

Designing a Knowledge-Based Performance Management System for PT WLL

Steven Nathanael Setiawan*, Dermawan Wibisono

Institut Teknologi Bandung, Indonesia

Email: steven6207089@gmail.com*, dermawan.wibisono@sbm-itb.ac.id

ABSTRACT

PT WLL was an Indonesian food manufacturing company that had produced soy sauce and condiments for several decades. Despite its long operational history, the company experienced performance challenges, including declining sales, inefficient processes, and limited employee capability. These issues largely emerged from the absence of an integrated performance management system that connected financial and non-financial indicators. The objective of this study was to design a Knowledge-Based Performance Management System (KBPMS) that aligned with PT WLL's strategic and operational needs. A mixed-methods approach was applied. Qualitative data were collected through semi-structured interviews and focus group discussions with managers and the director, while secondary data were obtained from company records, production reports, and financial documents. Porter's Five Forces, VRIO, and the Current Reality Tree (CRT) were used to diagnose systemic performance gaps. The KBPMS framework guided the development of a performance structure consisting of three perspectives: business results, internal processes, and resource capabilities. The Analytical Hierarchy Process (AHP) was used to prioritize key performance indicators (KPIs) through expert pairwise comparisons. The findings revealed that the company faced three primary challenges: weak interdepartmental coordination, outdated operational processes, and a lack of integrated performance metrics. The proposed KBPMS offered structured performance measurement, clearer strategic alignment, and knowledge-sharing mechanisms. Implementing the system was expected to improve PT WLL's financial stability, process reliability, and employee competency. The study made theoretical and practical contributions by demonstrating how KBPMS could be adapted for medium-sized food manufacturing firms to strengthen their competitiveness and long-term sustainability.

KEYWORDS *Performance Management, KBPMS, Analytical Hierarchy Process, Food Manufacturing*



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INTRODUCTION

The food manufacturing industry was one of the most important contributors to Indonesia's economic growth, consistently accounting for 18–20% of national GDP between 2017 and 2023 (Statista, 2024). Within this sector, food and beverage products contributed 6.55% of total manufacturing output, making them the largest industrial segment. However, industry growth in 2023 had not yet returned to the pre-pandemic level of 7.78%, indicating persistent productivity gaps, competitive pressures, and operational inefficiencies. These conditions highlighted the need for more robust performance management practices among Indonesian food manufacturers.

PT WLL, a soy sauce producer established in 1936 in Bandung, experienced similar challenges. Although the company maintained a strong brand presence and loyal customer base in West Java, its sales volume declined from 3 million liters in 2019 to 2.3 million liters in 2024. This decline reflected deeper structural issues, including outdated production processes, inconsistent quality control, and limited employee development. The company relied heavily on traditional financial metrics, which functioned as lagging indicators and did not capture operational performance, innovation capability, or human resource effectiveness (Chen, Zhao, & Wang, 2015; Jordão & Almeida, 2017).

Previous studies have emphasized that sustainable competitiveness in manufacturing requires integrated performance management that links strategic, operational, and human dimensions (Wibisono & Khan, 2010). From the perspective of the Resource-Based View, companies need valuable, rare, and well-organized resources to build long-term advantage. At the same time, Porter's Five Forces framework shows that Indonesian food manufacturers face intense rivalry, price-sensitive buyers, and fluctuating raw material costs, requiring continuous capability improvement. To diagnose PT WLL's systemic performance constraints, this study applied Goldratt's (1990) Current Reality Tree (CRT), which revealed fundamental bottlenecks such as weak coordination, reliance on manual reporting, and machinery limitations.

To address these issues, this study used the Knowledge-Based Performance Management System (KBPMS) proposed by Wibisono (2012). The KBPMS framework integrates financial and non-financial indicators under three dimensions—business results, internal processes, and resource capabilities—while embedding knowledge management principles to support continuous improvement. Unlike conventional systems such as the Balanced Scorecard or Performance Prism, KBPMS emphasizes organizational learning, knowledge flow, and capability building as central components of performance management.

The purpose of this study was to design a KBPMS tailored to PT WLL's strategic and operational context, guided by three research questions: identifying the organizational challenges that hinder PT WLL's performance management effectiveness; determining the key performance indicators (KPIs) needed to measure performance comprehensively; and exploring how the KBPMS framework could be applied to develop an effective performance management system for PT WLL. This study contributes to both theory and practice by demonstrating the application of KBPMS in a medium-sized food manufacturing company and by offering a structured approach to improving performance alignment, operational efficiency, and human resource capability within Indonesia's competitive food sector.

METHOD

This study adopted a mixed-methods approach to obtain a comprehensive understanding of PT WLL's performance issues and to design an appropriate Knowledge-Based Performance Management System (KBPMS). The research design was exploratory and descriptive, integrating qualitative and quantitative techniques to triangulate findings and strengthen the validity of the conclusions. The research process consisted of three sequential phases. First, a qualitative diagnostic phase examined PT WLL's external and internal environments. Strategic analysis tools, including Porter's Five Forces, the VRIO framework, and Goldratt's (1990) Current Reality Tree (CRT), were applied to identify the root causes of performance gaps. Second, a quantitative assessment was performed using the Analytical Hierarchy Process (AHP) to prioritise key performance indicators (KPIs) within the KBPMS framework. Third, the results from the first two phases were synthesised to develop a customised performance management system.

