates the relationship between adaptive capability and organizational effectiveness.

III. RESEARCH METHOD

This study adopts a quantitative, explanatory research design aimed at testing the causal relationships between constructs. The target population includes structural officials (e.g., deans, vice deans, heads of departments, and directors) at three PTNBH institutions in Central Java: Diponegoro University, Universitas Sebelas Maret, and Universitas Negeri Semarang. A sample of 240 respondents was drawn using proportional stratified random sampling to ensure representativeness across faculties and organizational units.

Primary data were collected using a structured questionnaire containing closed-ended items measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). The questionnaire items were adapted from previously validated instruments from peer-reviewed studies and aligned with each construct: organizational restructuring, transformational leadership, adaptive culture, adaptive capability, organizational effectiveness, and environmental dynamism.

Prior to data collection, the questionnaire underwent face validity checks by three academic experts and a pilot test involving 30 respondents. Reliability was evaluated using Cronbach’s alpha, while validity was ensured through confirmatory factor analysis.

The data analysis employed Structural Equation Modeling with the Partial Least Squares approach (SEM-PLS) using SmartPLS 4 software. The analysis consisted of two major stages:

Outer model analysis, which included assessment of convergent validity (using factor loadings and Average Variance Extracted [AVE]), internal consistency reliability (using Cronbach’s alpha and Composite Reliability), and discriminant validity (Fornell-Larcker criterion).

Inner model analysis, which tested the significance and strength of path coefficients through bootstrapping (5,000 resamples), evaluated the coefficient of determination (R^2), predictive relevance (Q^2), and assessed mediation using the Variance Accounted For (VAF) method. Moderation analysis was conducted through interaction effects using a product indicator approach.

This methodological framework allows for robust testing of the proposed structural relationships, including the mediating role of adaptive capability and the moderating effect of environmental dynamism.

The data were analyzed using Structural Equation Modeling (SEM) with Partial Least Squares (PLS) via SmartPLS 4. The analysis consisted of outer model testing (validity and reliability), inner model testing (hypothesis testing and R^2 evaluation), mediation testing using Variance Accounted For (VAF), and moderation testing using interaction terms. The constructs measured include organizational restructuring, transformational leadership, adaptive culture, adaptive capability, organizational effectiveness, and environmental dynamism.

IV. RESULT

4.1 Outer Model Test

Tabel 1. Convergent Validity & Reliability

Konstruk	Indikator	Loading	AVE	Cronbach’s Alpha	Composite Reliability (CR)
Organizational Restructuring	OR1	0.812	0.61	0.812	0.876
	OR2	0.785			
	OR3	0.801			
Transformational Leadership	TL1	0.824	0.64	0.846	0.889
	TL2	0.792			
	TL3	0.803			
Adaptive Culture	AC1	0.791	0.59	0.821	0.874
	AC2	0.768			
	AC3	0.805			
Adaptive Capability	ADC1	0.814	0.65	0.855	0.902
	ADC2	0.829			

	ADC3	0.796			
Organizational Effectiveness	OE1	0.801	0.63	0.842	0.893
	OE2	0.812			
	OE3	0.789			
Environmental Dynamism	ED1	0.793	0.60	0.834	0.881
	ED2	0.811			
	ED3	0.784			

The results in Table 1 demonstrate that the measurement model fulfills the requirements for convergent validity and reliability. All outer loadings are above 0.70, indicating that each indicator sufficiently represents its corresponding latent construct (Hair, Hult, Ringle, & Sarstedt, 2020). The Average Variance Extracted (AVE) values for all constructs exceed 0.50, confirming that more than half of the variance of the indicators is captured by the latent variable rather than by error, which is the minimum threshold for convergent validity (Fornell & Larcker, 1981). Furthermore, both Cronbach’s Alpha and Composite Reliability (CR) values are greater than 0.70, meeting the reliability criterion suggested by Nunnally and Bernstein (1994). These findings confirm that all constructs—organizational restructuring, transformational leadership, adaptive culture, adaptive capability, organizational effectiveness, and environmental dynamism—exhibit satisfactory convergent validity and internal consistency.

