Community Engagement & Emergence Journal
Volume 6 Nomor 2, Tahun 2025
Halaman : 860-879

Strategic Alignment and Employee Perception in the Balanced Scorecard Implementation: a Performance Management Evaluation in Mining Division Toward World-Class Standards

Rahmat Hidayat[1], Dermawan Wibisono[2]
Master of Business Administration, School of Business and Management, Institut Teknologi Bandung[a,b]
rahmat_h@sbm-itb.ac.id[1], dwibisono@sbm-itb.ac.id[2]

Disubmit : 30 Mei 2025, Diterima : 30 Juni 2025, Dipublikasi : 10 Juli 2025

Abstract
The dynamic mining industry landscape requires organizations like PT Bukit Asam Tbk. (PTBA) to ensure robust strategic alignment to achieve world-class standards. This study investigates the perception gaps and alignment issues in the implementation of the Balanced Scorecard (BSC) within PTBA's Mining Division. Three research questions guide this work: whether perception differences exist between management and executor levels regarding strategy execution; the gap between expected and actual realization of strategy; and the alignment between employee-perceived priorities and formal the BSC structures. The study applies a quantitative approach using Likert-scale surveys, gap analysis, and the Analytic Hierarchy Process (AHP). Statistical tools include descriptive analysis, Mann-Whitney U tests, Spearman correlation, and the AHP weight calculation. Results reveal notable perception gaps, particularly at the executor level, and significant differences between groups across all constructs. The AHP analysis indicates that internal business process and learning and growth perspectives are prioritized by employees, though misalignments with formal strategy remain. An implementation scenario is proposed through the Enhanced BSC Framework that includes phased strategic communication, dynamic KPI review using AHP, and integrated data-driven feedback systems. This study acknowledges several limitations, such as its single-case scope, the use of self-reported data, a limited observation period, and the absence of external benchmarking. This research contributes to performance management practices by highlighting the importance of aligning strategic priorities across organizational levels to support PTBA's transformation journey.
Keywords: Strategic Alignment, Perception Gaps, Analytic Hierarchy Process

1. Introduction

Modern organizations today operate in what is known as the VUCA environment, characterized by volatility, uncertainty, complexity, and ambiguity, where rapid changes in social, economic, and technological landscapes challenge the sustainability and competitiveness of business operations. In such a dynamic context, business leaders must give deliberate attention to all functional areas of their organizations, as overlooking even a single aspect could threaten long-term viability. One critical area in ensuring both performance and continuity is employee performance management. While often used as a decision-making tool for training, compensation, promotion, retention, or termination, performance management also plays a strategic role in aligning individual goals with corporate strategy, and in fostering feedback mechanisms that inform action (Moullin, 2004).

Against the increasingly competitive global backdrop, a number of Indonesian state-owned enterprises (SOEs) are hoping to become 'world-class' Industry players in a range of different sectors, PT Bukit Asam Tbk. (PTBA), one of Indonesia's leading coal mining companies, is in this category. This ambition has led PTBA to carry out energy innovation based on coal, enter renewable energy and push ahead on

e-ISSN:2715-9752, p-ISSN:2715-9868

operations ability at all levels in its business lines. However, there are still problems to be solved such as employee competence gaps, low technology readiness and inefficiencies in execution. These issues underline the importance of PTBA's performance management system being consistent with international appropriate practices as well as its own strategic requirements.

Historically, performance evaluation systems in SOEs have been critiqued for being overly finance-centric, with weightings heavily skewed toward profitability, solvability, and liquidity. The rigid structure of Key Performance Indicators (KPIs) has led to situations where companies are rated AAA despite poor public service quality. These issues suggest that performance systems based solely on ministerial decrees are insufficient; they must instead be embedded into broader, contextualized strategic performance architectures.

Implementation challenges also stem from human factors. Rigid structures and static job descriptions do not guarantee productive behavior, especially when behaviors at the lower levels of the organization diverge from strategic direction. Managers may remain unaware of actual frontline realities. This disconnection calls for a performance management system that actively harmonizes strategic alignment between top management and frontline employees.

It is the cornerstone of performance management that "you get what you measure," and "if you can't measure it, you can't manage it." As a result, measurements must reflect strategic focus, steering the organization toward its mission, vision, and long-term objectives. It can, therefore, be said that a comprehensive performance management system (PMS) should cover not only financial matters but production process and people. Such a system will succeed only if it can help workers improve their performance and not just serve as an indicator to measure how well they are doing.

This research is grounded in the view that world-class organizations are those that can integrate strategy, performance measurement, and human behavior into a single coherent system. This involves improving a contextual and forward-looking PMS—one that accounts for the company's internal capabilities, industry demands, and dynamic external conditions. By integrating perception-based analysis (via Likert scales) and strategic prioritization (via Analytic Hierarchy Process or AHP), this study aims to assess execution gaps, perceptual misalignment, and employee understanding of strategic priorities. Ultimately, the goal is to propose a performance framework that enhances PTBA's readiness to transform into a globally competitive, sustainability-driven enterprise.

2. Methods

Research Design

A mixed-method sequential design will be used for the current study to evaluate strategic alignment and perceived performance within the Mining Division of PTBA. The research is organized from the BSC, AHP and Gap analysis. This is consistent with the goal of the study to diagnose performance perception gaps; and to make a strategic recommendation for improved the BSC framework in support of world-class transformation.