Data were collected from three primary sources. Semi-structured interviews were conducted with six key managers: the Director and the Heads of Production, Quality Control, Human Resources, Finance, and Marketing. These interviews provided in-depth insights into managerial perceptions of performance challenges and system limitations (Camilleri, 2020; Busetto et al., 2020). Focus group discussions (FGDs) were then held with managers and the

Director to validate the findings and capture practical considerations regarding KPI implementation. Secondary data, including production records, financial statements, customer feedback, and HR reports, were used to cross-check the qualitative results and identify performance trends.

Qualitative data were analysed using thematic analysis to identify issues related to performance alignment, process inefficiency, and capability gaps. Themes were mapped onto the three KBPMS dimensions: Business Result, Internal Process, and Resource Capability. For quantitative analysis, the AHP method was applied using Saaty’s (1980) 1–9 scale to evaluate the relative importance of each KPI. All six managers and the Director participated as expert respondents. Consistency Ratio (CR) calculations for each pairwise comparison matrix yielded values below 0.1, indicating acceptable consistency and reliability of judgments. The resulting weights were aggregated to determine KPI priorities for PT WLL. This study produced a structured, knowledge-based performance management framework tailored to the needs of a medium-sized manufacturing company by integrating qualitative and quantitative findings.

RESULT AND DISCUSSION

Current Reality Tree (CRT) Analysis

The analysis began with the development of a Current Reality Tree (CRT) to diagnose PT WLL’s core performance issues. The CRT mapped causal relationships among observed symptoms such as declining sales, inconsistent quality, and operational inefficiencies. The analysis revealed that the absence of an integrated performance management system was the fundamental cause of misalignment between departments, delayed decision-making, and limited process control. Figure 1 presents the CRT structure used to identify PT WLL’s systemic bottlenecks.

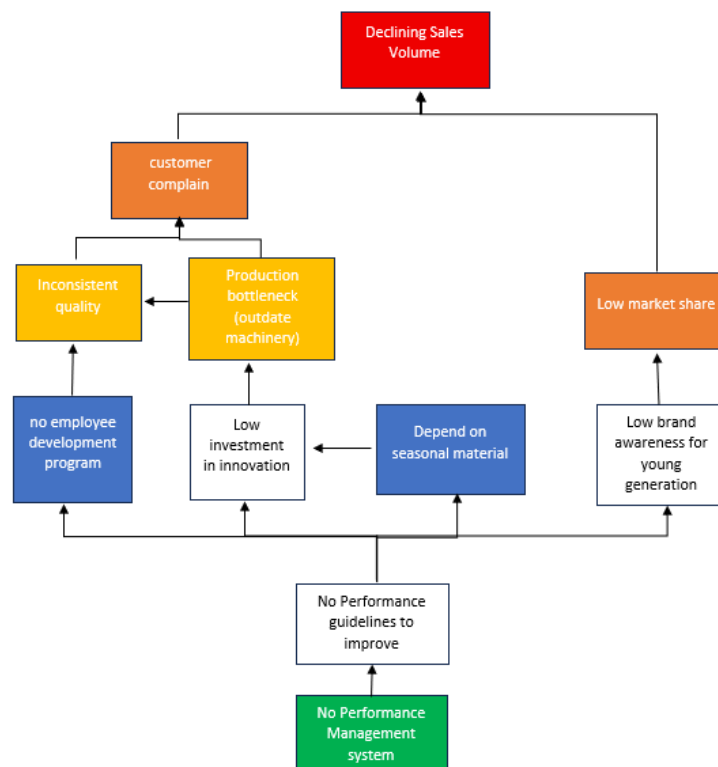


Figure 1. CRT of PT WLL
 Source: Research data analysis (2025)

As can be seen from Figure 1, most undesirable effects, such as declining profitability, frequent production downtime and stagnant product innovation, stemmed from weak resource capability and unstandardised process monitoring. These findings provided the empirical basis for developing a performance management system based on the KBPMS framework.

Design of Knowledge-Based Performance Management System (KBPMS)

Stage 0 - Foundation

According to Wibisono (2012), Stage 0 involved establishing fundamental values and principles prior to designing KPIs. PT WLL applied four KBPMS principles — partnership, empowerment, integration and independence — through cross-departmental interviews and collaborative workshops during the data collection stage. Five KBPMS rules (simplicity, long-term orientation, real-time feedback, quantitative measurement and continuous improvement) were also considered when preparing the performance structure. This foundation ensured that the system design process aligned with PT WLL’s organizational culture and managerial expectations.

Stage 1 – Basic Information

Stage 1 consisted of analyzing PT WLL’s internal and external environment. Porter’s Five Forces and the VRIO framework were used to evaluate competitive pressures and resource advantages.

Porter’s Five Forces Analysis

To understand the external competitive pressures affecting PT WLL, this study applied Porter’s Five Forces framework. The model evaluated the intensity of competition in the soy sauce manufacturing industry by analyzing five key forces: the threat of new entrants, supplier power, buyer power, the threat of substitutes, and industry rivalry. The analysis provided a structured assessment of market attractiveness and identified external pressures influencing PT WLL’s performance. The analysis using Porter’s Five Forces is presented in Table 1.

