

Organizational Restructuring and Operational Performance: The Mediating Role of Process Orientation

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Abstract

This study examines the effect of organizational restructuring on operational performance through process orientation as a mediating variable in the Infrastructure and Engineering Division of PT Bio Farma (Persero), following the transition from a function-based structure to an area- or zone-based structure. A quantitative descriptive and explanatory-verification design was applied to all 86 employees using saturated sampling. Data were collected through a 36-item five-point Likert questionnaire, supported by observation and internal documentation. Instrument validity was tested on 30 respondents, and the main data were analyzed using path analysis and the Sobel test in IBM SPSS after Method of Successive Interval transformation. Organizational restructuring positively affected process orientation ($\beta = .810, p < .001$) and operational performance ($\beta = .588, p < .001$). Process orientation also positively affected operational performance ($\beta = .380, p < .001$). The indirect effect was significant ($\beta = .308$; Sobel $Z = 4.838, p < .001$), indicating partial mediation. The model explained 85.2% of the variation in operational performance. Structural redesign should be supported by clearly mapped, standardized, integrated, and measurable work processes, including clearer task allocation, standard operating procedures, and process-performance monitoring.

INTRODUCTION

Pharmaceutical manufacturing depends on reliable facilities, utilities, equipment, and supporting systems because operational disruptions may affect production continuity and quality assurance. In this context, the Infrastructure and Engineering Division of PT Bio Farma (Persero) has a strategic role in maintaining production facilities, utilities, equipment, validation and calibration activities, and engineering support. The post-pandemic operating environment has increased the demand for reliable infrastructure and responsive technical services, while Good Manufacturing Practice requirements reinforce the need for controlled premises, utilities, equipment, systems, and procedures (World Health Organization, 2022).

Before restructuring, the engineering and maintenance function was organized primarily around technical specialization. Mechanical and utility, cooling and building, electrical and equipment, validation and calibration, and engineering strategy units operated within functional boundaries. Internal company analysis identified overlapping activities in repair, maintenance, utility provision, equipment support, and technical planning. Such overlaps could create duplicated responsibilities, longer coordination chains, slower response, and a reactive pattern of maintenance. In 2024-2025, the division therefore shifted from a function-based structure toward an area- or zone-based structure intended to clarify responsibility, shorten coordination, and enable more proactive handling of operational disturbances (PT Bio Farma (Persero), 2025).

Recent studies show that organizational restructuring may improve performance when it reduces structural inefficiency and clarifies roles and coordination (Abiodun, 2024; Kinyua & Kihara, 2021). However, structural redesign alone does not guarantee improved operational performance because a new organizational structure must be translated into integrated work processes that cross functional boundaries. Process orientation provides this translation mechanism by treating work as an end-to-end flow rather than a collection of isolated departmental tasks. Gudelj et al. (2021) emphasize process thinking, process mapping, process standardization, and process measurement and management as core elements of process orientation.

Related research also indicates that stronger process orientation and business process management practices can improve process conformance, transparency, efficiency, and organizational performance (Benraad et al., 2022; Ozkan et al., 2024; Sahoo, 2022). For infrastructure and engineering work, these characteristics are particularly relevant because technical disturbances often require coordinated action from several specialties and must be resolved through clear, standardized, and measurable workflows.

The research gap lies in the limited empirical examination of process orientation as the mechanism through which organizational restructuring is converted into operational performance. Previous studies more commonly examine restructuring as a direct predictor of organizational or employee performance, whereas process-oriented studies often focus on business process management as the primary antecedent. The integrated relationship among restructuring, process orientation, and operational performance is therefore less explored, particularly within a highly regulated pharmaceutical engineering function.

Accordingly, the central research question is whether organizational restructuring improves operational performance directly and indirectly through process orientation. This study examines: (1) the condition of organizational restructuring, process orientation, and operational performance; (2) the direct effect of organizational restructuring on operational performance; (3) the effect of organizational restructuring on process orientation; (4) the effect of process orientation on operational performance; and (5) the mediating role of process orientation. The novelty lies in integrating these three constructs in one mediation model within the infrastructure and engineering function of a highly regulated pharmaceutical manufacturer. The hypotheses are that organizational restructuring positively affects operational performance (H1), organizational restructuring positively affects process orientation (H2), process orientation positively affects operational performance (H3), and process orientation mediates the effect of organizational restructuring on operational performance (H4).