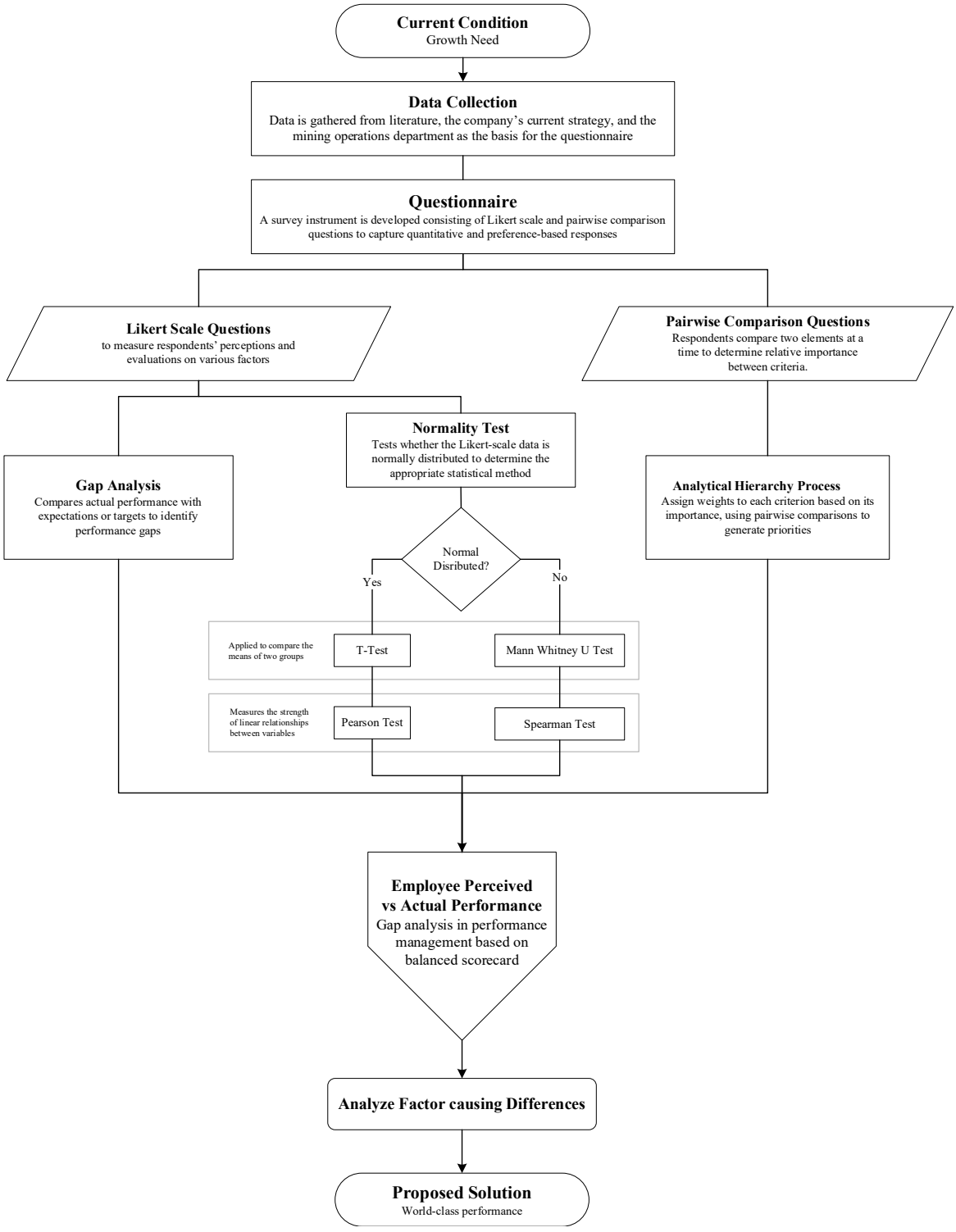

Figure 1. Research Design & Data Collection Method

The research flow includes: (1) data collection from primary and secondary sources, (2) perception assessment using Likert scales (3) gap analysis between expected and actual performance, (4) priority assessment using AHP, (5) Analyze factor that causing differences, and (6) development proposed solution. The flowchart illustrates the step-by-step methodology from diagnostic inquiry to solution formulation. This research employs a combination of primary and secondary data collection methods to ensure a comprehensive and multidimensional understanding

of the research topic. The data collection process is carefully designed to align with the research objectives and address the research questions effectively.

Data Collection Methods

Primary Data Collection

Primary data is collected directly from respondents to capture first-hand insights into performance management practices in the mining operations department. This data collection method ensures the originality and relevance of the data in addressing specific research objectives.

Structured surveys are designed using Likert scales to collect quantitative data on employee perceptions of performance management practices. The survey evaluates KPIs and identifies discrepancies between perceived and actual performance outcomes.

The primary unit of analysis in this research is the Mining Division of PTBA, where the implementation of the BSC directly impacts the employees' day-to-day operations and strategic alignment. The focus of this research is specifically on employees at job levels or job tier 1 to 6, which represent the managerial and operational layers within the mining division, as shown in table below.

Table 1. Six Tier of Job Level in Mining Division

Tier	Job Level Nomenclature
BOD-1	Division Head
BOD-2	Department Head
BOD-3	Section Head
BOD-4	Sub-section Head/ Supervisor
BOD-5	Technician/ Admin
BOD-6	Entry

It can be seen that the job levels span from BOD-6 (entry-level positions) to BOD-1 (division head level). BOD stands for Board of Directors, and the term "BOD minus" indicates position levels below certain tiers of the Board of Directors.

For the purpose of this study, these six levels are grouped into two main respondent categories:

a. Group A: Managerial Group (BOD 1–3)
   This group includes supervisors, assistant managers, and section heads who are directly responsible for translating company strategy into departmental objectives. They also play a central role in setting targets, conducting performance reviews, and ensuring strategic alignment within their teams.
b. Group B: Executor Group (BOD 4–6)
   This group comprises frontline staff and technical operators who are responsible for executing operational plans and achieving performance targets. Their experiences and perceptions are essential for understanding the practical implementation of strategy and how KPIs are perceived on the ground.

As an employee within one of these levels, the respondent's perspective is crucial to evaluate whether the existing performance management system (including KPIs and the BSC mechanisms) truly supports their work and reflects fair, measurable, and motivational indicators. Capturing the perceptions from both groups enables a comparative analysis of perceived execution, priority alignment, and perceived value, which are central to identifying strategic misalignments and proposing enhancements for a more effective and contextually relevant performance system.

3. Result and Discussion

Test of Normality

To ensure the appropriateness of subsequent statistical analyses, a normality test was conducted to assess whether the data distribution of each construct approximates a normal distribution. This step is essential because many parametric statistical methods assume that the underlying data are normally distributed.

Table 2. Normality of Distributed Data

Group	Cons	Kolmogorov-Smirnov			Shapiro-Wilk		
		Stat.	Sig.	Normal?	Stat.	Sig.	Normal?
A *(N= 26 samples)*	K1	.1557	.5047	Y	.9644	.4853	Y
	K2	.1924	.2561	Y	.9268	.0652	Y
	K3	.1426	.6148	Y	.9489	.2180	Y
	K4	.1224	.7871	Y	.9689	.5940	Y
	K5	.1748	.3619	Y	.9081	.0238	N
	K6	.2010	.2132	Y	.9341	.0973	Y
	K7	.2044	.1980	Y	.9041	.0194	N
	K8	.1899	.2697	Y	.9351	.1025	Y
B *(N= 58 samples)*	K1	.1387	.1955	N	.9597	.0516	Y
	K2	.1288	.2676	Y	.9471	.0135	N
	K3	.1165	.3813	Y	.9747	.2655	Y
	K4	.1199	.3473	Y	.9561	.0351	N
	K5	.1537	.1160	Y	.9318	.0029	N
	K6	.0995	.5794	Y	.9797	.4379	Y
	K7	.1189	.3566	Y	.9626	.0712	Y
	K8	.1650	.0754	Y	.9502	.0186	N

Table above shows normality testing for eight constructs (K1 to K8) using two common methods: the Kolmogorov-Smirnov (KS) test and the Shapiro-Wilk (SW) test. Normality testing was conducted individually for each respondent group (A and B) across all constructs.