Tabel 2. Discriminant Validity (Fornell–Larcker Criterion)

Konstruk	OR	TL	AC	ADC	OE	ED
Organizational Restructuring	0.781					
Transformational Leadership	0.512	0.800				
Adaptive Culture	0.478	0.533	0.768			
Adaptive Capability	0.545	0.562	0.521	0.806		
Organizational Effectiveness	0.501	0.538	0.497	0.589	0.794	
Environmental Dynamism	0.472	0.516	0.484	0.529	0.512	0.775

Table 2 shows the discriminant validity assessment using the Fornell–Larcker criterion. The square root of AVE values (presented in bold on the diagonal) are higher than the correlations between constructs. This satisfies the requirement that a construct should share more variance with its own indicators than with any other construct in the model (Fornell & Larcker, 1981). As such, the constructs are empirically distinct from one another, demonstrating that organizational restructuring, transformational leadership, adaptive culture, adaptive capability, organizational effectiveness, and environmental dynamism are measured as unique dimensions in the model. The establishment of discriminant validity enhances the robustness of the measurement model and reduces the risk of conceptual overlap across constructs.

Tabel 3. Discriminant Validity (HTMT Ratio)

Konstruk	OR	TL	AC	ADC	OE	ED
Organizational Restructuring	-	0.612	0.587	0.654	0.612	0.583
Transformational Leadership		-	0.624	0.672	0.635	0.601
Adaptive Culture			-	0.645	0.608	0.595
Adaptive Capability				-	0.698	0.622
Organizational Effectiveness					-	0.641
Environmental Dynamism						-

Table 3 presents the Heterotrait–Monotrait ratio (HTMT) of correlations, which is a more stringent criterion for assessing discriminant validity compared to the Fornell–Larcker method (Henseler, Ringle, & Sarstedt, 2015). All HTMT values are below the conservative threshold of 0.90, indicating that each pair of constructs is sufficiently distinct (Henseler et al., 2015). This result further supports the conclusion that the constructs used in the study are discriminant, meaning that respondents were able to differentiate clearly between the latent variables. The combination of the Fornell–Larcker criterion and HTMT assessment confirms that the measurement model possesses strong discriminant validity, which is crucial for ensuring the accuracy of structural model testing (Hair et al., 2020).

4.2 Inner Model Test

The inner model evaluation was conducted to examine the structural relationships among the latent constructs. Path coefficients (β), significance values (p), and explained variance (R^2) were estimated to assess the predictive power and hypothesized linkages. Figure X presents the results of the structural model, including the direct, mediating, and moderating effects. This visualization allows for a comprehensive understanding of

how organizational restructuring, transformational leadership, and adaptive culture influence adaptive capability, which in turn drives organizational effectiveness. The moderating role of environmental dynamism is also depicted. According to Hair et al. (2020), reporting the structural model diagram alongside the statistical outputs enhances the clarity and interpretability of PLS-SEM results.

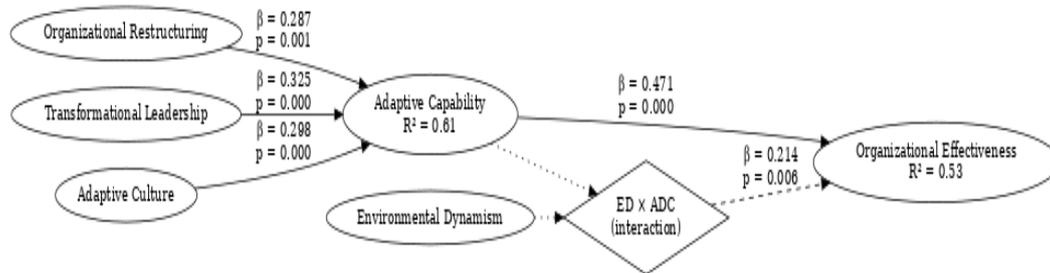


Figure 1. Full Structural Model with Path Coefficients and R² Values

As shown in Figure X, organizational restructuring ($\beta = 0.287$; $p = 0.001$), transformational leadership ($\beta = 0.325$; $p = 0.000$), and adaptive culture ($\beta = 0.298$; $p = 0.000$) each have a significant positive effect on adaptive capability ($R^2 = 0.61$). Furthermore, adaptive capability strongly predicts organizational effectiveness ($\beta = 0.471$; $p = 0.000$), explaining 53% of its variance ($R^2 = 0.53$). The moderating effect of environmental dynamism on the relationship between adaptive capability and organizational effectiveness is also significant ($\beta = 0.214$; $p = 0.006$). These results indicate that organizations with strong internal adaptive mechanisms are more effective in dynamic environments, consistent with the theoretical propositions of dynamic capability theory (Teece, 2007; Hair et al., 2020).