Table 1. Porter Five Forces Analysis

Force	Key Findings	Intensity
Threat of New Entrants	Moderate capital requirements and difficult distribution access limit new competitors, but similar product characteristics allow partial entry.	Medium
Supplier Power	Seasonal price fluctuations for key raw materials such as soybeans and sugar; moderate dependency on specific suppliers.	Medium
Buyer Power	Buyers show high price sensitivity and can easily switch brands; loyalty remains moderate among distributors and retailers.	Medium
Threat of Substitutes	Few substitutes exist due to the unique taste and cultural importance of sweet soy sauce in Indonesian cuisine.	Low
Industry Rivalry	Numerous local and national brands compete aggressively in price, distribution, and taste differentiation.	High

Source: Research data analysis (2025)

As can be seen from Table 1, PT WLL operated in a moderately attractive industry. Buyer power remained high due to price sensitivity, while intense rivalry existed as many producers competed for similar market segments. The threat of new entrants was moderate; while capital requirements were high, the similarity of product characteristics permitted limited market access. These findings suggest that PT WLL needs to improve efficiency and differentiation to remain competitive.

VRIO Analysis

In order to complement the external analysis, an internal resource assessment was conducted using the VRIO framework. This model evaluates resources and capabilities based on four criteria: value, rarity, inimitability, and organizational support. The assessment determined which resources provided a sustained competitive advantage, a temporary advantage, competitive parity, or a disadvantage. The internal assessment using the VRIO framework is shown in Table 2.

Table 2. PT WLL VRIO

	Resources	Valuable	Rare	Inimitable	Organization	Competitive Implication
Business Result	Good reputation and credibility	Yes	No	No	Yes	Temporary advantage
	Brand reputation	Yes	Yes	Yes	Yes	Sustainable competitive advantage
	Distribution and marketing channel	Yes	No	No	Yes	Temporary advantage
	Supplier network	Yes	No	No	Yes	Temporary advantage
Internal Process	Product taste	Yes	Yes	Yes	Yes	Sustainable competitive advantage
	Production process	Yes	Yes	Yes	Yes	Sustainable competitive advantage
	Marketing and after sales capability	Yes	No	No	Yes	Temporary advantage
Resource Capability	Skilled and knowledge employee	Yes	No	No	Yes	Temporary advantage
	Implementation program and semi automation	Yes	No	No	Yes	Temporary advantage
	Organizational culture	Yes	No	No	Yes	Temporary advantage

Source: Research data analysis (2025)

From Table 2, it could be seen that PT WLL possessed three sustained competitive advantages: brand reputation, a unique product taste, and a production process. All of these advantages are valuable, rare and difficult to imitate, and are supported by the organisation. However, other resources, such as brand reputation, marketing channels and employee

capability, only provided temporary advantages due to limited system support and inconsistent development.

Stage 2 – Design

Based on Stage 1 insights, a set of Key Performance Indicators (KPIs) was developed to align PT WLL’s strategy with measurable outcomes. KPI formulation followed the three KBPMS perspectives: Business Results, Internal Processes, and Resource Capability. The KPI structure is shown in Table 3.

Table 3. Variable and KPI

PERSPECTIVE	ASPECT	VARIABLE	KPI	
Business Result	Finance	Profitability	Net profit margin	
			ROA	
		Liquidity	current ratio	
	Non-finance	Debt	Supplier Satisfaction	debt ratio
				%late payment to supplier
		customer satisfaction	%defect rate	
			customer satisfaction index	
customer complain rate				
Internal Process		Innovation	employee satisfaction	customer retention
				turnover employee
	product innovation		number of new varian product	
		process innovation	number of new process improvement	
	Operation process	Operation efficiency	schedule fulfillment	
			productivity	
			inventory level of FG	
down time process				
Resource Capability	Marketing	Marketing efficiency	Delayed report	
			Target fulfillment promotion	
	After sales	After sales service	After Sales satisfaction index	
			%training provided	
	Human resouce	employee competency	employee productivity	
			number of machine breakdown	
Organization capital	team work & knowledge sharing	team work index		
		alignment		
		communication		

Source: Research data analysis (2025)

As shown in Table 3, the KPI set provided a balanced view of PT WLL’s performance. Financial indicators evaluated profitability, liquidity, and debt, while non-financial indicators measured supplier performance, customer satisfaction, and employee stability. Internal process KPIs captured innovation, operational reliability, marketing efficiency, and after-sales service. Resource capability KPIs emphasized training, employee productivity, technology implementation, and knowledge sharing. This comprehensive structure ensured that performance measurement covered both lagging and leading indicators.

A relationship map was developed to illustrate how the performance dimensions were interconnected. Figure 2 below, shows the relationships among the variables included in the KBPMS design.