These tests help determine whether the data in each construct adheres to a normal distribution, which is crucial for selecting the appropriate statistical analysis. If one group demonstrates non-normal distribution, the use of parametric tests (e.g., independent t-test) should be avoided. Non-parametric tests do not rely on the normality assumption and can be applied regardless of the distribution pattern. The Shapiro-Wilk test is renowned for its heightened sensitivity to identifying deviations from normal distribution, particularly in small to medium-sized samples (Razali & Wah, 2011).

Table 3. Normality of Distributed Data using Shapiro-Wilk Sig./ p-Value

Construct	Group A Sig.	Group B Sig.	Parametric Test?
K1	.4853	.0516	Y
K2	.0652	.0135	N
K3	.2180	.2655	Y
K4	.5940	.0351	N
K5	.0238	.0029	N
K6	.0973	.4379	Y

K7	.0194	.0712	N
K8	.1025	.0186	N

From table above, there is clear only K1, K3, and K6 meet the requirements for parametric testing (as both groups are normally distributed). K2, K4, K5, K7, and K8 must use non-parametric testing. To ensure consistency and methodological uniformity, the application of non-parametric tests is recommended across all constructs.

Perceptual Differences Between Groups

After finding that the data did not follow a normal distribution based on the results of the normality test, the Mann-Whitney U test was utilized to assess potential significant disparities between the two distinct groups for each variable. This non-parametric assessment is appropriate for ordinal data or instances where the normality assumption is breached, facilitating the comparison of median values between groups without the need for a normally distributed dataset.

Table 4. Significance Differences among Groups

Construct	Mann-Whitney U	Z-score	Asymp. Sig. (2-tailed)	r
K1	1469	6.92	.0000	0.75
K2	1125	3.59	.0003	0.39
K3	1064	3	.0026	0.33
K4	1336.5	5.64	.0000	0.61
K5	1222.5	4.53	.0000	0.49
K6	1257.5	4.87	.0000	0.53
K7	1387	6.12	.0000	0.67
K8	1486.5	7.09	.0000	0.77

** Asymptotic Significance, Two-tailed; p-Value*

The results of the Mann-Whitney U test indicate that there are statistically significant differences between the management group and the executor group across all the constructs examined in this study. All p-values (Asymp. Sig. 2-tailed) were below 0.05, with most reaching a very high level of significance ($p = 0.000$), suggesting that the null hypothesis (H_0), which states that there is no difference between the groups, can be confidently rejected.

Correlation

This analysis is conducted both on the combined dataset and separately for each employee group, Group A (Managerial Levels Tier 1–3) and Group B (Operational/Executor Levels Tier 4–6). This approach helps determine whether correlation patterns vary across different organizational levels, and whether all construct are interpreted differently depending on role and responsibility.

Table 5. Spearman Correlation All Group Combined

Cluster		Correlation Coefficient	Sig. (2-tailed)
K1	K2	.419	.000
K1	K3	.288	.008
K1	K4	.510	.000
K1	K5	.359	.001
K1	K6	.444	.000
K1	K7	.560	.000
K1	K8	.629	.000

K2	K3	.171	.120
K2	K4	.155	.158
K2	K5	.226	.039
K2	K6	.376	.000
K2	K7	.273	.012
K2	K8	.405	.000
K3	K4	.177	.108
K3	K5	.080	.470
K3	K6	.268	.014
K3	K7	.240	.028
K3	K8	.292	.007
K4	K5	.256	.019
K4	K6	.317	.003
K4	K7	.549	.000
K4	K8	.413	.000
K5	K6	.198	.071
K5	K7	.308	.004
K5	K8	.367	.001
K6	K7	.405	.000
K6	K8	.522	.000
K7	K8	.434	.000

The matrix presented in 4 serves as a visual summary of the correlation coefficients detailed in table 5, providing a clearer and more compact representation of the relationships among the constructs across all groups combined.

Table 6. Spearman Coefficient Correlation Matrix All Group Combined

Cluster	K1	K2	K3	K4	K5	K6	K7	K8
K1	1	.419	.288	.51	.359	.444	.56	.629
K2		1	.171	.155	.226	.376	.273	.405
K3			1	.177	.079	.268	.24	.292
K4				1	.256	.317	.549	.413
K5					1	.198	.308	.367
K6						1	.405	.522
K7							1	.434
K8								1

The analysis reveals that multiple strategic elements display notable and consistent positive associations at the 99% confidence level ($p < 0.01$), providing evidence that the links between clusters are substantive rather than mere statistical chance. The K8 Strategic Target Monitoring & KPI Prioritization cluster exhibited the most robust correlations with other dimensions, notably with K2 Organizational Culture & Feedback System ($r = 0.909$), K3 Commitment to Performance & Motivation ($r = 0.908$), and K1 Employee Strategic Understanding & Capability ($r = 0.881$), emphasizing that enhanced openness in organizational culture, heightened strategic comprehension, and increased motivation are linked to enhanced target monitoring and KPI prioritization.

Conversely, the K7 Decision Support & Use of Information cluster displayed negative correlations with most other clusters, with the most tenuous relationships observed between K7–K1 ($r = -0.600$) and K7–K8 ($r = -0.596$). This hints at a potential deficiency in information support systems for decision-making, which might impede strategic effectiveness despite strong performance in other domains. The chord

diagram in figure below provides a visual representation of the Spearman's correlation across all groups combined.

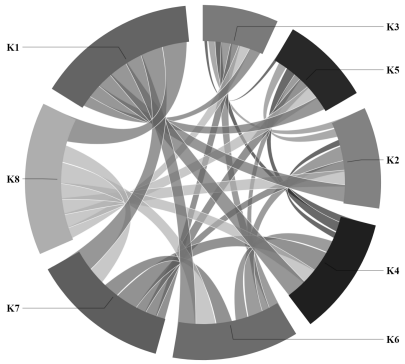

Figure 2. Chord Diagram of Spearman's Correlation All Group Combined

From figure 2, it can be seen that the strength and pattern of correlations among constructs are depicted through the density and positioning of the connecting chords. Moreover, correlation analysis was conducted separately for the management (Group A) and executor (Group B) cohorts to uncover potential variations in correlation trends that could be obscured in aggregated data. Findings indicated that most correlations within each group were not statistically noteworthy, even though moderate correlation values were apparent. However, upon consolidating the data, correlations became more robust and statistically significant ($p < 0.01$), signifying that the observed patterns are consistent and applicable across the organizational populace.

