Evaluation of Cascading and Alignment of Management Key Performance Indicators

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ABSTRACT

This study evaluates the cascading and alignment processes of Key Performance Indicators (KPIs) at PT XYZ. The central issue identified is the misalignment between KPI performance scores at the business unit level and those at the Director and Corporate levels. The research employs a combination of primary data obtained through interviews and secondary data drawn from organizational documents. A triangulation method—comprising document analysis, interviews, and strategy map evaluations—is used to assess KPI alignment across the Corporate, Director, and business unit levels. The findings indicate that, overall, KPIs have been effectively cascaded, with clear causal linkages observed between strategic objectives across organizational levels. However, a notable misalignment was identified in Business Unit 3, primarily due to a limited understanding of the cascading process. This study contributes to the literature by offering practical recommendations to enhance KPI alignment, including improved inter-unit coordination, the integration of technology-based monitoring systems, and strengthened organizational understanding of the KPI cascading framework. These measures are essential to support the effective realization of the company's strategic vision.

Keywords: Alignment; Balance Scorecard; Cascading; Key Performance Indicators; Strategy Maps.

Evaluasi Cascading dan Alignment Key Performance Indicators Manajemen Pada PT XYZ

ABSTRAK

Penelitian ini mengevaluasi proses cascading dan alignment Key Performance Indicators (KPI) di PT XYZ. Masalah utama dalam penelitian ini adanya ketidakselarasan antaran skor KPI pada unit bisnis dengan level Direksi dan Korporat. Penelitian ini menggunakan data primer yang berasal dari wawancara dan sekunder berasal dari dokumen pendukung. Penelitian ini menggunakan metode triangulasi dengan analisis dokumen, wawancara, dan strategy maps untuk mengevaluasi KPI di level Korporat, Direksi, dan unit bisnis. Hasil penelitian menunjukkan bahwa sebagian besar KPI telah di-cascade dengan baik, mencerminkan hubungan sebab-akibat antara sasaran strategis. Namun, ditemukan ketidaksesuaian KPI di unit bisnis 3 akibat kurangnya pemahaman terhadap proses cascading. Penelitian ini memberikan kontribusi dengan merekomendasikan penguatan koordinasi antar unit, monitoring berbasis teknologi, dan peningkatan pemahaman terhadap cascading dan alignment KPI untuk mendukung pencapaian visi perusahaan.

Kata Kunci: Alignment; Balance Scorecard; Cascading; Key Performance Indicators; Strategy Maps.

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INTODUCTION

Strategic alignment plays a critical role in enhancing organizational performance by ensuring that all elements of the organization are directed toward a unified set of strategic objectives (Niven, 2006). Since the 1990s, both scholars and practitioners have emphasized the importance of alignment in realizing corporate goals. Key Performance Indicators (KPIs) serve as vital tools for measuring alignment by translating strategic objectives into quantifiable outcomes (Kaplan & Norton, 2004). Achieving alignment requires effective internal communication among executives, managers, and technical personnel—a process known as cascading and alignment—to overcome resistance and secure commitment (Wood, 2019). Through this mechanism, strategic goals at the corporate level are cascaded into actionable targets across all organizational tiers.

Existing studies have demonstrated the effectiveness of aligning KPIs with strategic objectives in supporting organizational control and fostering comprehensive performance oversight (Setiawan & Purba, 2020). Strategic alignment is reinforced when goals, strategies, and performance measurement initiatives are consistently communicated to all stakeholders (Basili et al., 2013), enabling every organizational component to move in the same direction (Huynh et al., 2020). Conversely, poor communication often impedes the achievement of strategic objectives, complicating performance evaluation processes. Properly aligned KPIs provide an integrated control mechanism that allows management to assess the realization of goals at each level (Zapata Jaramillo & Castro Rojas, 2016).

PT XYZ, a holding company in the fertilizer industry, serves as a practical case of KPI cascading and alignment in performance management. As a holding entity, PT XYZ oversees several subsidiaries to promote synergy, productivity, and efficiency, while remaining committed to its strategic vision of becoming a leading global provider of agrochemical solutions. The company's strategic framework includes 21 key initiatives measured through KPIs that are cascaded from the corporate level to individual business units. This structured approach is intended to ensure that strategic objectives are embedded in the day-to-day operations of each department.

The cascading and alignment process is designed to operationalize strategic objectives by linking them to performance indicators that are actionable at all organizational levels (Kaplan & Norton, 2004). However, discrepancies in KPI achievement have emerged in practice. In 2023, several corporate-level KPIs fell short of their targets, which in turn affected the performance at the Director level. In contrast, KPIs at the business unit level exceeded expectations. This divergence suggests a misalignment in the cascading process and calls for a systematic evaluation. These findings are consistent with (Hansen & Schaltegger, 2016), who argue that merely adding metrics is insufficient; the logical connections between strategic objectives and KPIs must be contextually integrated and strategically meaningful. Therefore, effective cascading requires more than procedural compliance—it demands a comprehensive design that ensures every KPI supports organizational strategy.

