MAIN PERFORMANCE INDICATOR WITH KNOWLEDGE-BASED PERFORMANCE MANAGEMENT SYSTEM APPROACH FOR PT. KERETA API INDONESIA (PERSERO)

Visco Asmara Hadi & Dermawan Wibisono
[ab]Institut Teknologi Bandung, Bandung, Indonesia.
Corresponding email: vasmarahadi@gmail.com

Abstract

Despite being the only player in the railway industry, business competition still exists from non-similar competitors. In order to be able to compete with these competitors, PT. Kereta Api Indonesia needs to improve the quality of its company's performance. This study proposes aims to mengidentifikasi indikator mana yang harus dijadikan prioritas oleh PT. Kereta Api Indonesia (Persero) improving performance quality. Knowledge Based Performance Management System (KBPMS) approach was selected as the proposed framework for the PMS. Qualitative research methods are used by collecting data through observation, literature studies, and interviews conducted at the Human Capital and General Affairs directorate. This study identifies 26 important performance indicators grouped into three perspectives for PT. Kereta Api Indonesia (Persero), providing a basis for a performance evaluation model and a competitive benchmarking approach. Implementing these indicators will enhance the company's performance measurement system and improve competitiveness. A set of indicators also used to provide qualification recommendations per position are expected to be a reference for companies to improve their quality throung employee quality. This research can be used by all stakeholders at PT. Kereta Api Indonesia (Persero) and its subsidiaries to encourage the improvement of company performance. In addition, it can also be used by other external parties as literature related to system performance management. This study contributes to the academic literature by proposing new indicators based on KBPMS to solve employee quality issues that impact overall business performance.

Keywords: Knowledge Based Performance Management System, Company Performance, Employee Quality.

1. Introduction

Transportation is crucial for economic growth, particularly in urban areas. The transportation and warehousing sector in Indonesia experienced significant growth, with a 21.27% increase in Q2 2022 compared to the previous year. This trend indicates the attractiveness of the transportation sector for foreign investors. PT. Kereta Api Indonesia (Persero) operates as the sole railway service provider in the country but faces competition from other industries such as aviation and maritime. To effectively compete with diverse competitors, PT. Kereta Api Indonesia needs to enhance its performance and prepare for digital transformation. Performance management plays a key role in maintaining and improving company achievements, focusing on improving employee performance and engagement. However, the company faces challenges related to low-quality human resources and insufficient employee qualifications, hindering the implementation of digital transformation. To address these obstacles, a knowledge-based performance management system is proposed. This system integrates knowledge management principles to improve human resource quality and enhance employee capabilities. The goal is to facilitate successful digital transformation initiatives at PT. Kereta Api Indonesia.

2. Literature Review

2.1 Business Competition Faced by PT. Kereta Api Indonesia (Persero)

PT. Kereta Api Indonesia (Persero) may face competition from non-similar competitors in the transportation industry. These competitors could include airlines (ex. Citilink, Garuda Indonesia, Lion Group, etc), bus operators (Sinar Jaya, Hiba Utama, Big Bird, etc), ride-sharing services, and other forms of transportation that provide alternatives to railway travel. While they may not operate in the same industry or offer identical services, they still compete for customers' transportation needs, providing options that could divert potential passengers away from railway travel. PT. Kereta Api Indonesia (Persero) would need to consider these non-similar competitors and strive to differentiate itself and provide unique value propositions to attract and retain customers.

2.2 Improving Employee Quality

Quality of employees at PT. Kereta Api Indonesia (Persero) may vary depending on various factors, such as recruitment selection, training provided, work experience, and performance management efforts. As a large company in the transportation sector, PT. Kereta Api Indonesia (Persero) has a need to have employees who have good technical skills, understanding of work safety, and the ability to interact with customers effectively. To improve the quality of employees, PT. Kereta Api Indonesia (Persero) can take various steps, such as:

- Rigorous recruitment process: Conducting careful selection in recruiting new employees by taking into account qualifications, experience and abilities relevant to the position needed.
- Training and development: Provide appropriate training to improve the technical and non-technical skills of employees, including safety, customer service and management training.
- Performance evaluation: Conduct regular performance evaluations to identify employee strengths and weaknesses, as well as provide constructive feedback and development opportunities.
- Incentive policy: Providing incentives or rewards to employees who achieve targets or show good performance, thereby encouraging motivation and improving work quality.
- Positive work culture: Building a work culture that is inclusive, collaborative, and values diversity, which can increase employee satisfaction and motivation to give their best.