Table 7. Spearman Correlation Group A

Cluster		Correlation Coefficient	Sig. (2-tailed)
K1	K2	- .105	.610
K1	K3	- .397	.045
K2	K3	- .267	.188
K1	K4	.157	.443
K2	K4	- .195	.341
K3	K4	- .181	.377
K1	K5	.281	.165
K2	K5	.056	.786
K3	K5	- .221	.278
K4	K5	.081	.694
K1	K6	- .198	.332
K2	K6	- .429	.029
K3	K6	.485	.012
K4	K6	.065	.754
K5	K6	- .246	.225
K1	K7	.105	.611
K2	K7	.091	.657
K3	K7	.076	.713
K4	K7	.395	.046
K5	K7	- .320	.111
K6	K7	.218	.284
K1	K8	.189	.355
K2	K8	- .293	.147
K3	K8	- .017	.933

K4	K8	.144	.482
K5	K8	- .044	.833
K6	K8	.230	.258
K7	K8	- .071	.729

The matrix shown in Table , provides a more compact and visual summary of the correlation coefficients detailed in Table 18, facilitating clearer interpretation of the interrelationships among constructs in Group A.

Table 8. Spearman Coefficient Correlation Matrix Group A

Cluster	K1	K2	K3	K4	K5	K6	K7	K8
K1	1	- .105	- .397	.157	.281	- .198	.105	.189
K2		1	- .267	- .195	.056	- .429	.091	- .293
K3			1	- .181	- .221	.485	.076	- .017
K4				1	.081	.065	.395	.144
K5					1	- .246	- .32	- .044
K6						1	.218	.23
K7							1	- .071
K8								1

From table 6, it can be seen that correlations among constructs in Group A vary, with most relationships being weak or moderate. Notable findings include a moderate negative correlation between K1 (Employee Strategic Understanding & Capability) and K3 (Commitment to Performance & Motivation) (r = -0.397, p = 0.045) and a moderate positive correlation between K3 and K6 (Strategic Target Monitoring & KPI Prioritization) (r = 0.485, p = 0.012). These patterns suggest that while certain constructs are interconnected at the managerial level, there are areas where strategic alignment and cohesion could be strengthened.

The Spearman rank-order correlation test was also applied to Group B (operational or executor levels, Tiers 4–6) to assess the relationships among strategic constructs at the operational level.

Table 9. Spearman Correlation Group B

Cluster		**Correlation Coefficient**	**Sig. (2-tailed)**
K1	K2	.295	.025
K1	K3	.147	.272
K1	K4	.207	.118
K1	K5	.024	.857
K1	K6	- .087	.514
K1	K7	.004	.978
K1	K8	- .099	.459
K2	K3	- .015	.908
K2	K4	- .045	.738
K2	K5	- .138	.300
K2	K6	.117	.381
K2	K7	.408	.001
K2	K8	.034	.797
K3	K4	- .050	.710
K3	K5	- .036	.786
K3	K6	.075	.577
K3	K7	.056	.677

K3	K8	- .007	.959
K4	K5	.232	.079
K4	K6	.071	.595
K4	K7	.033	.804
K4	K8	.034	.802
K5	K6	.265	.044
K5	K7	.081	.545
K5	K8	- .209	.115
K6	K7	- .049	.716
K6	K8	.168	.207
K7	K8	- .256	.052

To provide a clearer and more concise visualization of the correlation coefficients for Group B, the results from Table are summarized in matrix form in table 8.

Table 10. Spearman Coefficient Correlation Matrix Group B

Cluster	K1	K2	K3	K4	K5	K6	K7	K8
K1	1	.295	.147	.024	- .099	.117	.075	.034
K2		1	.207	- .087	- .015	.408	.056	.265
K3			1	.004	- .045	.034	- .007	.081
K4				1	- .138	- .05	.232	- .209
K5					1	- .036	.071	- .049
K6						1	.033	.168
K7							1	- .256
K8								1

From table 8, it can be seen that the majority of correlations among constructs in Group B are weak or non-significant, with only a few moderate relationships, such as between K2 and K7 ($r = 0.408$, $p = 0.001$) and between K5 and K6 ($r = 0.265$, $p = 0.044$). These findings suggest that at the operational level, perceptions of the strategic elements tend to be less strongly interconnected, indicating potential gaps in alignment and integration of strategic initiatives among executor-level employees.

Gap Analysis

To assess the alignment between perceived strategic importance and actual performance experience, this study employed a Gap Analysis approach comparing mean scores across key constructs between two groups: Group A (Managerial Levels 1–3) and Group B (Executor Levels 4–6).

The analysis is based on two core dimensions:

a. Perceived Importance: how critical employees view each construct to be in relation to organizational strategy and performance,
b. Perceived Performance: the extent to which those constructs are experienced or implemented in daily work practices.

Table 11. Gap Score between Groups

Dimension	**Group A**	**Group B**
Importance	9.62	9.50

Performance	8.44	7.40
Gap	1.19	2.10
Gap Score Index	12%	22%

The data analysis above uncovers a distinct perception divide within both cohorts, highlighting that while the strategic components are perceived as highly crucial, their actual execution is seen as inadequate.

Managerial Group (Group A): value strategic elements at 9.62, with performance rated at 8.44, resulting in a disparity of 1.19 points or a Gap Score Index of 12%. Despite the noticeable gap, it remains controllable, indicating that managerial personnel exhibit comparatively more confidence in the harmony between strategy and application.

Executor Group (Group B): The executor segment also assigns a high significance rating of 9.50, but assesses performance at a notably lower 7.40 level. This results in a broader gap of 2.10 points and a Gap Score Index of 22%. This 10% deviation from Group A implies a significant disconnection between strategic anticipation and practical involvement at the operational front lines.

The 10% deviation between the two factions highlights a vital area for organizational enhancement. While the importance of strategy is consistently acknowledged at all levels, the ability to achieve performance, particularly among operational staff, remains restricted.

Importance–Performance Analysis (IPA) Framework

Importance-Performance Analysis (IPA) serves as a strategic diagnostic instrument that arranges variables into a two-dimensional matrix to evaluate the correlation between the perceived importance and actual performance of factors. The matrix is segmented into four quadrants based on the conjunction of high/low importance and high/low performance. Each quadrant entails a distinctive managerial implication:

a. Quadrant I – Keep Up the Good Work
   This quadrant includes attributes that are rated high in both importance and performance. These are considered organizational strengths and should be maintained. Strategic efforts should focus on sustaining and continuously improving these key areas.
b. Quadrant II – Concentrate Here
   Attributes in this quadrant are of high importance but exhibit low performance. These represent critical weaknesses and are top priorities for improvement. Resources and strategic initiatives should be directed toward these areas to close performance gaps.
c. Quadrant III – Low Priority
   This quadrant consists of attributes with low importance and low performance. Since these factors are not highly valued by stakeholders and do not perform well, they do not warrant immediate attention or substantial resource allocation.
d. Quadrant IV – Possible Overkill
   Attributes in this category perform well but are considered low in importance. These may indicate areas where excessive resources are being spent on aspects that stakeholders do not prioritize. Organizations should re-evaluate and consider reallocating efforts to more critical factors.