This study adopts a twofold approach. First, it identifies and analyzes the alignment of KPI cascading across the corporate, directorate, and business unit levels at PT XYZ. Second, it evaluates the alignment process against theoretical

principles drawn from the Balanced Scorecard (BSC) framework. In doing so, the study seeks to uncover the root causes of misalignment and offer practical recommendations for improving KPI governance at PT XYZ. As the BSC has evolved from a performance measurement tool into a strategic management system, it now emphasizes the integration of performance indicators into a cause-and-effect chain that directly supports the organization's vision and strategy (Hoque, 2014).

Originally introduced by Kaplan & Norton (1992), the Balanced Scorecard incorporates four interrelated perspectives—financial, customer, internal processes, and learning and growth. This framework enables organizations to translate strategic objectives into measurable performance indicators across these dimensions, thereby ensuring that all operational activities are strategically aligned (Kaplan & Norton, 2006).

An essential component of the Balanced Scorecard (BSC) is the strategy map, which visually represents the cause-and-effect relationships among strategic objectives across the four perspectives. Strategy maps enable organizations to understand how improvements in one area—such as employee training within the learning and growth perspective—can enhance internal process efficiency, increase customer satisfaction, and ultimately drive financial performance. This visual framework helps executives prioritize strategic initiatives and ensure that each Key Performance Indicator (KPI) supports the organization's overarching objectives (Kaplan & Norton, 2004). As emphasized by Cokins (2020), strategy maps allow executives to perceive strategy as an integrated sequence of cause-and-effect linkages rather than a collection of isolated metrics.

Key Performance Indicators (KPIs) are quantifiable measures used to assess the extent to which an organization achieves its strategic objectives. Each KPI typically comprises strategic goals, key indicators, benchmark targets, and designated timeframes (Moskalenko & Fonta, 2020). KPIs are developed with several critical purposes: (1) to link vision, mission, strategy, and performance targets with organizational activities; (2) to evaluate changes in performance—whether improvement or decline—at the organizational or unit level; (3) to benchmark current performance against historical data or other organizations, thereby identifying strengths, weaknesses, and areas for value enhancement; (4) to serve as a reference for setting departmental or individual work targets; and (5) to form the basis for performance-based incentives or consequences, which in turn promote employee motivation and positive behavior (van de Ven et al., 2023).

At the heart of BSC implementation lies the cascading process, which translates strategic objectives from the corporate level down to directorates, departments, and individual employees. This ensures that every organizational tier operates with KPIs aligned to the company's strategic direction (Kaplan & Norton, 2004). Garg and Deshmukh (2012) argue that cascading reinforces the link between strategy and operations, enabling each business unit to contribute meaningfully to strategic outcomes. Moreover, cascading provides a framework in which lower-level KPIs are systematically derived from and support higher-level strategic KPIs, promoting coherence and integration throughout the performance management system.

In addition to cascading, alignment is another fundamental element of the Balanced Scorecard. Alignment guarantees that KPIs across all organizational levels are consistent with and supportive of the corporate strategy (Kaplan & Norton, 2006). Without proper alignment, cascading loses effectiveness, as inconsistencies among KPIs hinder the achievement of unified objectives (Niven, 2006). Strategy maps play a critical role in maintaining alignment by making visible the causal linkages between KPIs, thereby facilitating evaluation and continuous improvement (Quezada et al., 2009).

A notable application of the BSC framework is found in the study by Huynh et al., (2020) which developed a strategy map-based approach for managing coastal urban development projects in Vietnam. The research identified critical success factors (CSFs) and corresponding KPIs, using strategy maps to illustrate their cause-and-effect relationships. This approach demonstrated how cascading and alignment could be applied in practice to ensure that operational-level KPIs are directly linked to long-term strategic objectives. The study also emphasized the importance of structured cascading management, particularly in complex organizational settings where KPI implementation faces significant challenges.

RESEARCH METHODS

This study utilized both primary and secondary data sources to evaluate the cascading and alignment of Key Performance Indicators (KPIs) within PT XYZ. Primary data were gathered directly from key respondents through in-depth interviews, a method well-suited for capturing contextual insights (Yin, 2018). The selected respondents comprised unit heads and KPI Partners from three distinct business units, each representing varying levels of KPI achievement. Business Unit 1, reporting to the Director of Marketing, achieved the highest KPI score and is responsible for managing retail sales operations and executing government-mandated tasks. Business Unit 2, under the Director of Human Resources, recorded a median KPI score and focuses on the development and implementation of HR strategies and policies. Business Unit 3, which obtained the lowest KPI score, operates under the Director of Business Development and is primarily tasked with overseeing strategic initiatives, including restructuring, mergers, acquisitions, divestitures, and the management of equity investments in subsidiaries and affiliates.