METHODS

This study used a quantitative design supported by descriptive and explanatory-verification analysis. The research was conducted in the Infrastructure and Engineering Division of PT Bio Farma (Persero). The population consisted of all 86 employees actively working in the division in 2026. Because the population was relatively small and accessible, saturated sampling was applied and all 86 employees were included as the main respondents. They represented Maintenance 1, Maintenance 2, Utility, Validation and Calibration, Engineering Strategy and Maintenance, and division leadership.

Primary data were collected using a structured questionnaire, while observation and internal company documentation were used as supporting sources. The questionnaire contained 36

statements measured on a five-point Likert scale, with 12 items for each construct. Organizational restructuring (X) was measured through role and responsibility clarity, coordination efficiency, work-structure adjustment, and organizational responsiveness. Process orientation (M) was measured through process thinking, process mapping, process standardization, and process measurement and management. Operational performance (Y) was measured through response speed, handling accuracy, operational efficiency, and operational reliability (Gudelj et al., 2021; Heizer et al., 2023; Slack et al., 2022).

The instrument was first tested on 30 respondents for validity before being applied to the 86 main respondents. Pearson Product Moment testing used an r -table threshold of .361 at the 5% significance level, and all 36 items exceeded that threshold. Reliability was evaluated using Cronbach's Alpha with a minimum criterion of .60; the coefficients were .978 for organizational restructuring, .930 for process orientation, and .954 for operational performance, indicating high internal consistency.

Likert-scale responses were treated as ordinal data and transformed into interval data using the Method of Successive Interval before parametric analysis. Descriptive statistics were used to summarize respondent perceptions and classify the three variables. Path analysis in IBM SPSS estimated the direct relationships among X, M, and Y, while the Sobel test evaluated the significance of the indirect effect of organizational restructuring on operational performance through process orientation. Statistical decisions used a significance level of .05 (Ghozali, 2021; Sugiyono, 2022; Veronica et al., 2022). Before hypothesis testing, classical assumptions were evaluated. Residual normality produced an asymptotic significance of .125; tolerance was .343 and VIF was 2.913 for both predictors in the second structural equation; and the scatterplot did not indicate a systematic heteroskedasticity pattern.

RESULTS AND DISCUSSION

Respondent Profile and Descriptive Results

The 86 respondents were predominantly male (99%). By age group, 49% were Millennials, 43% were Generation X, and 8% were Generation Z. Educational backgrounds were distributed across D4/S1 (40%), senior high school/vocational school (39%), diploma (13%), and master's degree (8%). The largest department group was Utility (28%), followed by Validation and Calibration (22%), Maintenance 2 (21%), Maintenance 1 (20%), Engineering Strategy and Maintenance (8%), and division leadership (approximately 1%). Nearly 70% of respondents had more than ten years of service, indicating substantial organizational experience among the participants.

Descriptively, organizational restructuring achieved 79.17% with a mean score of 3.96 and was categorized as good. Process orientation reached 81.41% with a mean of 4.07 and was categorized as strong, while operational performance reached 79.42% with a mean of 3.97 and was categorized as high. The lowest-rated indicator of organizational restructuring was clarity of task division (75.12%). For process orientation, the lowest-rated indicator was the availability of standardized work procedures (73.72%). For operational performance, the lowest-rated indicator was the efficiency of time, labor, and resource use (74.65%).

Table 1. Descriptive Results of the Research Variables

Variable	Mean	Achievement	Category
Organizational Restructuring	3.96	79.17%	Good
Process Orientation	4.07	81.41%	Strong
Operational Performance	3.97	79.42%	High

Direct Effects and Model Explanatory Power

The first structural equation showed that organizational restructuring had a positive and statistically significant effect on process orientation ($\beta = .810$, $t = 12.677$, $p < .001$), supporting H2. The second structural equation showed that organizational restructuring had a positive and significant direct effect on operational performance ($\beta = .588$, $t = 8.160$, $p < .001$), supporting H1. Process orientation also had a positive and significant effect on operational performance ($\beta = .380$, $t = 5.278$, $p < .001$), supporting H3. Together, organizational restructuring and process orientation produced $R = .923$ and $R^2 = .852$, meaning that 85.2% of the variation in operational performance was explained by the two predictors, while 14.8% was attributable to factors outside the model.

Table 2. Hypothesis Testing Results

Hypothesis	Relationship	Standardized Effect	t / Z	p-value	Interpretation
H1	X -> Y	.588	8.160	< .001	Supported
H2	X -> M	.810	12.677	< .001	Supported
H3	M -> Y	.380	5.278	< .001	Supported
H4	X -> M -> Y	.308	4.838	< .001	Partial mediation

Mediating Role of Process Orientation

The mediation test produced a Sobel Z value of 4.838 with $p < .001$. The standardized coefficient from organizational restructuring to process orientation was .810 and the standardized coefficient from process orientation to operational performance was .380, producing an indirect effect of approximately .308. Because the direct effect of organizational restructuring on operational performance remained positive and significant after process orientation was included in the model ($\beta = .588$), the mediation pattern is classified as partial mediation. H4 was therefore supported.