This analytical framework proves particularly advantageous in pinpointing strategic discrepancies in performance management frameworks, notably when evaluating the perceived significance and efficacy of KPIs within the BSC framework. As shown in the graph below, the Importance–Performance Analysis (IPA) plot visually maps the relationship between perceived importance and actual performance across variables.

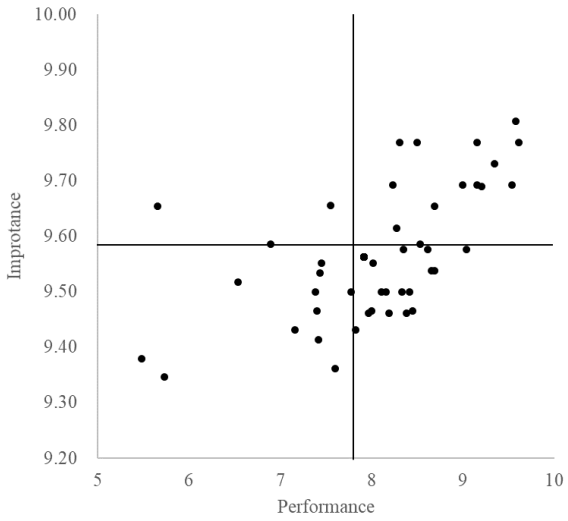

Figure 3. Importance–Performance Graph

From figure 3 it can be seen that the plotted variables are distributed across the four IPA quadrants, enabling identification of areas that require sustained effort, immediate improvement, minimal attention, or potential resource reallocation. This visual representation supports strategic prioritization within the performance management framework.

Analytical Hierarchy Process

In this study, all employees were approached, and eighty-four fully participated, with their responses analyzed. The questionnaire was administered through direct in-person interaction and by completing an AHP questionnaire. The questionnaire design followed the standard AHP questionnaire format introduced by Saaty in 1988. It comprised two sections: evaluating the relative importance of criteria and assessing the relative importance of performance indicators for each criterion. Respondents were required to complete the questionnaire by assigning importance ratings to the items through pairwise comparisons. These comparisons were made using relative scale values ranging from 1 to 9, where a value of 1 denoted equal importance between two items, and a value of 9 signified a high importance placed on one item over the other.

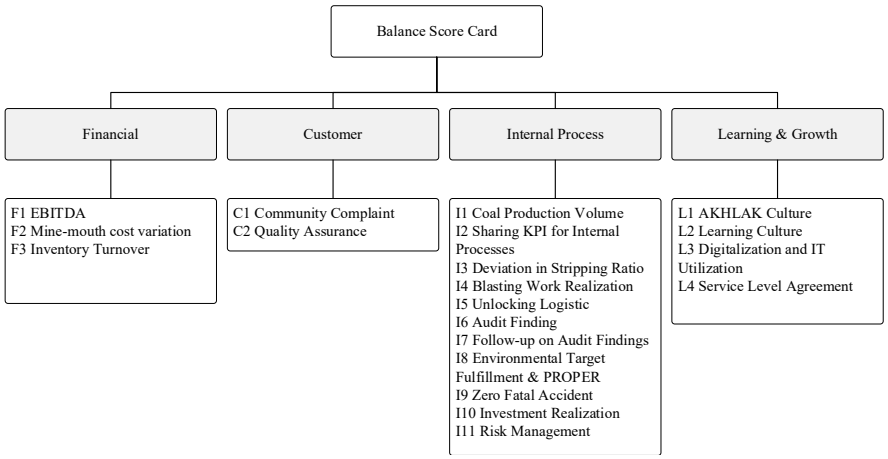

Figure 4. Structure of the Mining Division's BSC and KPI

From figure 4 it can be seen that Level 1 represents the four Balanced Scorecard perspectives, Financial, Customer, Internal Process, and Learning & Growth, which serve as the main strategic dimensions. Level 2 consists of the specific KPIs assigned to each perspective, detailing measurable targets that align with and support the objectives of their respective strategic dimension.

Table 12. Relative Weight from Stage 1: Each Group

	Relative Weight	
Perspective	**Group A**	**Group B**
Financial	0.221	0.196
Customer	0.176	0.233
Internal Process	0.351	0.354
Learning & Growth	0.252	0.217

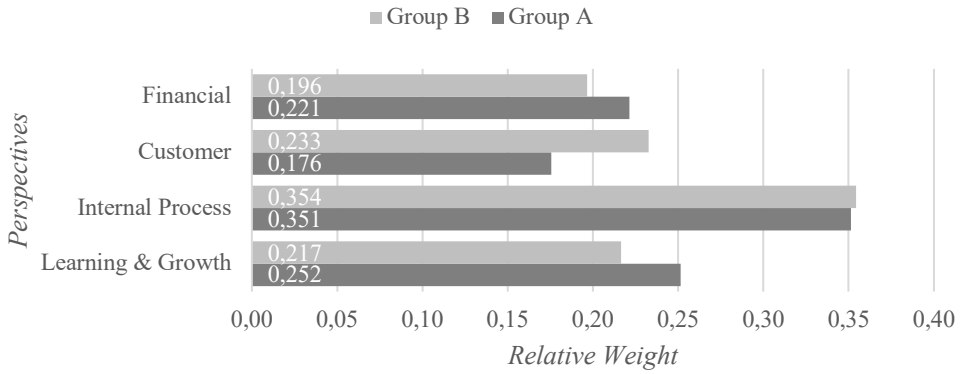

Figure 5. The Relative Weights Bar Chart of Stage 1: Each Group

The chart above illustrates the AHP weighting outcomes for Group A and Group B. In order to ensure the reliability and validity of the AHP results, a thorough consistency check was carried out on all datasets, encompassing data from Group A, Group B, and the aggregated group. Each pairwise comparison matrix underwent evaluation based on its eigenvalue (λmax), consistency index (CI), and consistency ratio (CR). These metrics are crucial for assessing whether the provided judgments demonstrate a coherent and logically consistent structure. The second stage was related to determining the relative weights of KPIs from each perspective. As shown

below, the table presents the priority ranking of each KPI within its respective BSC perspective.

