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Analysis of Operational Management Implementation at Kalbe Farma Tbk

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ABSTRACT

This research analyzes the implementation of operational management in PT Kalbe Farma Tbk one of a leading pharmaceutical industry in Indonesia through the strategic location selection. Using a qualitative description approach and secondary data, this study provides a description of the Kalbe Farma's holistic operational practice, such as integration of supply chain, human resources development, technologies. The company excels in strategic location planning, locating production and distribution centers near transportation nodes and population centers with strong market concentrations to enhance efficiency and minimize the cost of logistics. Yet, the steep rise in land prices and congestion in infrastructure etc, continue to remain as challenges. Kalbe tackles these by using digital inventory systems and strengthening partnerships with the public sector. The results illustrate that there are five key success factors for location strategy: market access, supply chain management, qualified labor force, technological assimilation, and environmentalism. Secondly, in its corporate transformation, Kalbe Farma uses a hub-and-spoke approach to optimize service location and national distribution radii. The strategic operation management such as location planning of Kalbe Farma is able to help to keep the competitive position and satisfy their customer throughout Indonesia. The following findings would provide a benchmark, which would then be of use to other manufacturing and distribution-based companies on how to shape their special rational strategies.

Keywords: First operational management, location strategy, pharmaceutical industry, supply chain, Kalbe Farma

1. INTRODUCTION

In the dynamic landscape of modern business, operational management serves as a foundational pillar in achieving organizational success and long-term sustainability. With the accelerating pace of technological advancement, market volatility, and rising customer expectations, companies are increasingly pressured to optimize every aspect of their operations. Operational management, which encompasses planning, organizing, controlling, and monitoring business processes, becomes essential not only to ensure

efficiency and cost-effectiveness but also to maintain product quality and meet environmental and regulatory standards.

One sector where operational excellence is non-negotiable is the pharmaceutical industry. Due to the sensitivity of its products and the highly regulated nature of the market, pharmaceutical companies must operate with a high degree of precision, consistency, and responsiveness. Among the key strategic decisions in operational management is location strategy, the choice of where to site production plants, warehouses, distribution centers, and service outlets. A well-planned location strategy can lead to substantial improvements in logistics, cost reduction, market accessibility, and service delivery, ultimately enhancing the company's competitiveness.

PT Kalbe Farma Tbk, headquartered in Jakarta, is one of Indonesia's largest and most influential pharmaceutical companies. Founded in 1966, Kalbe Farma has grown into an integrated health enterprise with a diversified portfolio that includes prescription pharmaceuticals, consumer health products, nutritional products, and health services. Kalbe's rapid growth and resilience, even during global crises such as the COVID-19 pandemic, can be attributed in part to its effective implementation of operational strategies, particularly its location-based decisions that support streamlined production and nationwide distribution. Kalbe Farma's location strategy exemplifies best practices in site selection. The company's production facilities in industrial zones such as Cikarang and Pulogadung are strategically placed near toll roads, seaports, and airports—major infrastructural assets that allow for cost-efficient, rapid distribution of goods throughout the country. Furthermore, the proximity to Indonesia's largest market, Greater Jakarta, ensures timely delivery and access to healthcare institutions. However, such advantageous positioning also presents challenges, including high land and property costs, traffic congestion, and regulatory complexities. The company has responded by adopting digital tools and ERP systems to manage inventory, forecasting, and logistics operations efficiently, while collaborating with public authorities to address infrastructural issues.

In addition to physical positioning, Kalbe Farma has invested in supply chain integration**,** workforce development**,** and technological innovation to strengthen its operational capabilities. The company's supply chain model follows an end-to-end integration approach, from procurement and production to warehousing and last-mile delivery. Its workforce policies emphasize talent acquisition, employee training, and quality assurance, ensuring consistent product standards and compliance with national and international regulations. Kalbe also implements Lean Manufacturing, 5R (Ringkas, Rapi, Resik, Rawat, Rajin), and Continuous Improvement principles to maintain operational efficiency.