2.3 Performance Management System

The individual performance management system has an influence on employee performance because the individual performance management system can monitor performance achievements periodically so that employee performance achievements can be ensured according to predetermined standards. If performance achievements have been measured in the form of key performance indicators, then each individual is motivated to improve performance based on predetermined criteria. According to Alimuddin (2017), the performance management system was developed as a tool to monitor and maintain organizational control which is a process for controlling an organization to carry out action plans that lead to the achievement of goals and objectives. Another opinion expressed by Kosasih and Wibisono (2010) reveals that performance management is a way to obtain better results from individuals, teams, and organizations through understanding and managing performance that refers to an agreed framework of goals, competency standards and references.

2.4 Knowledge-Based Performance Management System

A knowledge-based performance management system (KBPMS) is a type of performance management system that focuses on the knowledge and skills of employees, rather than just their outputs or outcomes. In other words, it aims to evaluate the performance of employees based on the knowledge and skills they possess and how effectively they use them to accomplish their tasks and responsibilities. Wibisono and Khan (2003) established a conceptual model that comprises of three stages examined in the creation of the KBPMS: Basic Information, Core of Performance Management, and Performance Management Mechanisms. Each step includes various components that are significant and have been thoroughly addressed. According to research conducted by Hariawan (2022), the Knowledge Based Performance Management System Framework has many advantages that can be utilized to create a performance management system. There are 3 perspectives with 9 subperspectives on KBPMS.

Table 1. Perspective of KBPMS

Perspectives	Aspects
Business Result	Financial
	Non-Financial
Internal Process	Innovation
	Operating Process
	Marketing
	Aftersales Services
Resource Capability	Human Resource
	Technology Resource
	Organization Resource

3 Methodology

3.1 Research Methods

This research was conducted at PT. Kereta Api Indonesia (Persero), Jl. Perintis Kemerdekaan no.1, Bandung, West Java. The KBPMS approach was selected as the proposed framework for the PMS. Performance. Indicators were classified into three perspectives (business results, internal business processes, and resource capabilities). The method used is descriptive method to find out what perspectives and indicators in KBPMS can be used as a focus for solving problems. Internal analysis using SWOT Analysis followed by determining the strategic plan for the future potential improvement of the company.

3.1 Data Collection and Techniques

Data collection in this study was carried out by several methods. Primary data were obtained from the results of observation, interviews and discussions with several units under the Directorate of Human Capital and General Affairs of PT. Indonesian Railways (Persero). Secondary data is obtained from the results of literature studies from companies and other external sources. The

data analysis methods used in this study are Analysis Hierarchy Process (AHP), Pestel Analysis and SWOT Strategy.

4 Research Findings

4.1 External Analysis

PESTEL analysis helps PT. Kereta Api Indonesia (Persero) in understanding external factors that can affect the company's operations and strategy.

1. Politics:
    - Government regulations and policies related to transportation and railways, including infrastructure investment.
    - Relations with relevant ministries such as the Ministry of Transportation and the Ministry of SOEs.
2. Economics:
    - Indonesia's economic growth and impact on transportation demand.
    - Market conditions that affect fuel prices, interest rates, and inflation.
3. Social:
    - Changes in travel trends and consumer preferences regarding transportation.
    - The social and sustainable impact of rail transport in reducing congestion and pollution.
4. Technology:
    - Technological advances in railway and transport infrastructure.
    - Use of information and communication technology to improve service and operational efficiency.
5. Environment:
    - Environmental impacts of railway operations, including waste management and greenhouse gas emissions.
    - Sustainability initiatives and the use of renewable energy.
6. Law:
    - Legal regulations related to railway operations and compliance with safety standards.
    - Share ownership by the government and regulations related to state-owned enterprises.

4. 2 Internal Analysis

PT. Kereta Api Indonesia (Persero) has a vision of becoming a world-class railroad company with safe, reliable and sustainable services. Their mission is to provide safe, comfortable and reliable transportation services, while supporting national development. They prioritize customer satisfaction, innovation, infrastructure development, operational efficiency, sustainable growth, human resource development, and collaboration with stakeholders. The strategies of the company were analyzed with SWOT Analysis as presented in Table 2 below.