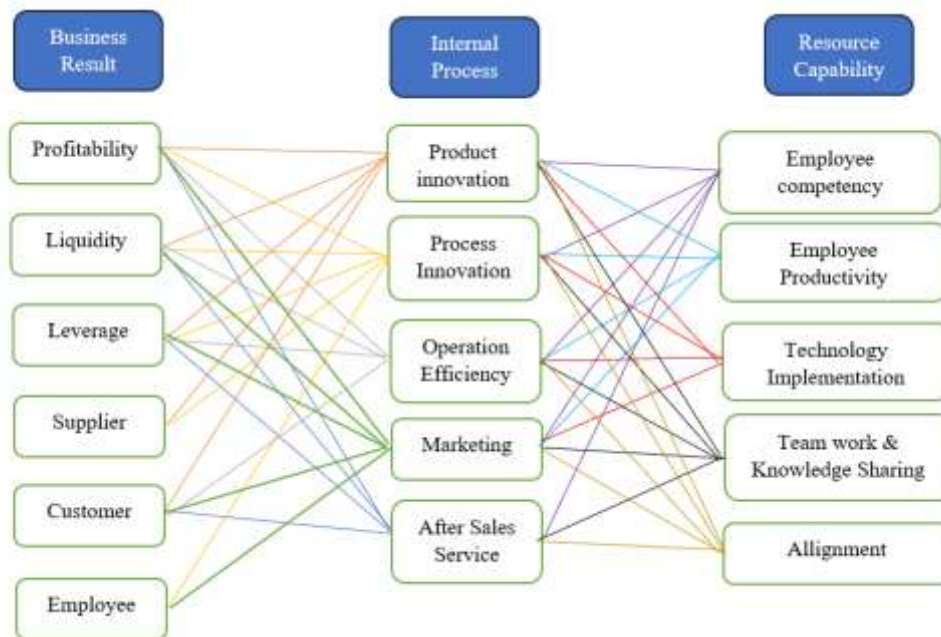


Figure 2. Relationship among variable in PT WLL
Source: Research data analysis (2025)

From Figure 2, it could be observed that resource capability directly affected internal processes, particularly in innovation, operational efficiency, and marketing effectiveness. Strong internal processes subsequently contributed to business results, especially profitability, liquidity, and customer satisfaction. This validated KBPMS’s emphasis on knowledge, skills, and technology as foundational drivers of organizational performance.

Analytical Hierarchy Process

The Analytical Hierarchy Process (AHP) was used to prioritize KPIs based on expert judgment. All five managers and the director participated as respondents, and all consistency ratio values were below 0.1, indicating reliable comparisons.

Figure 3 illustrates the Analytical Hierarchy Process (AHP) structure used to prioritize the KPIs under the business results perspective. The hierarchy consists of four key variables: profitability, liquidity, leverage, and non-financial outcomes, such as supplier satisfaction and customer-related indicators. Each variable represented organizational outputs reflecting PT WLL’s market performance and financial stability. Expert respondents conducted pairwise comparisons of the indicators within this perspective to determine which financial and non-financial outcomes contributed most significantly to organizational success.