The selection of these informants was purposive, based on performance differences across units. This approach allowed the study to examine KPI cascading and alignment under varied performance conditions, offering a more comprehensive understanding of how strategic objectives are operationalized across organizational layers.

Secondary data were sourced from pre-existing organizational records and literature, including internal documents such as KPI management contracts, annual KPI achievement reports for 2023, audited financial statements, the corporate work plan and budget (Rencana Kerja dan Anggaran Perusahaan or RKAP), and the corporate long-term strategic plan (Rencana Jangka Panjang Perusahaan or RJPP). These documents provided essential contextual and quantitative information to supplement the interview findings (Yin, 2018).

The principal focus of the study was the alignment of KPIs from the business unit level with those at the Director and Corporate levels. To evaluate this alignment, the study employed strategy maps, which are integral to the Balanced Scorecard framework. These maps serve as visual tools that illustrate the causal relationships between performance indicators and strategic objectives, thereby facilitating a clearer understanding of how each KPI contributes to overall organizational goals (Wu, 2012).

The research design integrated findings from both primary and secondary sources through a multi-stage analytical process. Initially, data were collected from the various sources and analyzed independently to preserve the integrity of each data type. These analyses were then integrated to assess the extent of alignment between strategic objectives and KPI outcomes across levels. The final stage involved synthesizing insights to develop evidence-based recommendations for improving KPI management practices at PT XYZ. This methodological approach is adapted from Bielavitz (2010), emphasizing the value of triangulation in enhancing the reliability and depth of qualitative research.

RESULTS AND DISCUSSION

The following presents the alignment results of strategic initiatives at the business unit level with strategic initiatives at the Director and Corporate levels, based on the evaluation results of cascading and alignment of KPI management at PT XYZ using strategy maps, as shown in Table 1:

Table 1. Strategy Maps

No	Business Unit	Alignment Level
1	Unit 1	75.00%
2	Unit 2	85.71%
3	Unit 3	81.82%

Source: Research Data, 2024

The evaluation results using strategy maps indicate that there is one business unit whose alignment does not conform to the cascading theory, as it does not achieve 100.00% alignment.

Evaluation of Business Unit 1 KPIs

The evaluation results of the KPIs for Business Unit 1, as shown in Table 1, indicate that the alignment level of Business Unit 1 KPIs with the KPIs at the Director and Corporate levels is 75.00%. This result was obtained based on the strategy maps depicted in Table 2 below.

Table 2. Strategy Map Results for Business Unit 2 KPIs 1 (*Existing*)

Business Unit KPI Level					
Perspective	KPI	Target	Weight	Alignment	KPI Alignment with Job Functions
Financial	% Cost Leadership				
	a. % Realization of Routine Expenses Against Budget	100.00	8.00	✗	✗
	b. % Gap in the Realization of Strategic Expenses Against Budget	10.00	7.00	✗	✗
Customer	# Internal Customer Satisfaction Index (ICSI)	4.50	5.00	✓	✓
	% Reporting of Distributor and Retailer Stock through REKAN	90.00	15.00	✗	✗
	# Marketing of PSO and Commercial Products				
	% Fulfillment of Subsidized Fertilizer Supply Agreement	100.00	15.00	✓	✓
	% Correction of Subsidized Fertilizer Distribution	5.00	15.00	✓	✓
Internal Business Proses	% Strategic Work Program Implementation	100.00	10.00	✓	✓
	# Digitalization of Supply Chain Processes				
	# Roll Out of the Retail Management System (RMS) Full Feature	2.287	5.00	✓	✓
	$ Gross Merchandise Value (GMV)	698	5.00	✓	✓
	# Inventory Level of Urea and NPK Fertilizers	120	5.00	✓	✓
Learning & Growth	% Performance Coaching	80.00	5.00	✓	✓
	% Fulfillment of Corporate Innovation Initiatives	100.00	5.00	✓	✓
			Total	75,00	75,00

Source: Research Data, 2024

Based on Table 2, the alignment of Business Unit 1's Key Performance Indicators (KPIs) with those at the Directorate and Corporate levels reached 75.00%, with 11 out of 12 KPIs directly supporting the achievement of the company's strategic objectives. This indicates a strong overall alignment, although several nuances were observed in the cascading and integration of specific KPIs.

The **KPI % Cost Leadership** is classified as a "contribute cascade" because it facilitates cost management efficiency—particularly in budgeting and

operational control—and contributes significantly to the $ EBITDA KPI at both the Directorate and Corporate levels. This alignment underscores the strategic importance of cost efficiency in driving profitability. However, misalignment was noted in relation to the strategic objective of Profitable Expansion, due to differing perspectives: while Cost Leadership emphasizes efficiency within the current fiscal year, Profitable Expansion involves growth compared to the prior year. Budget overruns that are justifiable may disrupt the consistency of cause-and-effect linkages, weakening KPI alignment. These findings diverge from Wu (2012), who stresses the importance of coherent KPI linkages in strategy maps to support strategic execution. Similarly, Quezada et al., (2009) and Garg & Deshmukh (2012) highlight the need for logically aligned cascading processes to ensure KPIs are connected to organizational mission and strategic outcomes.