Table 2. SWOT Analysis-Company Strategies

TOWS MATRIX	**Opportunities** 1. The demand for railway transportation in Indonesia is expected to grow options. 2. PT. Kereta Api Indonesia (Persero) can explore opportunities to expand its services into new routes and regions. 3. Embracing technology and digital solutions	**Threats** 1. PT. Kereta Api Indonesia (Persero) faces competition from other transportation modes. 2. Changes in government regulations and policies 3. Ensuring the safety and security of passengers and infrastructure is a main concern for the company
Strengths 1. PT. Kereta Api Indonesia (Persero) has a well-developed railway network, 2. As a state-owned company, PT. Kereta Api Indonesia (Persero) enjoys a significant market share in the railway transportation industry in Indonesia. 3. The company has a well-established brand	**S-O** 1. Leverage the extensive infrastructure and strong market presence to expand into new routes and regions with high growth potential. 2. Capitalize on the brand recognition and reputation for safety to attract more passengers and increase market share.	**S-T** 1. Enhance operational efficiency and customer service to stay competitive against other transportation modes and overcome potential threats. 2. Invest in modernizing and upgrading aging infrastructure to mitigate safety risks and improve service quality.
Weaknesses 1. Some of the railway infrastructure and rolling stock may be outdated 2. PT. Kereta Api Indonesia (Persero) primarily focuses on passenger transportation. 3. There may be room for improvement in terms of operational efficiency	**W-O** 1. Diversify service offerings beyond passenger transportation to tap into the growing market for freight and logistics. 2. Embrace technology and digital solutions to improve operational efficiency, enhance the customer experience, and explore new revenue streams.	**W-T** 1. Address operational inefficiencies and upgrade aging infrastructure to mitigate potential risks and vulnerabilities. 2. Stay updated with regulatory changes and proactively adapt the business model to comply with evolving regulations.

4. 3 Business Result

In the context of a Knowledge-Based Performance Management System (KBPMS), Business Result refers to the tangible and intangible results or outcomes that an organization achieves as a result of effectively utilizing knowledge and performance management processes within the system. These outputs can be measured and evaluated to assess the overall performance and success of the organization. In this perspective, there are two main aspects, namely financial and non-financial. The financial aspect has an important role in the perspective of Business Result to Increase in revenue by expanding its service offerings and improving its operational efficiency. Meanwhile, the non-financial aspect has a role in developing organizational performance on and off train to increase customer satisfaction. KPIs at PT. Kereta Api Indonesia is a cascade KPI from the Ministry of Transportation and the Ministry of BUMN. Business Result in PT. Kereta Api Indonesia (Persero) shown in Table 3 below.

Table 3. Business Result

Perspective	Sub-Perspective	Key Performance Indicator	Polarity
Business Result	Financial	EBITDA	MAX
		Decrease in Loan Interest Expenses	MIN
		Profit margin	MAX
	Non-Financial	Timeliness of Arrival and Departure of Transport (Goods and Passengers)	MAX
		Optimization of government compensation	MAX
		Customer satisfaction	MAX
		Asset Utilization Collaboration	MAX

4. 4 Internal Business Process

In a Knowledge-Based Performance Management System (KBPMS), internal business processes refer to the operational activities and workflows within an organization that contribute to achieving its strategic objectives. There are four aspects, namely: Innovation, Operation, and Marketing. Internal business process in PT. Kereta Api Indonesia (Persero) shown on Table 4 below

Table 4. Internal Business Process

Perspective	Sub-Perspective	Key Performance Indicator	Polarity
Internal Process	Innovation	Number of innovations or technological improvements and digitization	MAX
		Operations Digitization	MAX
	Operation	Timeliness of Arrival and Departure of Transport (Goods and Passengers)	MAX
		Tolerance of Train Trip Disruption Shares Operations	MIN
		Formulation and Fulfillment of Service Facility	MAX
		Formulation of Railroad Travel Planning	MAX

		Increase user of KAI Access	MAX
	Marketing	Passenger Transport Volume	MAX
		Railway Passenger Transportation Revenue	MAX
		Goods Transportation Revenue	MAX

4.5 Resources Capability

In the resource capability section, companies need to focus on evaluating the Human Resources and Organizational Resources sub-perspectives. In the Human Resources sub-perspective, companies can evaluate the salary system in order to find out whether an employee works at PT. Kereta Api Indonesia (Persero) for salary or career path. In the Organizational Resources sub-perspective, companies need to focus on employee motivation. Thus, in designing performance appraisal, companies can first know employee motivation by correlating it with the payroll system. In other words, what are the salary systems and the variables in the salary system that have a significant effect on employee motivation at PT. Kereta Api Indonesia (Persero). The resources capability has shown in table 5 below.