Table 13. Relative Weight from Stage 2: Each Group for Financial Perspective

	Relative Weight	
Financial Perspective	Group A	Group B
EBITDA (F1)	.497	.478
Mine-mouth Cost Variation (F2)	.339	.319
Inventory Turnover (F3)	.163	.201

Table 14. Relative Weight from Stage 2: Each Group for Customer Perspective

	Relative Weight	
Financial Perspective	Group A	Group B
Community Complaint (C1)	.578	.461
Coal Quality Assurance (C2)	.452	.556

Table 15. Relative Weight from Stage 2: Each Group for Internal Business Process Perspective

	Relative Weight	
Financial Perspective	Group A	Group B
Coal Production Volume (I1)	.08	.068
Sharing KPI (I2)	.104	.079
Deviation in Stripping Ratio (I3)	.102	.064
Blasting Work Realization (I4)	.018	.024
Unlocking Logistic (I5)	.039	.028
Audit Finding (I6)	.051	.062
Follow-up on Audit Findings (I7)	.064	.087
Environmental Target Fulfillment and PROPER Program (I8)	.084	.101
Zero Fatal Accident (I9)	.35	.297
Investment Realization (I10)	.04	.048
Risk Management (I11)	.068	.142

Table 16. Relative Weight from Stage 2: Each Group for Learning & Growth Perspective

	Relative Weight	
Perspective	Group A	Group B
AKHLAK Culture (L1)	.282	.276
Learning Culture (L2)	.206	.199
Digitalization and IT Utilization (L3)	.322	.326
Service Level Agreement (L4)	.19	.198

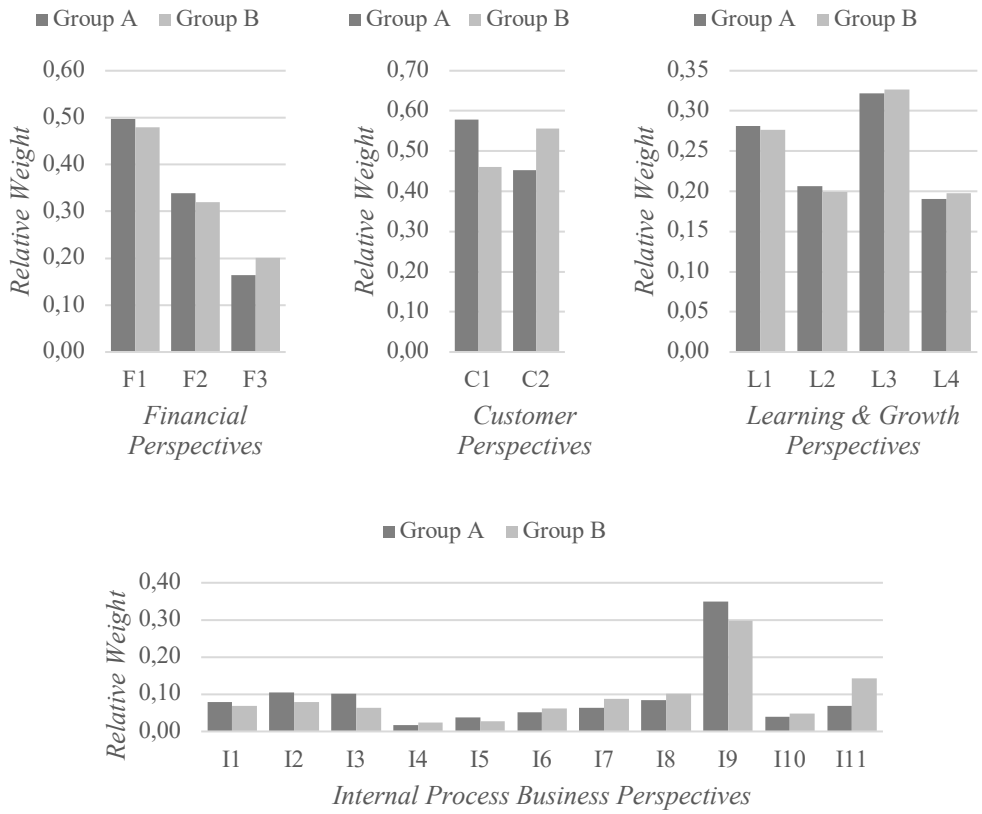

Figure 6. Relative Weight Bar Chart of Stage 2: Each Group

The four tables above present the relative weights of KPIs within each the BSC perspective, separately for each group analyzed. Following these tables, bar charts are provided as visual representations of the data, facilitating comparison of KPI priorities between the groups and offering clearer insight into alignment or discrepancies across managerial and operational levels.

The CR for each matrix was determined to be below the established threshold of 0.10, as per Saaty's (1980) recommendation. This suggests that the comparisons made by respondents exhibit a satisfactory level of consistency, implying that the resultant priority weights are dependable for further analysis and decision-making. Moreover, the CI values were within acceptable bounds across all groups, further underscoring the internal coherence of the judgment matrices.

Consequently, the priority weights derived from the AHP analysis can be deemed methodologically robust. These findings offer a reliable foundation for recognizing variations in strategic priority perceptions across organizational hierarchies and for aligning future performance management enhancements with stakeholder preferences. Detailed calculations are provided for the combined dataset in **Error! Reference source not found.**.

After acquiring the respective weights from Group A and B for each perspective and KPI, the subsequent phase involves computing the aggregate data. This computation is intended to offer a comprehensive depiction of strategic priorities that mirrors the common understandings shared between the groups. The outcomes derived from this aggregate data will form the foundation for the following Table 17.

Relative Weight from Stage 1 & 2: All Group Combined, which will outline the collective priority weights for every the BSC perspective and its corresponding KPIs.