The KPI % Reporting of Distributor and Retailer Stock through REKAN is operational in nature and not directly aligned with strategic-level KPIs. Although valuable for monitoring stock transparency, it does not substantially contribute to higher-level corporate objectives. Its tactical focus limits its strategic relevance, thereby weakening alignment. This supports prior research by Quezada et al., (2009) and Wu (2012), who emphasize the importance of designing KPIs that reflect strategic intent and maintain integrated causal relationships within the Balanced Scorecard framework.

The KPI % Fulfillment of the Subsidized Fertilizer Supply Agreement is a fully cascaded KPI that originates directly from the Directorate level and is applied to Business Unit 1 without modification. It aligns closely with the business unit's responsibilities in managing retail and subsidized fertilizer sales, ensuring proper distribution, and overseeing warehouse operations in Lines II and III. This KPI directly supports the objectives outlined in the company's Long-Term Plan (RJPP) and Work Plan and Budget (RKAP), and its effective alignment is consistent with the findings of Quezada et al., (2009), Wu (2012), and Garg & Deshmukh (2012), who stress the importance of precise KPI cascading to translate strategic goals into operational actions.

The KPI % Correction of Subsidized Fertilizer Distribution is categorized as a "contribute cascade" KPI. It reinforces the fulfillment of the Subsidized Fertilizer Supply Agreement by ensuring the accuracy and accountability of fertilizer distribution. As a supporting KPI, it enhances the quality and transparency of the broader distribution process. This finding aligns with studies by Quezada et al., (2009), Wu (2012), Huynh et al., (2020), and Garg & Deshmukh (2012), which collectively emphasize the importance of KPI cascading that reflects clear cause-and-effect relationships from operational to strategic levels.

The KPI # Roll Out of the Retail Management System (RMS) Full Feature is a partially cascaded KPI. It originates at the Corporate level but is adapted to reflect the capabilities and responsibilities of each business unit. While the overall corporate target is 15,000 kiosks, Business Unit 1 was assigned a target of 2,287 kiosks. This adjustment reflects historical performance and regional capacity, as explained by a senior informant:

> "The KPI targets are coordinated by the Marketing Strategy team, which allocates the targets to each operational region—meaning the top-level target is set at 100.00% and then distributed

among the teams based on their respective capacity or historical performance." (SVP, Business Unit 1)

This structured approach ensures fairness, feasibility, and alignment with organizational goals. It also reflects the strategic coordination function of the Marketing Strategy unit and is consistent with the findings of Quezada et al., (2009), Wu (2012), Huynh et al., (2020), and Garg & Deshmukh (2012), who advocate for capacity-based cascading to strengthen cross-unit alignment.

Similarly, the **KPI $ Gross Merchandise Value (GMV)** is a partially cascaded KPI. Derived from Directorate and Corporate targets, it is adapted based on Business Unit 1's capacity—adjusted from a corporate target of IDR 3.63 trillion to IDR 698 billion. This target revision is informed by the RJPP and RKAP, as noted by a respondent:

> "We refer to the RJPP and RKAP, so we identify which KPIs at the corporate and directorate levels are relevant to our western region. We then cascade those with targets adjusted according to the RKAP." (SVP, Business Unit 1)

This KPI demonstrates effective alignment through contextual adaptation, ensuring its strategic relevance and feasibility. The approach reflects best practices identified by Wu (2012), Huynh et al., (2020), and Garg & Deshmukh (2012), who highlight the role of capability-based cascading in enhancing KPI relevance and strategic alignment.

The KPI # Inventory Level of Urea and NPK Fertilizers is categorized as a fully cascaded KPI, having been directly derived from the Directorate level to Business Unit 1 without modification. This KPI aligns with the core responsibility of Business Unit 1 in ensuring the availability and smooth distribution of subsidized fertilizers. The direct linkage between strategic-level indicators and operational execution reflects a high degree of KPI alignment, contributing to strategic clarity and performance accountability.

This cascading approach supports the principles of the Balanced Scorecard by reinforcing vertical alignment between strategy and operations. It is consistent with the findings of Quezada et al., (2009), Wu (2012), and Garg & Deshmukh (2012), who highlight the importance of direct KPI cascading to ensure consistent strategic focus and seamless execution. By aligning operational responsibilities with strategic objectives, this KPI reinforces the organization's ability to manage critical supply chain processes effectively.