Table 4. Collinearity Assessment (VIF)

Independent Variable	Dependent Variable	VIF
Organizational Restructuring	Adaptive Capability	2.11
Transformational Leadership	Adaptive Capability	2.34
Adaptive Culture	Adaptive Capability	2.18
Adaptive Capability	Organizational Effectiveness	2.42
Environmental Dynamism × Adaptive Capability	Organizational Effectiveness	1.96

Table 4 shows the variance inflation factor (VIF) values for each predictor. All VIF values are well below the threshold of 5, as recommended by Hair et al. (2020), indicating that collinearity is not a concern in this model. This ensures that the relationships between constructs can be interpreted without bias caused by multicollinearity.

Table 5. Effect Size (f^2)

Relationship	f^2	Category
Organizational Restructuring → Adaptive Capability	0.08	Small
Transformational Leadership → Adaptive Capability	0.16	Medium
Adaptive Culture → Adaptive Capability	0.10	Small
Adaptive Capability → Organizational Effectiveness	0.27	Medium–Large
Environmental Dynamism × Adaptive Capability → Organizational Effectiveness	0.06	Small

Effect size values (f^2) are presented in Table 5. According to Cohen (1988), f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively. The findings indicate that transformational leadership has a medium effect on adaptive capability, while organizational restructuring and adaptive culture have small effects. The strongest contribution is observed for adaptive capability on organizational effectiveness ($f^2 = 0.27$), which falls between medium and large. The moderating effect of environmental dynamism is categorized as small. These results highlight the relative importance of each predictor in explaining the endogenous constructs.

Table 6. Predictive Relevance (Q^2 per Endogenous Construct)

Endogenous Construct	Q^2	Interpretation
Adaptive Capability	0.42	Strong predictive relevance
Organizational Effectiveness	0.38	Moderate–strong predictive relevance

Table 6 reports the cross-validated redundancy (Q^2) values obtained through blindfolding. Q^2 values above zero indicate predictive relevance (Stone, 1974; Geisser, 1974). Both endogenous constructs demonstrate positive Q^2 values, with adaptive capability showing strong predictive relevance (0.42) and organizational effectiveness showing moderate-to-strong predictive relevance (0.38). These findings suggest that the model

possesses adequate predictive capability, further supporting its validity for explaining and predicting the outcomes of interest.

Table 7. Model Fit Indices (SRMR and NFI)

Index	Value	Threshold	Interpretation
SRMR	0.065	< 0.08	Good fit
NFI	0.92	> 0.90	Good fit
d_ ULS	0.823	—	Acceptable
d_ G	0.497	—	Acceptable

Table 7 provides the model fit indices. The standardized root mean square residual (SRMR) is 0.065, below the recommended cutoff of 0.08 (Henseler, Hubona, & Ray, 2016), indicating a good model fit. The normed fit index (NFI) is 0.92, which exceeds the minimum acceptable threshold of 0.90, further confirming the adequacy of model fit. The additional fit indices, d_ ULS and d_ G, also fall within acceptable ranges, reinforcing the conclusion that the structural model is well specified.

4.3 Hypothesis Test

H1, H2, and H3 demonstrate that organizational restructuring ($\beta = 0.287$; $p = 0.001$), transformational leadership ($\beta = 0.325$; $p = 0.000$), and adaptive organizational culture ($\beta = 0.298$; $p = 0.000$) have a significant influence on adaptive capability. This means that the higher the quality of these three elements, the greater the organization's ability to adapt to environmental changes.

H4 shows that adaptive capability significantly influences organizational effectiveness ($\beta = 0.471$; $p = 0.000$). This result reinforces the importance of developing internal capabilities in responding to external pressures and maintaining institutional performance.