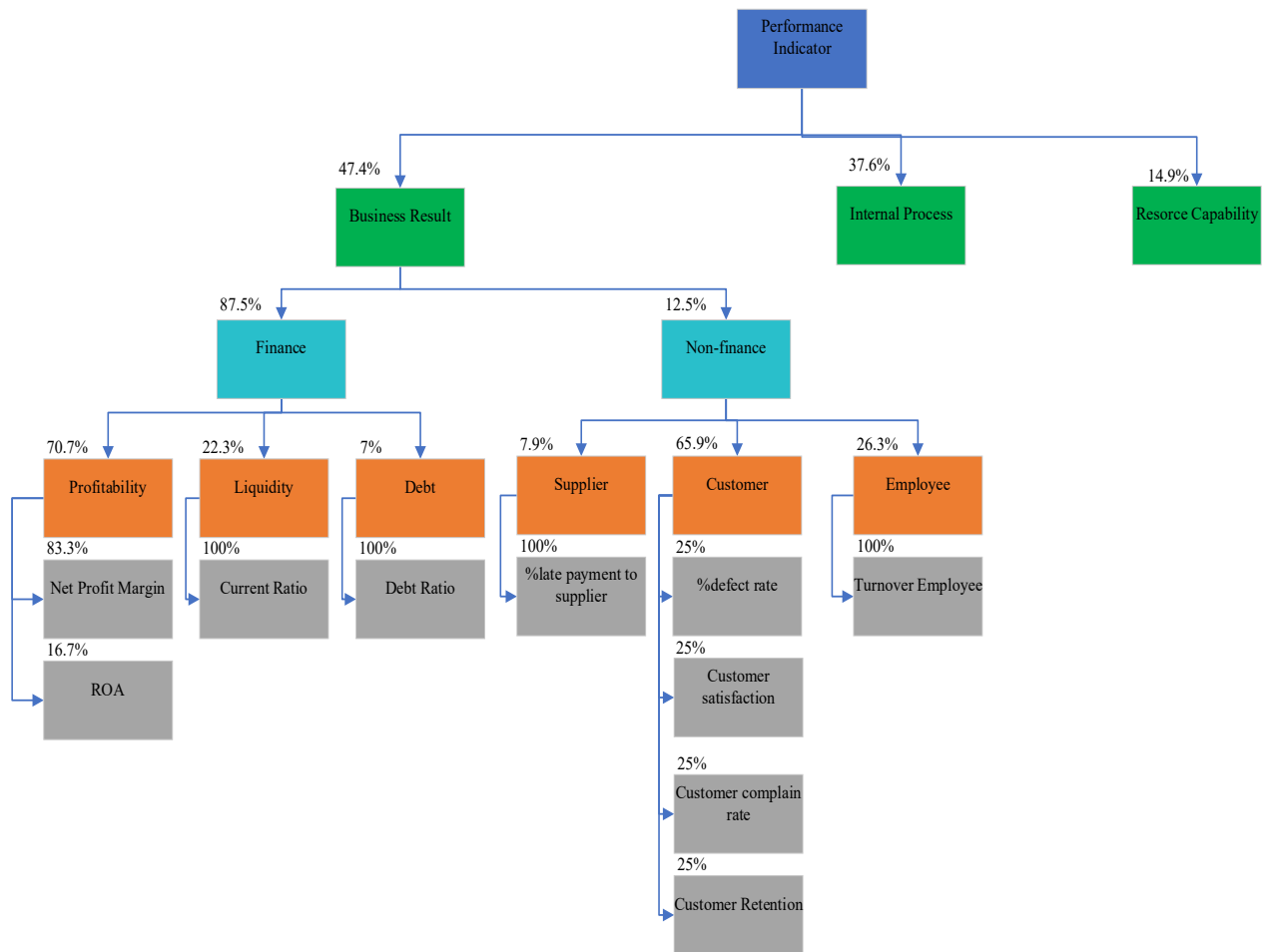


Figure 3. AHP (Business Result)

Source: Research data analysis with AHP (2025)

As shown in Figure 3, the AHP results indicated that profitability was the top priority among all business result indicators. Given the decline in sales volume and pressure on profit margins, this finding suggests that restoring financial performance is the most critical objective for PT WLL. Next, liquidity and leverage were prioritized, reflecting the company’s need to maintain sufficient working capital and manage debt effectively. Non-financial results, such as supplier punctuality and customer retention, were given lower weights, yet remained important for supporting long-term competitiveness.

Figure 4 shows the AHP structure used to evaluate the relative importance of internal process indicators. This hierarchy includes innovation (product and process), operational efficiency (schedule fulfillment, productivity, downtime, and reporting), marketing efficiency, and after-sales performance. These indicators assessed how well PT WLL’s internal systems and workflows supported quality, reliability, and responsiveness. Pairwise comparisons were performed to determine which internal areas needed improvement to support overall business performance.