The evaluation of Business Unit 2's KPIs, as presented in Table 3, reveals a 100.00% alignment between the KPIs at the Business Unit level and those at the Directorate and Corporate levels. This high alignment score was established through the analysis of strategy maps, which illustrated clear and consistent cause-and-effect linkages between Business Unit 2's operational objectives and the organization's broader strategic goals. The results were obtained based on the strategy maps:

Table 3. Strategy Map Results for Business Unit 2 KPIs (Existing)

Business Unit KPI Level					
Perspective	KPI	Target	Weight	Alignment	KPI Alignment with Job Functions
Financial	% Cost Leadership				
	a. % Realization of Routine Expenses Against Budget	100.00	3.00	✗	✗
	b. % Gap in the Realization of Strategic Expenses Against Budget	20.00	7.00	✗	✗
Customer	# Internal Customer Satisfaction Index (ICSI)	4.50	10.00	✓	✓
	% Improvement of Service Quality in PT XYZ Work Units	100.00	10.00	✓	✓
	% Development of Work Unit Capabilities and Competencies	100.00	10.00	✓	✓
	% Fulfillment of the Employee Experience Index Target at PT XYZ	100.00	15.00	✓	✓
Internal Business Proses	% Strategic Work Programs	100.00	10.00	✓	✓
	% Alignment of HCM Management at PT XYZ	100.00	10.00	✓	✓
	% HCM Single Platform Alignment at PT XYZ	100.00	15.00	✓	✓
Learning & Growth	% Performance Coaching	100.00	5.00	✓	✓
	% Fulfillment of Corporate Innovation	100.00	5.00	✓	✓
				Total	81.82 81.82

Source: Research Data, 2024

According to Table 9, the alignment between Business Unit 2's KPIs and those at the Directorate and Corporate levels reached 81.82%, indicating that the majority of established KPIs are effectively supporting the achievement of the company's strategic objectives.

The KPI % Improvement of Service Quality in PT XYZ Work Units is directly linked to the achievement of the KPI # ICSI, contributing to enhanced internal customer satisfaction through cross-functional coordination and data-driven initiatives. This KPI supports strategic objectives by reinforcing internal service excellence. The observed alignment is consistent with the findings of Quezada et al., (2009), who emphasize the importance of causal relationships in KPI design; Wu (2012), who highlights the use of strategy maps to bridge corporate and operational strategies; and Garg & Deshmukh (2012), who underscore the role of cascading in maintaining alignment with strategic goals.

The KPI % Development of Work Unit Capabilities and Competencies is classified as a contribute cascade, supporting the achievement of mandatory KPIs within the business unit. This KPI tracks the implementation of departmental work

programs, and its outcomes serve as a basis for evaluating the KPI % Strategic Work Programs. The importance of linking this KPI to broader objectives is supported by studies that highlight the necessity of integrating cause-and-effect relationships and using strategy maps to ensure alignment between operational activities and strategic intent (Quezada et al., 2009) ; (Wu, 2012) ; (Garg & Deshmukh, 2012)

The KPI % Fulfillment of the Employee Experience Index Target at PT XYZ is a fully cascaded KPI, transferred directly from the Corporate and Directorate levels to Business Unit 2 without modification. It reflects the unit's responsibility for fostering employee satisfaction and engagement. This KPI demonstrates a strong alignment with the organization's strategic direction and exemplifies a clear causal relationship between strategic objectives and operational responsibilities. The finding aligns with research by Quezada et al., (2009), Wu (2012), Huynh et al., (2020), and Garg & Deshmukh (2012), who emphasize that unmodified KPI cascading preserves strategic integrity and ensures coherence between levels of the organization.

The KPI % Alignment of HCM Management at PT XYZ is also classified as a contribute cascade, supporting the KPI % Implementation of HR Transformation at the Directorate level. This KPI advances human capital management (HCM) transformation in alignment with the HR Roadmap and corporate development objectives. It functions as an independent indicator at the business unit level, contributing to a broader transformation framework that includes HCM alignment, the development of customer-focused competencies, the implementation of a unified HCM platform, and talent mobility initiatives.

These initiatives are tailored to the specific responsibilities of each business unit through a cascading mechanism that ensures accountability and strategic contribution, as confirmed by the following interview excerpt:

> "The activities under the KPI % HR Transformation are cascaded to the business units in accordance with their respective work programs, so that the final outputs from each business unit contribute to achieving the KPI at the HR Directorate level." (KPI Partner, Business Unit 2)

This statement illustrates that the cascading and alignment process from the HR Directorate to Business Unit 2 considers both the unit's functional scope and its operational capacity. This approach aligns with the view of Garg and Deshmukh (2012), who emphasize that KPI cascading must be tailored from higher to lower organizational levels to achieve comprehensive strategic alignment.

The KPI % HCM Single Platform Alignment at PT XYZ is designed to monitor the development of a real-time human capital (HC) dashboard, aimed at tracking performance metrics and behavioral patterns, along with the rollout of a Learning Experience Platform (LXP). As a supporting component of the broader KPI % Implementation of HR Transformation, this KPI is categorized as a contribute cascade.

Its alignment with strategic objectives is supported by prior literature. Quezada et al., (2009) and Wu (2012) highlight the importance of cause-and-effect relationships and the integration of KPIs with strategic goals. Huynh et al., (2020) emphasize the value of data-driven performance analysis, while Garg &

Deshmukh (2012) reinforce the role of cascading mechanisms in promoting efficiency and organizational coherence.