Moreover, Kalbe's operational strategies align with the company's sustainability objectives. With increasing scrutiny from stakeholders regarding environmental and social governance (ESG), the company integrates eco-efficient processes, such as water and energy conservation, waste minimization, and eco-friendly packaging, within its operations. These actions not only align with global sustainability targets but also reinforce Kalbe's brand reputation and trustworthiness in the eyes of consumers, partners, and regulators. The company's hub-and-spoke distribution model further supports its national reach and responsiveness. By establishing regional distribution centers that serve as hubs, Kalbe ensures that its pharmaceutical and consumer products can reach remote areas in a timely manner. This structure also allows for flexibility in adapting to local market demands, improving stock availability, and minimizing transportation delays. In addition, the company employs real-time tracking and data analytics to monitor inventory levels, forecast demand, and manage risks related to supply disruptions.

Despite its strengths, Kalbe Farma's operations are not immune to risks. Infrastructure bottlenecks, regulatory changes, rising raw material costs, and shifts in consumer preferences present ongoing challenges. These factors necessitate continuous review and refinement of operational strategies to maintain competitiveness and ensure value creation across the supply chain. Therefore, this study is aimed at analyzing the application of operational management strategies at PT Kalbe Farma Tbk with a particular focus on location strategy, which is regarded as one of the most critical components of operational success in the pharmaceutical sector. Through qualitative analysis based on secondary data, this research evaluates how Kalbe's location choices, infrastructure access, supply chain design, technological capabilities, and environmental practices contribute to its performance and strategic goals.

The primary objective of this research is to explore how operational management principles are applied at PT Kalbe Farma Tbk, with a particular emphasis on location strategy. By understanding the company's approach to selecting and optimizing the placement of its facilities and distribution centers, this study aims to uncover the operational decisions that contribute to Kalbe Farma's efficiency, competitiveness, and responsiveness in the Indonesian pharmaceutical industry. Specifically, this research seeks to analyze the strategic factors that influence Kalbe Farma's operational success, including proximity to markets, infrastructure access, supply chain integration, and the use of advanced technologies. In addition, it aims to identify the key challenges faced by the company in implementing its location strategy—such as high land costs, traffic congestion, and logistical constraints—and how these are mitigated through innovation and digital transformation.

Through this analysis, the study intends to assess the overall impact of Kalbe Farma's operational strategies on business performance, customer satisfaction, and sustainability outcomes. By presenting a comprehensive case of Kalbe Farma's practices, the findings are expected to provide valuable insights for other firms seeking to enhance their operational capabilities through strategic location planning and integrated management approaches. This study contributes to the growing body of knowledge on operational strategy in emerging markets, particularly in the pharmaceutical sector. It provides practical insights for manufacturing companies facing similar operational challenges and seeks to inform decision-makers on how to optimize location-based strategies to achieve business excellence.

2. LITERATURE REVIEW

Operational management refers to the administration of business practices aimed at ensuring maximum efficiency within an organization, especially in the transformation of inputs into outputs that deliver value to customers. In the pharmaceutical industry, operational management becomes crucial due to the high level of product sensitivity, strict regulatory oversight, and the need for consistent service delivery. Several components of operational management, such as productivity, quality, location strategy, supply chain management, and technology integration, play a significant role in organizational success.

Operations and productivity are interrelated, as effective operations lead to increased productivity. Franke et al. (2024, p. 1) emphasized that employee motivation is higher when task characteristics are clearly defined and aligned with the employees' skills. In high-automation environments such as pharmaceutical manufacturing, workers' concentration and precision are critical. Therefore, assigning the right tasks to the right people improves job performance and strengthens the employee's self-image.

Developing an effective operations strategy enables organizations to adapt to global competition and environmental challenges. According to Yulia et al. (2023, p. 75), formulating environmental management strategies within operational processes can reduce waste-related costs and enhance corporate sustainability. Companies such as Kalbe Farma incorporate environmental considerations into their strategic operations to balance business growth with ecological responsibilities.