This result clarifies the mechanism through which structural change improves operational outcomes. Organizational restructuring provides the formal arrangement of roles, responsibilities, and coordination channels, whereas process orientation provides the operating logic that integrates those arrangements into daily work. A zone-based structure will not automatically reduce response time if reporting routes remain unclear, technician assignments are inconsistent, and cross-functional activities are not standardized. Process orientation therefore functions as the bridge that converts the new structure into mapped, standardized, monitored, and continuously improved operational workflows.

DISCUSSION

Interpretation of Direct and Mediated Effects

The positive restructuring-performance relationship is consistent with evidence that organizational redesign can improve performance by reducing structural inefficiency and clarifying coordination (Abiodun, 2024; Kinyua & Kihara, 2021). In the present context, the shift from technical silos toward zone-based responsibility shortened coordination paths and reduced

overlapping responsibilities, mechanisms that are directly relevant to engineering responsiveness and facility reliability.

The strong effect of restructuring on process orientation also supports research showing that organizational and system interventions can strengthen process capabilities and cross-functional process behavior (Benraad et al., 2022; Ozkan et al., 2024). By bringing different technical specialties into a shared area-based structure, employees are encouraged to view disturbances as end-to-end processes rather than as isolated departmental tasks. This helps explain why process thinking and cross-functional coordination became central features of the new operating model.

The positive effect of process orientation on operational performance aligns with the proposition that integrated, standardized, and measurable processes reduce rework, ambiguity, and coordination losses (Gudelj et al., 2021; Sahoo, 2022). Similar operational logic is evident in maintenance research, where process discipline and maintenance strategy influence system efficiency and quality (Rakyta et al., 2024). It is also consistent with Muhamad and Kusumastuti (2022), who linked business process management with improved process and organizational performance. The present findings extend this literature by showing that process orientation is not only a direct performance driver but also an important pathway through which structural change is translated into operational outcomes.

The partial mediation result is particularly important because organizational restructuring retains an independent direct effect on performance while a meaningful share of that effect is transmitted through process orientation. This supports broader organizational-change research emphasizing internal mechanisms and process optimization as channels connecting change initiatives to performance outcomes (Liu et al., 2025; Zhihuang & Yuchen, 2025). In this study, the evidence indicates that formal structural redesign and process governance operate together rather than as substitutes.

Managerial Implications

For management practice, structural redesign should be accompanied by updated job descriptions and responsibility matrices, clear escalation routes, standardized operating procedures, and regular use of process-performance data. Three practical priorities follow directly from the lowest-scoring indicators. First, task division should be clarified through updated job descriptions and a simple RACI matrix for major technical processes. Second, standardized procedures should be strengthened and made easily accessible to personnel working across zones. Third, resource efficiency should be monitored more systematically so that time, labor, spare parts, and other resources can be linked to process performance. These actions are consistent with the finding that the strongest operational benefits arise when structural clarity and process governance are implemented together.

CONCLUSION

Conclusion

This study demonstrates that organizational restructuring, process orientation, and operational performance are positively connected in the Infrastructure and Engineering Division of PT Bio Farma (Persero). Organizational restructuring was perceived as good, process orientation as strong, and operational performance as high. Path analysis confirmed that restructuring significantly improves both process orientation and operational performance, while

process orientation significantly improves operational performance. The Sobel test further showed that process orientation partially mediates the relationship between restructuring and operational performance. The joint model explains 85.2% of the variation in operational performance. These findings advance the research model by showing that structural redesign generates stronger operational outcomes when it is translated into integrated, mapped, standardized, and measurable work processes.

Recommendations and Limitations

Management should prioritize clearer task allocation, stronger standardized procedures, and better monitoring of time, labor, and resource efficiency. Practical tools such as updated job descriptions, RACI matrices, process maps, escalation paths, standard operating procedures, and periodic process-performance reviews can support implementation. The study is limited to a single division with 86 respondents and relies primarily on employee perceptions captured through a cross-sectional questionnaire. Future research can broaden the organizational scope, compare multiple divisions or companies, and combine perceptual measures with objective operational indicators such as Mean Time to Repair, Mean Time Between Failures, downtime, and Overall Equipment Effectiveness.

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