The evaluation results of Business Unit 3's KPIs presented in Table 1 show that the alignment level between Business Unit 3 KPIs and those at the Directorate and Corporate levels reached 100.00%. This result was obtained based on the strategy maps illustrated in the following table:

Table 4. Strategy Map Results for Business Unit 3 KPIs (Existing)

Business Unit KPI Level					
Perspective	KPI	Target	Weight	Alignment	KPI Alignment with Job Functions
Financial	% Cost Leadership				
	a. % Realization of Routine Expenses Against Budget	100.00	5.00	✗	✓
	b. % Gap in the Realization of Strategic Expenses Against Budget	20.00	5.00	✗	✓
	$ Company Synergy at PT XYZ	969.16	15.00	✓	✗
Customer	# Internal Customer Satisfaction Index (ICSI)	4.50	10.00	✓	✓
	% Implementation of Business Process Restructuring at PT EPC				
	a. % Reduction in General and Administrative Expenses	23.59	5.00	✓	✗
	b. % Right-Sizing People and Organization	5.26	5.00	✓	✗
	c. % Revenue per Full Time Employee (FTE)	0.11	2.00	✓	✓
	% Unlock Value of PT A	100.00	13.00	✓	✓
Internal Business Proses	% Strategic Work Programs	100.00	10.00	✓	✓
	# Restructuring of Subsidiaries				
	a. % Streamlining PT XYZ's Business Lines	100.00	5.00	✓	✗
	b. $ EBITDA Contribution from Non-Manufacturing Subsidiaries	375	5.00	✓	✓
	% Gap in Investment Realization vs Budget				
	% Realization Gap of Equity Investments	20	10.00	✓	✓
Learning & Growth	% Performance Coaching	80.00	5.00	✓	✓
	% Fulfillment of Corporate Innovation Initiatives	100.00	5.00	✓	✓
			Total	85.71	57.14

Source: Research Data, 2024

The Business Portfolio KPI demonstrates a strong degree of alignment—85.71%—between Business Unit 3's KPIs and those at the Directorate and

Corporate levels, as all mandatory KPIs have been cascaded to the business unit level. However, a closer evaluation reveals misalignments between these KPIs and the core responsibilities of Business Unit 3.

The KPI $ Company Synergy at PT XYZ comprises three primary parameters: raw material synergy, transportation, and utilization. These parameters, however, are not aligned with the core duties of Business Unit 3, which focuses on restructuring, mergers, acquisitions, divestments, and investment management. Responsibility for raw material synergy and utilization lies with the Senior Vice Presidents (SVPs) of Procurement Planning, Procurement 1, and Procurement 2, while transportation falls under the SVP of Distribution. These functions are not within the scope of Business Unit 3.

This misalignment highlights a weakness in the cascading and alignment process, as noted in the following interview excerpt:

> "Business Unit 3 received a low KPI score due to the KPI Partner's limited understanding of the KPI itself, as most of the staff have engineering backgrounds. Consequently, the KPI was cascaded directly without conducting any simulation." (SVP of Business Unit 3)

This case contradicts the principles established by Quezada et al. (2009) and Wu (2012), who emphasize the importance of cascading KPIs based on specific functional responsibilities. Similarly, Huynh et al., (2020) and Garg & Deshmukh (2012) argue that misaligned KPI cascading can undermine organizational effectiveness. Consequently, a revision of the KPI parameters is necessary to ensure alignment with the unit's core functions.

The KPI % Implementation of Business Process Restructuring at PT EPC was initially cascaded as a fully cascaded KPI from the Directorate level to Business Unit 3 during the early phases of the 2023 restructuring initiative. However, with the establishment of a dedicated project team to manage the process, the cascading approach should have been reclassified as a contribute cascade. Despite this structural change, the KPI continued to be treated as fully cascaded, reflecting a misalignment with Business Unit 3's evolving role. This approach contradicts the recommendations of Quezada et al., (2009) and Wu (2012) , who advocate for cascading KPIs according to clearly defined responsibilities. Huynh et al., (2020) and Garg & Deshmukh (2012) likewise warn that cascading without regard to functional relevance may impair strategic execution. Adjustments to this KPI are therefore necessary to align it more accurately with unit responsibilities.

Conversely, the KPI % Unlocking Value of PT A is well-aligned with the responsibilities of Business Unit 3, particularly in managing subsidiaries. This KPI has been effectively cascaded as a fully cascaded KPI from the Corporate and Directorate levels, with a clear linkage to strategic objectives. This practice aligns with the recommendations of Quezada et al., (2009) and Wu (2012), who emphasize the significance of maintaining cause-and-effect relationships in KPI structures, as well as with Huynh et al., (2020) and Garg & Deshmukh (2012), who support capability-based cascading aligned with business unit functions.