Table 5. Resource Capability

Perspective	Sub-Perspective	Key Performance Indicator	Polarity
Resource Capability	Human Resources	Employee Engagement Level	MAX
		Implementation of Employee Certification in accordance with the expertise required Sumatra)	MAX
		Compilation of Talent Development and Career Path System Policies in the Cluster Scope	MAX
		Fulfilment of recruits for Operational and Maintenance needs	MAX
	Technology Resources	Digital Transformation	MAX
		Remuneration process can be done in the PRESTASIKU application	MAX
	Organization Resources	Availability of a performance-based remuneration system	MAX
		Increasing the application of knowledge sharing and teamwork	MAX

4.6 Performance Indicators

A total of 26 indicators have been selected based on the results of modifications from KPIs at PT. Kereta Api Indonesia (Persero) and other literature. The indicators were selected based on three main perspectives and eleven sub-perspectives within the KBPMS framework that are relevant to

PT. Kereta Api Indonesia (Persero), namely the perspective of business results consisting of financial and non-financial sub-perspectives; internal business processes consist of innovation, operations processes, and marketing sub-perspectives; and resource capability perspective with human resources, technology, and organization sub-perspectives.

Table 6. Analysis Hierarchy Process

Perspectives	Sub-Perspectives	Indicators	Priority Vector Average
Business Results	Financial	EBITDA	0.02
		Decrease in Loan Interest Expenses	0.00
		Profit margin	0.01
	Non-Financial	Optimization of government compensation	0.02
		Customer satisfaction	0.11
		Asset Utilization Collaboration	0.05
		Achievement of Risk Maturity Index	0.03
Internal Business Process	Innovation	Number of innovations or technological improvements and digitization to support the safety of train travel	0.03
		Operations Digitization	0.06
	Operation Process	Timeliness of Arrival and Departure of Transport (Goods and Passengers)	0.01
		Tolerance of Train Trip Disruption Shares Operations	0.01
		Formulation and Fulfillment of Service Facility	0.00
		Formulation of Railroad Travel Planning	0.00
	Marketing	Increased Use of KAI Access	0.03
		Passenger Transport Volume	0.07
		Railway Passenger Transportation Revenue	0.02
		Goods Transportation Revenue	0.02
Resource Capability	Human Resource	Employee Engagement Level	0.09
		Implementation of Employee Certification in accordance with the expertise required Sumatra)	0.03
		Compilation of Talent Development and Career Path System Policies in the Cluster Scope	0.02
		Fulfilment of recruits for Operational and Maintenance needs	0.02
	Technology	Digital Transformation	0.10
		Remuneration process can be done in the PRESTASIKU application	0.05
	Organization	Availability of a performance-based remuneration system	0.03
		Increasing the application of knowledge sharing and teamwork	0.01

Using the AHP technique, the relative relevance of the primary performance indicators was determined through data gathering and analysis. Resource Capability indicates the most potential performance indicators for use in the development of a new PMS. The weight ratings of the indicators following their hierarchical interrelationships evaluation are also displayed.