Table 17. Relative Weight from Stage 1 & 2: All Group Combined

The BSC Perspective and KPIs	Relative weight of perspectives	Relative weight of the KPIs with respect to each perspective	Final weight to KPIs
Financial (F)	$\alpha = 0.203$		
EBITDA (F1)		0.485	0.099
Mine-mouth Cost Variation (F2)		0.326	0.066
Inventory Turnover (F3)		0.189	0.038
Customer (C)	$\lambda = 0.214$		
Community Complaint (C1)		0.465	0.100
Coal Quality Assurance (C2)		0.535	0.114
Internal Business Process (I)	$\beta = 0.358$		
Coal Production Volume (I1)		0.074	0.026
Sharing KPI (I2)		0.086	0.031
a. Coal Sales Volume			
b. Coal Transportation Volume			
c. Operational Readiness of CHF Load Out System			
d. Net off Demurrage Dispatch			
Deviation in Stripping Ratio (I3)		0.075	0.027
Blasting Work Realization (I4)		0.022	0.008
Unlocking Logistic (I5)		0.031	0.011
Audit Finding (I6)		0.060	0.021
Follow-up on Audit Findings (I7)		0.080	0.029
Environmental Target Fulfillment and PROPER Program (I8)		0.097	0.035
a. Environmental Target Achievement			
b. PROPER Program			
Zero Fatal Accident (I9)		0.316	0.113
Investment Realization (I10)		0.046	0.017
Risk Management (I11)		0.113	0.041
Learning & Growth	$\gamma = 0.224$		
AKHLAK Culture (L1)		0.278	0.062
Learning Culture (L2)		0.201	0.045
Digitalization and IT Utilization (L3)		0.325	0.073
Service Level Agreement (L4)		0.196	0.044

The resulting weights indicate that the Internal Process perspective holds the highest priority, with a normalized weight of 0.358, followed by Learning & Growth (0.224), Customer (0.214), and Financial (0.203). These results suggest that employees place the greatest strategic importance on operational execution and internal process excellence, which is consistent with the company's current focus on productivity, safety, and environmental performance indicators. Subsequently, from the relative weights of the four perspectives, the relative weight of each KPI with respect to its perspective was determined, followed by the calculation of the final weight assigned to each KPI across the Balanced Scorecard structure. These final weights were then ranked in order of priority, as illustrated in the figure below.

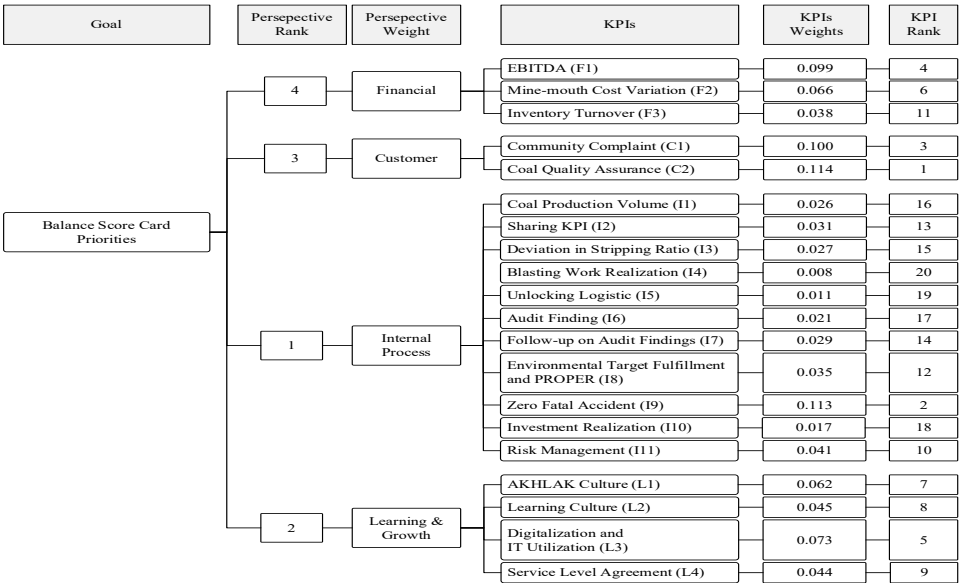

Figure 6. The BSC Perspective and KPI Ranks

The Analytical Hierarchy Process (AHP) results indicate that Internal Business Process (β = 0.358) is the most critical perspective in PTBA's the Balanced Scorecard, reflecting the strategic emphasis on operational excellence, environmental compliance, and audit responsiveness, areas crucial for ensuring process reliability and meeting regulatory and stakeholder expectations (Kaplan & Norton, 1996; Wibisono, 2006). The Learning & Growth perspective (γ = 0.224) emerges as the second priority, underscoring the importance of AKHLAK culture, digitalization (0.073), and employee capability development as essential drivers for sustaining long-term competitiveness (Kaplan, 2001; Wibisono, 2012).

The Customer perspective (λ = 0.214**)** is ranked third, with coal quality assurance (0.114) and community complaint mitigation (0.100) being key priorities, reflecting PTBA's commitment to delivering consistent product value and strengthening community relations (Schiffling & Piecyk, 2014). The Financial perspective (α = 0.203), while receiving the lowest relative weight, remains essential as it supports operational funding and sustainability, with EBITDA (0.099) and mine-mouth cost control (0.066) as major financial performance indicators (Jahre, 2017; Kovács & Spens, 2007).

Business Solution

The solution addresses three core challenges identified in the study:

a. Perception gaps between management and executor levels that hinder consistent strategy execution.
b. Misalignment between employee-perceived priorities and the formal the BSC structure, particularly in areas such as KPI relevance, feedback mechanisms, and data utilization.
c. Underutilization of performance data for decision-making, which limits responsiveness and strategic agility.

The proposed business solution is to develop an the Enhanced BSC Framework that integrates the following components:

a. Strategic Communication Platform: Multi-channel, interactive tools (e.g., digital dashboards, mobile applications, town halls) to cascade strategic objectives clearly to all levels.
b. Dynamic KPI Management System**:** Use of AHP or similar methods for periodic re-prioritization of KPIs to ensure alignment with changing business contexts and stakeholder expectations.
c. Integrated Feedback and Learning Mechanism**:** Formalize feedback loops through scheduled reviews, 360-degree feedback systems, and cross-level learning forums, enhancing transparency and shared ownership of strategy.
d. Data-Driven Decision Support**:** Strengthen the use of performance data by integrating digital monitoring tools that provide real-time operational insights for both management and frontline decision-making.

Together, these elements aim to create a more adaptive, inclusive, and data-driven performance management culture aligned with PTBA's aspiration to become a world-class mining company.

4. Conclusion

This study set out to evaluate strategic alignment and employee perception of the BSC implementation in PTBA's Mining Division.
The key conclusions are:

a. Perceptual differences exist between managerial and executor levels, affecting strategic cohesion.
b. Gap analysis highlighted that while strategic importance is consistently rated high, actual performance lags behind, particularly at executor levels.
c. AHP analysis confirmed that employees prioritize internal processes and learning & growth, aligning with PTBA's operational focus and transformation agenda.

As shown in the table below, the proposed solutions were formulated to address the perceptual differences clearly identified in this study. These solutions compare the existing conditions with recommended improvements.