The KPI # Streamlining PT XYZ's Business Lines reflects the strategic intent of Business Unit 3. However, the appointment of a Senior Project Management

(SPM) team to lead streamlining efforts suggests that this KPI should have been cascaded only to the designated SPM responsible for overseeing these initiatives. The current cascading practice lacks full alignment with the core responsibilities of Business Unit 3. This inconsistency diverges from the guidance of Huynh et al., (2020) and Garg & Deshmukh (2012), who underscore that KPI alignment with strategic functions is essential to avoid inefficiencies and ensure focused execution. A more nuanced understanding of cascading and alignment principles is therefore required to assign KPIs appropriately and support corporate objectives.

The KPI $ EBITDA Contribution from Non-Manufacturing Subsidiaries and the associated KPI % Gap in Realization of Equity Investment are fully cascaded from the Board of Directors to Business Unit 3. These KPIs are appropriately aligned with the unit's responsibilities in equity investment and portfolio management. They facilitate the execution of strategic investment initiatives and directly contribute to broader corporate KPIs, such as the % Optimization and Development of Urea and NPK Plants. The weighting of these KPIs is consistent with the Board-level KPI structure and conforms to PT XYZ's KPI management guidelines. This approach aligns with the findings of Quezada et al., (2009) and Wu (2012), who stress the importance of strategic alignment through KPI design, and with Huynh et al., (2020) and Garg & Deshmukh (2012), who advocate for cascading based on organizational capabilities to optimize performance outcomes.

Based on the 2023 corporate-level KPI performance, several key indicators were not achieved, as detailed in Table 23. This outcome necessitates a closer analysis of cascading effectiveness, KPI relevance, and strategic alignment to identify corrective actions and inform future KPI formulation.

Table 5. Corporate-Level KPI Matrix for 2023

Perspective	No	KPI	Unit	KPI Achievement Report – Year 2023				
				Realization	Target	Achievement (%)	Weight	core
				1	2	3	4	5 = 3 x 4
Economic and Social Value for Indonesia	1	$ EBITDA	IDR Billion	14.576	23.698	61,51 48,49	5.00	3.08
	2	% Gap ROIC to WACC	Persen	1.08	5.99	18,03 91,97	8.00	1.44
	3	Sustainable financial position						
		a. # Interest bearing debt to EBITDA	Persen	1.95	1.16	59,49 50,51	8.00	4.76
		b. % Interest bearing debt to invested capital	Persen	23.62	21.94	92,89 17,11	7.00	6.50
	4	$ Key Account Management (KAM) Sales Value	IDR Billion	16.822	9.794	110,00 0,00	8.00	8.80
	5	$ Distributor and MSME Transaction Value	IDR Billion	574	384.00	110,00 0,00	8.00	8.80
						Subtotal	28.00	15.78
Business Model Innovation	6	# Agro-solution Program Land Area	Hectares	358.855	275.000	110,00 0,00	5.00	5.50
	7	COGM						
		a. $ COGM Urea	IDR/Ton	34.84	100.00	110,00 0,00	8.00	8.80
		b. $ COGM NPK		1.97	10.00	110,00 0,00	7.00	7.70
	8	Subsidiary Restructuring						
		a. % Business Line Streamlining in PT XYZ	Persen	110.00	100.00	110,00 0,00	15.00	16.50
		b. $ EBITDA Contribution from Non-Manufacturing Subsidiaries	Persen	1.97	10.00	110,00 0,00	7.00	7.70
						Subtotal	35.00	38.50
Technology Leadership	9	Manufacturing excellence						
		a. # Carbon Emissions Reduction	Ton CO2	125.690	80.000	110,00 0,00	3.00	3.30
		b. % Factory Downtime Reduction	Persen	19.327	2.287	110,00 0,00	4.00	4.40
	10	Retail Management System (RMS)						
		a. # Rollout of Full-Feature REKAN Kios Application	Unit	27.921	15.000	110,00 0,00	4.00	4.40
		b. $ Nilai Gross Merchandise Value (GMV)	IDR Billion	4.485	3.630	110,00 0,00	4.00	4.40
						Subtotal	15.00	16.50
Investment Enhancement	11	% Plant Optimization and Development	Persen	110.00	100.00	110,00 0,00	8.00	8.80
	12	% Phosphogypsum Utilization for Circular Economy	Persen	92.00	100.00	92,00 18,00	7.00	6.44
	13	% Unlock Value of Non-Producing Subsidiaries	Persen	90.00	100.00	90,00 20,00	5.00	4.50
						Subtotal	15.00	15.24
Talent Development	14	% Completion of Roadmap for Fund Recovery and Defined Benefit Pension	Persen	100.00	100.00	100,00 10,00	3.00	3.00
	15	% Qualification Ratio of Risk Management Officers	Persen	145.66	100.00	110,00 0,00	3.00	3.30
	16	Nominated talent Rasio						
		a. % Top Talent Young Ratio	Persen	25.53	10.00	110,00 0,00	2.00	2.20
		b. % Top Talent Female Ratio	Persen	21.28	15.00	110,00 0,00	2.00	2.20
						Subtotal	6.00	6.30
						Bobot dan Skor KPI Aktif	93.00	86.02
						Pencapaian Skor KPI (%)		92.49

Source: Research Data, 2024

Based on the information presented in Table 23, several key performance indicators (KPIs) were not achieved. These include KPI $ EBITDA, % Gap ROIC to WACC, # Interest bearing debt to EBITDA, % Interest bearing debt to invested capital, % Downstreaming in Support of Strengthening the Circular Economy. Table 6 below presents the corresponding strategy maps for the underachieved KPIs.