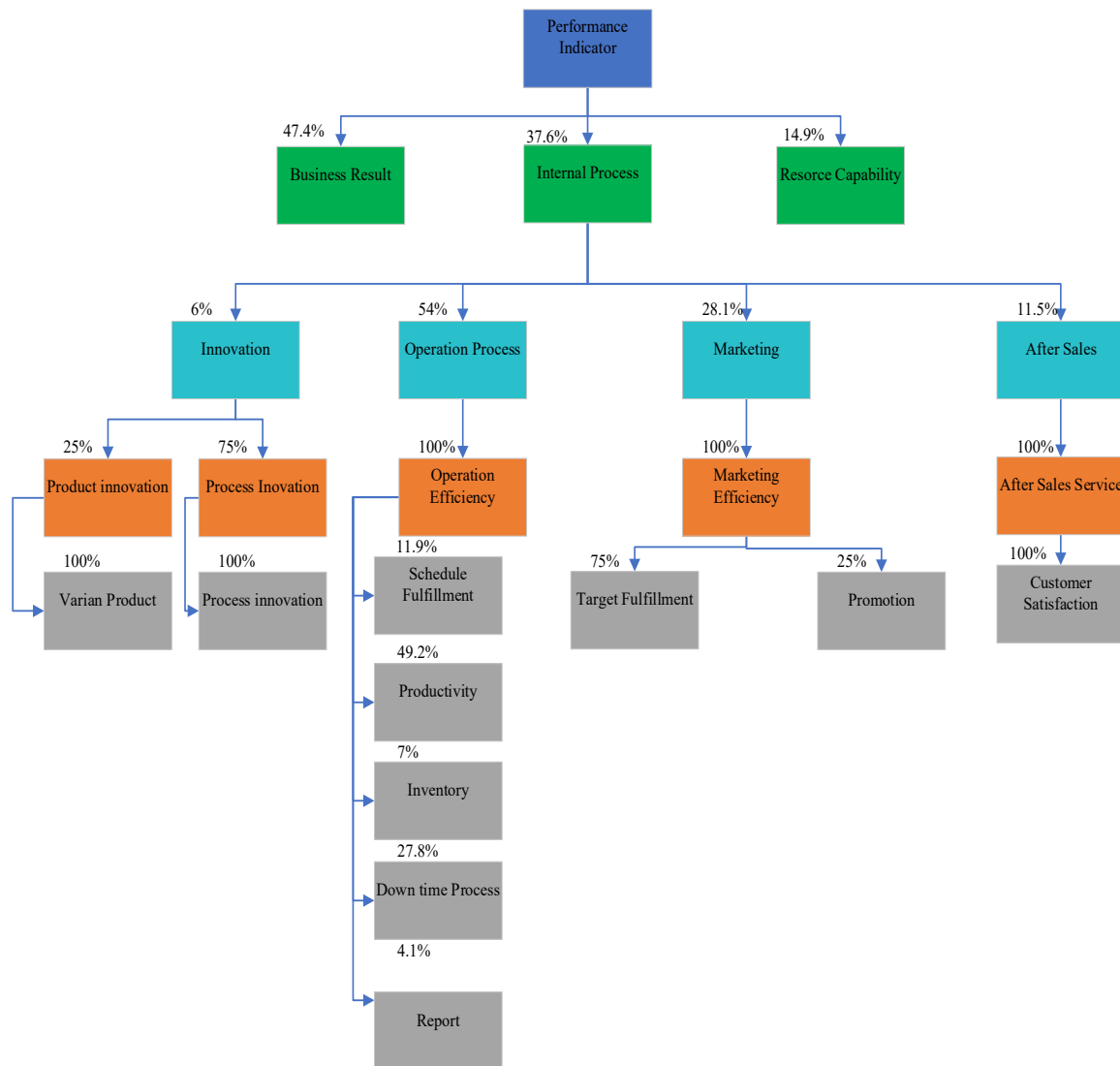


Figure 4. AHP (Internal Process)

Source: Research data analysis with AHP (2025)

Figure 4 above showed that operational efficiency was the most influential indicator within the Internal Process perspective. This result reflects PT WLL’s operational challenges, including machine downtime, manual reporting, and inconsistent production planning. Marketing efficiency was identified as a secondary priority, underscoring the importance of market reach and promotional effectiveness in maintaining competitiveness. Innovation and after-sales factors were given less weight, indicating a need for improvement, though not as urgent as the immediate operational issues reflected in the data.

Figure 5 below shows the hierarchy used to prioritize resource capability indicators. These indicators consist of employee competency, employee productivity, technology implementation, and organizational capital (teamwork, knowledge sharing, and alignment). These indicators represent PT WLL’s ability to deploy skills, systems, and knowledge to support operational excellence. The AHP pairwise comparison process evaluated each resource-related variable based on its contribution to internal processes and business results.

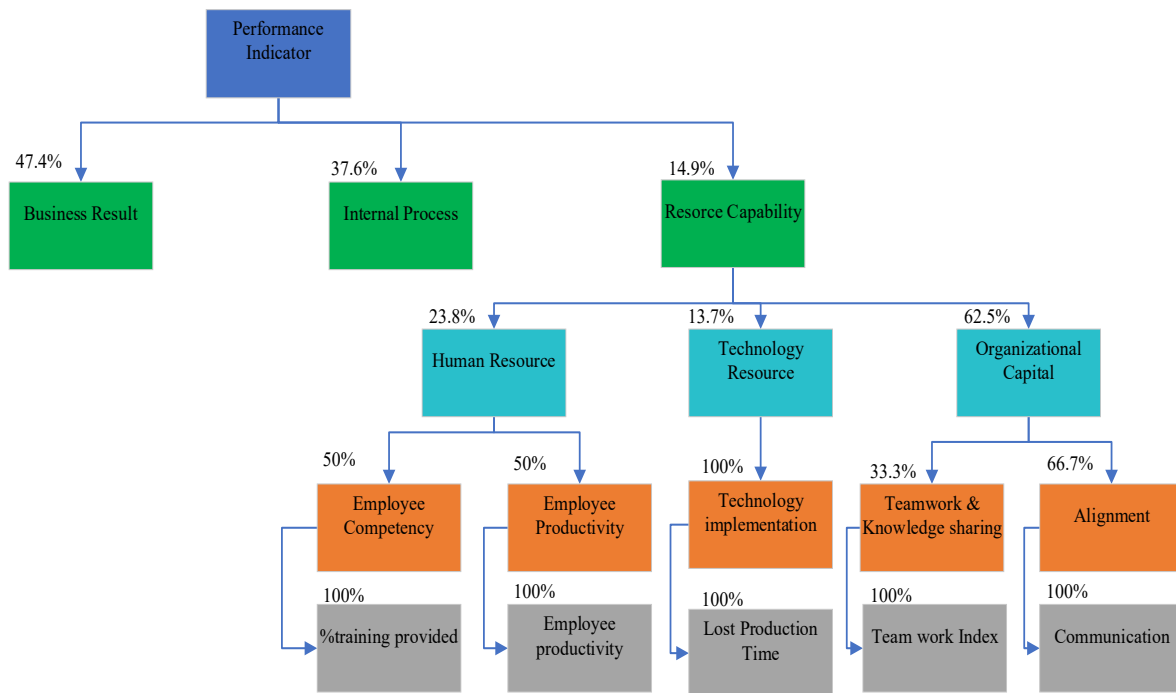


Figure 5. AHP (Resource Capability)
Source: Research data analysis with AHP (2025)

As shown in Figure 5, organizational capital emerged as the dominant priority, receiving 62.5% of the total weight and becoming the most influential variable in the resource capability perspective. This indicates that PT WLL’s performance issues are primarily related to teamwork, communication, and knowledge sharing rather than technical or individual competency gaps. The high weight suggests that improving alignment, interdepartmental collaboration, and information flow is essential to enhancing internal processes and business results.

The combined results from Figures 3 to 5 showed that PT WLL’s performance priorities were dominated by profitability, operational efficiency, and organizational capital. Profitability was the most important factor in the Business Results perspective, reflecting the company’s urgent need to restore financial stability. Within the Internal Process perspective, operational efficiency emerged as the key priority, highlighting the impact of production reliability, scheduling, and downtime on overall performance. From the perspective of resource capability, organizational capital received the greatest weight, indicating that teamwork, communication, and knowledge sharing are critical drivers of improvement.