5.2. Variable Interrelation Model

As an outcome of the indicators' significance level evaluation, there should be 26 primary performance indicators in a variety of variables at various levels. The relationships are significant for determining the causal effects among performance variables at different levels as well as defining the improvement priority that should be given to performance variables at the same level. The authors have not supplied a list of weights at this time owing to a lack of data and comments from the Company. The variable interrelation model shown on Figure 1 below
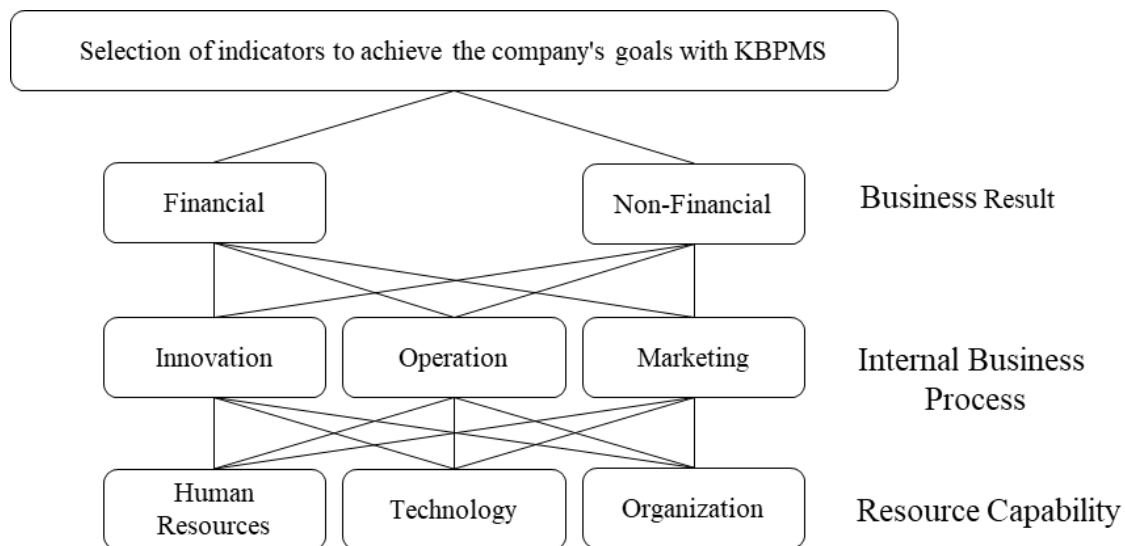

Figure 1. Variable Interrelation Model

5.3 Human Resources Qualification

Improving the quality of employees at PT. Kereta Api Indonesia (Persero) can be done by increasing the qualifications of employees seen from Education Level, Training Certification, Mutation, Promotion, and Interest, Talents, and Skills (Hasibuan, 2012). Recommendations for employee qualifications need to be made from the position of President Director to the Staff. Recommendations for employee qualifications can be seen in Table 7 below.

Table 7. Employee Qualification Recommendation

Position	Recommendation Criteria	Recommendation
Managing Director of Operation	Education Level	Having a postgraduate degree such as a Masters (S2) or MBA (Master of Business Administration) in a relevant field
	Training Certification	1. Leadership and Management Training 2. Project Management Certification 3. Lean Six Sigma Certification 4. Supply Chain Management Certification

		5. Financial Management Training
	Mutation	1. Transfer to Regional Division (Divre) or Operational Area (Daop) 2. Have been transferred to Responsible Managerial and Leadership Positions (Ex: Executive Vice President or Head of Operational Area) 3. Has been involved in special assignments and strategic projects
	Promotion	Experiencing gradual promotion within the organization. Starting from entry-level positions, such as lower-level managers, to higher managerial positions.
	Interest, Talents, and Skills	1. Strong Operational Knowledge 2. Safety and Risk Management 3. Strategic Planning and Decision-making

5 . Discussion and Conclusion

The findings of this study are a set of important indicators that affect company performance. Based on the results of discussions conducted with parties from the Directorate of Human Capital and General Affairs, there are 26 performance indicators classified into three performance perspectives (and 9 sub-perspectives) which are consistently considered very important and can be used as a basis for building a PT performance evaluation model. Kereta Api Indonesia (Persero) and can also be considered as a first step to develop a competitive benchmarking approach. This performance indicator will be used in initiating the development of a better performance measurement system for PT. Kereta Api Indonesia (Persero) at the corporate level which allows the company to be more competitive and sustainable. PT Kereta Api Indonesia (Persero) aims to optimize its human resources and achieve company goals through its HR Strategic Plan. Implementing KBPMS boosts employee engagement by linking performance to compensation, recognizing excellence, and fostering a performance-based culture. Improving employee qualifications is the key to achieve company goals. Company must be focus on education, training certification, mutation, promotion and interest, talent, and skills to solve problem relate to low-quality human resources and inadequate employee qualifications.

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