Table 18. Proposed Solution for Improvement

No	Aspects	Existing Condition	Proposed Solution
1	Strategic Understanding & Communication	Perception gap between Group A and Group B; strategy has not been fully communicated to executors	Intensification of socialization (e-learning, routine briefings)
2	KPI Prioritization & Alignment	KPI have not been fully prioritized according to strategic weight; some KPIs are considered less relevant at the executive level	Dynamic KPI prioritization through AHP + gap analysis integration
3	Organizational Culture & Feedback System	Limited feedback culture; significant gap in perceptions of culture & feedback; feedback mechanisms not yet systematic	Structured feedback system (360-degree feedback, suggestion box, digital feedback tool)
4	Decision Support & Information Use	Data utilization is not yet optimal to support decision-making.	Implementation of a real-time KPI dashboard-based decision support system
5	Employee Engagement & Motivation	Executors feel insufficiently involved in strategy	Involvement of executors in KPI reviews, strategy workshops, and award & recognition programs related to KPIs

Each of the suggested solutions presents distinct advantages in comparison to the current circumstances, aiming to bridge the perceptual discrepancies,

misalignments, and operational constraints outlined in this study. However, while these solutions provide strategic and operational benefits, they also carry certain consequences. A detailed comparison is presented in the table below.

Table 19. Initiative's Advantages and Possible Consequences

No	Aspects	Key Advantage	Possible Consequence
1	Strategic Understanding & Communication	Strengthens alignment, ensures shared understanding across levels	Requires communication infrastructure and sustained monitoring
2	KPI Prioritization & Alignment	KPIs are more contextual and responsive to strategic changes	Requires periodic reviews and dedicated team to manage updates
3	Organizational Culture & Feedback System	Encourages open communication and continuous improvement	May face initial resistance; requires cultural change and trust building
4	Decision Support & Information Use	Enables faster, data-driven decisions	Requires technology investment and employee training
5	Employee Engagement & Motivation	Enhances sense of ownership and motivation	May require adjustments to organizational structure and work processes

The comparison presented in the table highlights how the proposed solutions are designed to address the perceptual differences, strategic misalignments, and operational gaps identified in this study. While offering clear strategic and operational advantages, these solutions also imply certain consequences that require careful planning, resource allocation, and change management to ensure successful implementation and sustainable impact within PTBA's Mining Division as a journey toward world-class standards.

5. References

Armstrong, M. (2020). *Armstrong's Handbook of Performance Management: An Evidence-Based Guide to Delivering High Performance* (6th ed.). Kogan Page.

Bentes, A. V., Carneiro, J., da Silva, J. F., & Kimura, H. (2012). Multidimensional assessment of organizational performance: Integrating BSC and AHP. *Journal of Business Research, 65*(12), 1790–1799. https://doi.org/10.1016/j.jbusres.2011.10.039

Cagnazzo, L., Taticchi, P., & Brun, A. (2010). The role of performance measurement systems to support quality improvement initiatives at supply chain level. *International Journal of Productivity and Performance Management, 59*(2), 163–185. https://doi.org/10.1108/17410401011014249

Chan, F. T. S., Chan, H. K., Lau, H. C. W., & Ip, R. W. L. (2006). An AHP approach in benchmarking logistics performance of the postal industry. *Benchmarking: An International Journal, 13*(6), 636–661. https://doi.org/10.1108/14635770610709031

Dwiputra, I. R., Fatima, I., & Wibisono, D. (2024). A proposed methodology for bridging policy and practice to apply Indonesian SOE regulations in the balanced scorecard model. *COSTING: Journal of Economic, Business and Accounting, 7*(5), 2522–2538. https://doi.org/10.25124/costing.v7i5.2024

Huang, H.C. (2009). Designing a knowledge-based system for strategic planning: A balanced scorecard perspective. *Expert Systems with Applications, 36*(1), 209–218. https://doi.org/10.1016/j.eswa.2007.09.046

Kusrini, E., Subagyo, & Masruroh, N. A. (2014). Good criteria for supply chain performance measurement. *International Journal of Engineering Business Management, 6*(9), 1–11. https://doi.org/10.5772/58435

Lueg, R. (2015), Strategy maps: the essential link between the balanced scorecard and action, *Journal of Business Strategy*, Vol. 36 No. 2, pp. 34-40. https://doi.org/10.1108/JBS-10-2013-0101

Pedersen, C.L., Ritter, T., Andersen, T.J. (2024). A project-based perspective on Strategic Renewal. *Strategic Management Review,* 5(3), 241–271. https://doi.org/10.1561/111.00000069

Razali, N. M., & Wah, Y. B. (2011). Power Comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling Tests. *Journal of Statistical Modeling and Analytics*, 2(1), 21–33.

Saaty, T. L. (1988). What is the analytic hierarchy process? In G. Mitra (Ed.), *Mathematical models for decision support* (pp. 109–121). Springer. https://doi.org/10.1007/978-3-642-83555-1_5

Sejati, R. H. B., Wibisono, D., & Adhiutama, A. (2024). The collaborative approaches of the knowledge-based performance management system and Lean Six Sigma to improve contractor productivity and safety performances. *International Journal of Lean Six Sigma, 15*(5), 1065–1101. https://doi.org/10.1108/IJLSS-07-2023-0125

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business: A Skill-Building Approach* (7th ed.), John Wiley & Sons, Ltd.

Singh, R. K. (2013). Prioritizing the factors for coordinated supply chain using analytic hierarchy process (AHP). *Measuring Business Excellence, 17*(1), 80–97. https://doi.org/10.1108/13683041311311383

Wibisono, D. (2002). *Manajemen Kinerja Korporasi dan Organisasi*. Erlangga.

Wibisono, D. (2006), *Manajemen Kinerja: Konsep, Desain, Teknik Meningkatkan Daya Saing Perusahaan*, Jakarta, Erlangga

Wibisono, D. (2012), *How to Create a World Class Company*, PT Gramedia Pustaka Utama.

Wibisono, D., & Stella, E. (2015). Proposed integrated performance management system for Ministry of Research, Technology, and Higher Education in Indonesia. In *Proceedings of the 3rd International Seminar and Conference on Learning Organization (ISCLO 2015)*. Atlantis Press. https://doi.org/10.2991/isclo-15.2015.

Wirapraceka, I., & Wibisono, D. (2016). Proposed performance management system for Indonesian Ministry of Health using integrated performance management system. In *Proceedings of the 2016 International Conference on Industrial Engineering and Operations Management* (pp. 1414–1425). IEOM Society International.

Wirdhawan, R. A., & Wibisono, D. (2024). Performance management system: Literature review and an agenda for future research. *Jurnal Manajemen Indonesia, 24*(1), 1–7. https://doi.org/10.25124/jmi.v24i1.4832

Yaghoobi, T., & Haddadi, F. (2016). Organizational performance measurement by a framework integrating BSC and AHP. *International Journal of Productivity and Performance Management, 65*(7), 959–976. https://doi.org/10.1108/IJPPM-01-2015-0001