Together, these results suggest that PT WLL’s performance constraints are financial, operational, cultural, and structural. Improving alignment, strengthening interdepartmental collaboration, and enhancing information flow are essential to enabling operational excellence and supporting KBPMS implementation. These prioritisation outcomes guided the development of KPI targets and informed the design of the Stage 3 implementation plan.

Benchmarking

Benchmarking played a central role in validating KPI targets and ensuring that PT WLL’s performance standards were aligned with international best practices. Consistent with

the KBPMS framework, benchmarking functioned as a learning mechanism that enabled the company to compare performance across time and against external references.

Two benchmarking approaches were used. Internal benchmarking compared PT WLL’s historical data, such as defect rates, customer complaints, and production downtime, to its past performance to identify areas for improvement and recurring issues. For external benchmarking, data was collected from globally recognized sources, including APQC (2024), OECD (2023), the Bureau of Labor Statistics (2025), McKinsey & Company (2017), and ACSI (2024). These sources were selected based on their relevance to the food manufacturing sector and their suitability for standard-setting. Benchmark values for PT WLL’s KPI design are summarized in Table 4.

Table 4. KPI Benchmark

PERSPECTIVE	ASPECT	KPI	BENCHMARK	TARGET 2025	
Business Result	Finance	Net profit margin	Food Processing sector net margin 8-12% (Damodaran, A.,2025)	8,0%	
		ROA	Food Processing ROA \approx 3–5% (CSIMarket, 2025)	15%	
		current ratio	1.5-2 (Queensland Government, 2021)	min 5	
		debt ratio	Food Processing sector Debt/Equity \approx 0.49 (Damodaran, A.,2025)	max 0,5	
	Non-finance	%late payment to supplier	On-time supplier payments \geq 95% (late \leq 5%) (APQC,2024)	max 5%	
		%defect rate	World-class FMCG defect tolerance (100 DPPM \approx 0.01%). (Symestic, 2024)	max 1%	
		customer satisfaction index	Target ACSI-style score \geq 80 for food manufacturers	80	
	Internal Process	Non-finance	customer complain rate	5 complain per 1000 deliveries per month (International Organization for Standardization, 2018)	max 24
			customer retention	Repeat-purchase (retention) \geq 60% on core SKUs (set by category) (NielsenIQ, 2024)	min 80%
			turnover employee	Voluntary turnover \leq 15% / year (use JOLTS to benchmark locally)	max 10%
Innovation		number of new varian product	\geq 2–4 new SKUs (variants) per year (Mckinsey, 2017)	1	
		number of new process improvement	\geq 2 kaizen/process improvements per year (Lean Enterprise Institute, 2023)	3	
		schedule fulfillment	Production schedule adherence \geq 95% (APQC, 2024)	min 95%	
		productivity growth	Year-on-year labour productivity \geq 5% (APQC, 2024)	5%	
		Operation process	inventory level of FG	Finished-goods Days of Supply 30–60 days (APQC, 2024)	15 days
			down time process	Unplanned downtime \leq 10% (\geq 90% availability) (Society for Maintenance and Reliability Professionals, 2023)	max 10%
			Delayed report	\leq 5% delayed operational reports (International Organization for Standardization, 2015)	5%
Marketing	Target fulfillment		Sales target attainment 95–105% (define by channel) (APQC, 2024)	100%	
	promotion	Trade promotion spend \approx 20–25% of gross sales (NielsenIQ, 2024)	max 8%		

	After sales	After sales satisfaction	After-sales CSAT \geq 80	80
Resource Capability	Human resouce	%training provided	Training coverage \geq 80% of employees / year (APQC, 2024)	80%
		employee productivity	1-1.5 billion per employee per year	0.5 billion
	Technolog y resource	lost production time	Lost production time \leq 10% (Society for Maintenance and Reliability Professionals, 2023)	10%
		Organizati on capital	team work index	\geq 80% Gallup. (2024)
		communication	\geq 80% Gallup. (2024)	80%

Source: Compiled from various sources (APQC, 2024; Damodaran, 2025; Gallup, 2024; etc.)

From Table 4, it could be seen that PT WLL’s benchmark targets were positioned within recognized international ranges. For example, defect rate standards referred to DPPM benchmarks from Symestic (2024), while employee turnover benchmarks used Gallup (2024) and Bureau of Labor Statistics (2025). Inventory days of supply and supplier payment punctuality benchmarks were aligned with APQC’s (2024) global manufacturing indicators. These references provided PT WLL with realistic yet competitive performance targets for KBPMS implementation.

Stage 3 - Implementation

Stage 3 focused on implementing the Knowledge-Based Performance Management System (KBPMS) across PT WLL. Implementation required coordination, system preparation, training, and monitoring to ensure that the new performance structure operated effectively.