Table 6. Strategy Maps of Underachieved KPIs

Perspective	No	KPI	Corporate Level Weight	Board Level Weight	Impacts Board Members						
					D3	D4	D5	D6	D7	D8	D9
Economic and Social Value for Indonesia	1	$ EBITDA	5.00	10.00	✓	✓	✓	✓	✓	✓	✓
	2	% Gap ROIC to WACC	5.00	10.00	✓	✓	✓	✓	✓	✓	✓
	3	Sustainable financial position									
		a. # Interest bearing debt to EBITDA	5.00	6.00	✓	✓	✓	✓	✓	✓	✓
		b. % Interest bearing debt to invested capital	5.00	4.00	✓	✓	✓	✓	✓	✓	✓
Investment Enhancement	4	% Phosphogypsum Utilization for Circular Economy	7.00	7.00						✓	
	5	% Unlocking Value of PT A	5.00	6.00						✓	

Source: Research Data, 2024

The evaluation of the strategy maps presented in Table 24 reveals that the KPIs with the lowest performance ratings—$ EBITDA, % Gap ROIC to WACC, and # Interest Bearing Debt to EBITDA—were fully cascaded to the respective Directors, each carrying a relatively higher weight at the Directorate level compared to the Corporate level. This disproportionate weighting indicates that the underperformance of these KPIs had a substantial negative effect on Directorate-level evaluations. Consequently, the average KPI achievement across Directorates was limited to 86.25% in 2023.

In contrast, these underperforming KPIs had minimal influence at the business unit level. Among them, only $ EBITDA was cascaded to business units, and even then, it was categorized as a contribute cascade, meaning it did not directly affect business unit scorecards. As a result, the adverse performance at the corporate level was not reflected in business unit KPI outcomes. This distinction is evident in the higher average KPI achievement **at the business unit level**, which reached **103.19%** in 2023.

CONCLUSION

The evaluation of KPI cascading and alignment at PT XYZ reveals that Business Units 1 and 2 have effectively implemented the cascading concept by aligning KPIs with functional responsibilities and fostering inter-unit coordination. In contrast,

Business Unit 3 demonstrates significant misalignment. This issue is largely attributed to a lack of technical understanding of KPI formulation among the assigned personnel, many of whom possess engineering backgrounds. As a result, KPIs were fully cascaded without appropriate contextual adjustments or simulations, diminishing their strategic relevance and applicability.

The misalignment is further compounded by the underachievement of strategic KPIs—particularly $ EBITDA and % Gap ROIC to WACC—which contributed to a relatively low average KPI score of 86.25% at the directorate level. These KPIs, fully cascaded to directorates, had considerable influence on performance outcomes at that level. In contrast, business units were less affected, as these KPIs were cascaded using a contribute cascade approach. Consequently, business units reported a higher average KPI achievement of 103.19%, highlighting the uneven impact of cascading logic across organizational layers.

To address these challenges, the study recommends a comprehensive review of KPI relevance in relation to job functions. Enhancing inter-unit coordination through structured focus group discussions (FGDs) is essential to promote a shared understanding of KPI intent and execution. Training programs targeting KPI Partners should be implemented to improve their capacity to design and interpret performance indicators. Furthermore, the introduction of real-time performance monitoring systems can enable early identification of underperformance, allowing for proactive corrective actions. Organizations are also advised to periodically assess historical KPIs and employ strategy maps to reinforce strategic alignment across all operational tiers.

This study utilized document analysis and semi-structured interviews as its primary data collection methods. Document analysis provided a thorough overview of the formal mechanisms underlying KPI cascading and alignment. Interviews with senior vice presidents, KPI Partners, and selected business unit representatives enriched the analysis by offering practical insights into the implementation process. However, the limited scope of interviewees may have constrained the depth and representativeness of the findings, particularly regarding the strategic-level perspectives necessary to understand cross-functional alignment.

Future research should broaden its scope to include informants from various organizational levels, including directors and policy makers, to capture a more comprehensive view of KPI implementation. Integrating quantitative data with qualitative insights would enhance the validity and robustness of the findings. In addition, adopting analytical technologies and strategy map visualizations would facilitate a more precise identification of cause-and-effect relationships among KPIs. These improvements are expected to yield a deeper understanding of performance management systems and their contribution to achieving organizational strategic objectives (Banihashemi et al., 2017).

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