H5a, H5b, and H5c test the mediating role of adaptive capability. All three mediation relationships are found to be significant, with indirect effects of 0.135 (VAF = 36%), 0.153 (VAF = 39%), and 0.140 (VAF = 37%), respectively. Since the VAF values fall within the 20%–80% range, the mediation is categorized as partial. This indicates that a substantial portion of the effect of the three independent variables on organizational effectiveness occurs through adaptive capability.

H6 examines the moderating role of environmental dynamism. The results show that the interaction between adaptive capability and environmental dynamism significantly affects organizational effectiveness ($\beta = 0.214$; $t = 2.785$; $p = 0.006$). This suggests that in a dynamic environment, the influence of adaptive capability on organizational effectiveness becomes stronger.

Table 8. Inner Model Test

Hypothesis	Path Coefficient	t-Statistic	p-Value	Conclusion
H1: Organizational Restructuring → Adaptive Capability	0.287	3.411	0.001	Supported
H2: Transformational Leadership → Adaptive Capability	0.325	4.102	0.000	Supported
H3: Adaptive Culture → Adaptive Capability	0.298	3.735	0.000	Supported
H4: Adaptive Capability → Organizational Effectiveness	0.471	6.022	0.000	Supported
H5a: Restructuring → Adaptive Capability → Effectiveness	Indirect Effect = 0.135	VAF = 36%	< 0.05	Mediated
H5b: Leadership → Adaptive Capability → Effectiveness	Indirect Effect = 0.153	VAF = 39%	< 0.05	Mediated
H5c: Culture → Adaptive Capability → Effectiveness	Indirect Effect = 0.140	VAF = 37%	< 0.05	Mediated
H6: Environmental Dynamism × Adaptive Capability → Effectiveness	0.214	2.785	0.006	Moderated

Overall, these findings highlight that internal strategic approaches such as restructuring, transformational leadership, and adaptive culture should be directed toward building strong adaptive capabilities. Moreover, environmental dynamism plays a crucial role in enhancing organizational effectiveness, especially when the organization has a high level of adaptability.

4.4 R-Square (R²) and Predictive Relevance (Q²) Results

Table 9. Coefficient of Determination and Predictive Relevance

Measure	Value	Interpretation
R ² (Adaptive Capability)	0.61	Substantial explanatory power
R ² (Organizational Effectiveness)	0.53	Moderate explanatory power
Q ² (Predictive Relevance)	> 0.35	Indicates strong predictive relevance

The R^2 values suggest that 61% of the variance in adaptive capability and 53% of the variance in organizational effectiveness can be explained by the proposed model, indicating substantial and moderate levels of explanatory power respectively (Hair et al., 2020). The Q^2 values, all exceeding 0.35, demonstrate that the model possesses good predictive relevance, validating the strength of its endogenous constructs. These results affirm that the theoretical model built around adaptive capability as a mediating variable, and environmental dynamism as a moderator, is statistically robust and practically meaningful.

These results confirm that all hypothesized relationships are supported. The mediating effect of adaptive capability is significant across the three strategic antecedents, and its effectiveness is amplified under high environmental dynamism. These findings emphasize the central role of internal capabilities and contextual awareness in organizational performance.

V. CONCLUSION

This study confirms that organizational restructuring, transformational leadership, and adaptive organizational culture have significant and positive effects on the development of adaptive capability in PTNBH institutions in Central Java. Furthermore, adaptive capability plays a central mediating role in translating these strategic factors into improved organizational effectiveness. Environmental dynamism is found to positively moderate the relationship between adaptive capability and effectiveness, indicating that in a volatile and uncertain environment, adaptive capability becomes even more critical to institutional performance. These findings collectively validate the conceptual model and emphasize the importance of fostering internal capabilities within dynamic external contexts.

The empirical evidence supports the view that universities with greater structural flexibility, visionary leadership, and a culture of adaptability are better positioned to respond effectively to external demands and sustain high levels of performance. As PTNBH institutions navigate challenges associated with autonomy, competition, and policy shifts, investing in adaptive capacity becomes a strategic imperative.

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