The implementation design consisted of seven key components. First, system integration ensured that the KBPMS aligned with existing reporting formats and management practices to minimize operational disruption. Second, performance reporting mechanisms were standardized to produce clear, timely KPI dashboards accessible to all managerial levels. Third, socialization activities, such as workshops, meetings, and digital communication, were conducted to increase awareness and foster organizational readiness. Fourth, training programs were delivered to strengthen the capability of managers and employees in interpreting data, monitoring KPIs, and solving performance problems. Fifth, resource allocation, including human resources, software tools, and data infrastructure, was adjusted to support the new system. Sixth, continuous monitoring and visualization tools, such as dashboard prototypes, were implemented to track performance results and support decision-making. Finally, a cost–benefit evaluation was conducted to ensure the KBPMS provided measurable improvements in operational and financial outcomes. The detailed implementation plan is presented in Table 5.

Table 5. Implementation Plan

No	Activities	Person in Charge (PIC)	Duration
1	Designing the KBPMS framework for PT WLL, including KPI formulation and alignment with strategic goals.	Consultant & Director	3 months

2	Review and approval of the KBPMS framework and KPI list by management.	Top Management & Consultant	3 months
3	Preparation phase (system documentation, meeting schedules, data template preparation).	PIC of PMS (assigned by Director)	10 days
4	Training on leadership, communication, and change management to prepare department heads for system adoption.	HR Department & Consultant	6 days
5	Presentation of Stage 1 findings (external and internal analysis: Porter, VRIO, CRT) to all department heads.	PIC of PMS	1 day
6	Socialization of PT WLL's Vision, Mission, and Strategic Goals in relation to the KBPMS.	Director & HR Department	1 day
7	Introduction to the KBPMS structure and objectives (overview of perspectives and performance measurement).	PIC of PMS	1 day
8	Presentation of the Performance Measurement Framework (KPI definitions, formulas, targets, benchmarks).	PIC of PMS	3 days
9	Departmental training on KPI implementation (data collection, recording, and reporting procedures).	HR Department & Department Heads	5 days
10	Strategy planning for KBPMS adoption (developing departmental action plans based on KPIs).	Department Heads & PIC of PMS	12 days
11	Employee-level awareness program (introduction to KBPMS and personal contribution to company goals).	Head of Department	Each 5 days
12	Implementation phase — data collection, performance tracking, and dashboard testing.	Head of Department	Each Continuous
13	Evaluation of measurement — comparing actual results against targets, identifying performance gaps.	PIC of PMS (Assigned by Director)	Continuous
14	Diagnosis of improvement — identifying root causes of performance deviations.	PIC of PMS (Assigned by Director)	Continuous
15	Follow-up on identified improvement actions — monitoring corrective and preventive measures.	PIC of PMS (Assigned by Director)	Continuous
16	Refreshment and system update — annual review of KPIs, targets, and performance results.	Top Management & HR	Annual

Source: Research data analysis (2025)

As seen in Table 5, PT WLL's implementation activities followed a structured timeline involving system preparation, competency development, strategic alignment, and gradual adoption. The continuous activities of monitoring, evaluation, and corrective action indicated

that the KBPMS was designed as a continuous improvement cycle rather than a one-time project.

Stage 4 Refreshment

Stage 4 emphasized the need for continuous improvement and regular system updates. According to Wibisono (2012), refreshing the KBPMS ensured its alignment with changes in organizational direction, market dynamics, and technological advancements. At PT WLL, these activities included annual KPI evaluations, revision of performance targets, and updates to measurement tools and reporting formats. Improvement areas identified through monthly and quarterly reviews were incorporated into the next planning cycle. Departments were encouraged to propose modifications based on operational feedback, capability development needs, or shifts in customer requirements. This stage ensured that the KBPMS remained dynamic, adaptive, and relevant to long-term competitiveness.

CONCLUSION

This study concluded that PT WLL's performance challenges—including declining sales, operational inefficiencies, inconsistent quality, and limited employee capability—were rooted in the absence of an integrated performance management system. Diagnostic analyses using Porter's Five Forces, the VRIO framework, and the Current Reality Tree (CRT) revealed that weak interdepartmental coordination, outdated processes, and reliance on lagging financial indicators were primary constraints to achieving sustainable performance. These findings directly addressed the first research question concerning organizational barriers. To address the second research question, this study developed a comprehensive set of key performance indicators (KPIs) organized under three perspectives of the Knowledge-Based Performance Management System (KBPMS): Business Results, Internal Processes, and Resource Capability. These KPIs provided balanced measurements of the financial, operational, and human dimensions. Using the Analytical Hierarchy Process (AHP), the study further established performance priorities, determining that profitability, operational efficiency, and marketing effectiveness were the most critical indicators for PT WL.

In response to the third research question, this study used the KBPMS framework to design a performance management system tailored to PT WLL, a medium-sized food manufacturing company. The four stages of KBPMS—Foundation, Basic Information, Design, and Implementation—provided a structured basis for aligning strategy, process execution, and capability development. Stage 4 (Refreshment) outlined mechanisms for ensuring future adaptability through continuous improvement. Overall, the proposed Knowledge-Based Performance Management System (KBPMS) enhanced strategic alignment, strengthened performance monitoring, and reinforced organizational learning. This study made theoretical and practical contributions by demonstrating how KBPMS could be implemented in the food manufacturing sector. Future research could incorporate digital dashboards, automation, and predictive analytics to improve real-time decision-making processes and promote long-term sustainability.

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