Project management in operations includes planning, scheduling, and controlling business activities. Sicotte and Delerue (2021, p. 2) argue that planning alone does not guarantee project success; rather, it must be integrated with top management support and effective communication. In Kalbe Farma's case, project timelines are managed with a clear hierarchy, especially in manufacturing expansions and logistical improvements.

Forecasting is vital for demand planning and inventory control. Yang et al. (2020, p. 3) highlight that accurate forecasting helps companies reduce market risks and optimize resource allocation. For pharmaceutical firms like Kalbe Farma, demand forecasting ensures the availability of essential medicines and prevents overstock or stockouts that could disrupt healthcare delivery.

Product and service design must consider cost, quality, market responsiveness, and customer satisfaction. Julaeha and Yustriana (2022, p. 138) state that an effective product design process begins with customer needs and ends with prototyping and specification development. Kalbe Farma's product innovation cycle integrates consumer feedback, nutritional science, and quality control measures.

Maintaining product quality is central to operational management in pharmaceutical firms. Zacharias (2022, p. 104) explains that quality management systems (QMS) enable companies to align their production processes with regulatory standards. Kalbe Farma employs continuous quality improvement mechanisms, supported by SOPs (standard operating procedures) and digital monitoring tools.

A firm's process strategy determines how products and services are produced. Simeone (2020, p. 5) defines process strategy as a set of integrated choices that position a firm competitively. In Kalbe Farma's operations, automation, digital systems, and lean practices are leveraged to increase process reliability and reduce waste.

Location strategy refers to selecting geographical positions that optimize operational efficiency and customer accessibility. Wardana et al. (2023, p. 715) state that location determines accessibility, visibility, and logistical cost-efficiency. Kalbe Farma's facilities are located near toll roads, ports, and urban markets, ensuring swift delivery and reduced transportation expenses. This strategic positioning also helps the company manage demand volatility across different regions.

Layout strategies involve the physical arrangement of resources and workspaces to maximize efficiency. Al-Zubaidi et al. (2021, p. 3) distinguish between Static and Dynamic Facility Layout Problems (SFLP & DFLP), explaining that layout design affects material flow, department interaction, and overall production cost. Kalbe Farma integrates flexible layouts that support scalability and multi-product operations.

Job design affects employee performance and organizational productivity. Peiró et al. (2020, p. 7) emphasize that well-structured jobs with clear tasks and responsibilities increase job satisfaction, commitment, and innovation. Kalbe Farma invests in workforce development through targeted training programs and structured role assignments to ensure consistent performance.

Modern supply chains require resilience, flexibility, and integration. Ben-Daya et al. (2019, p. 4725) argue that companies must build agile supply chains to manage risks and uncertainties, especially in complex global environments. Kalbe Farma's supply chain

integrates procurement, production, and distribution through centralized and regional hubs, improving visibility and responsiveness.

Effective inventory management balances supply and demand while minimizing costs. Munyaka and Yadavalli (2022, p. 20) explain that inventory is a major corporate asset and must be managed strategically. Kalbe Farma adopts ERP-based inventory control systems to track raw materials, monitor safety stock, and automate replenishment cycles.

Aggregate planning aims to optimize capacity, inventory, and labor planning. Kristensen and Jonsson (2018, p. 25) describe S&OP as a tactical framework for balancing supply and demand across functional units. Kalbe Farma utilizes demand forecasting and capacity planning tools to align production targets with market needs.

Material Requirements Planning (MRP) and Enterprise Resource Planning (ERP) systems enhance coordination and efficiency. Katuu (2020, p. 40) defines ERP as a software platform that integrates financial, HR, and supply chain modules. Kalbe Farma's ERP system allows real-time monitoring of operations, supporting data-driven decision-making and compliance with pharmaceutical regulations.

3. RESEARCH METHOD

This study adopts a qualitative descriptive approach with a case study method, aiming to explore the implementation of operational management strategies at PT Kalbe Farma Tbk. The qualitative approach is deemed appropriate for understanding complex business practices such as location strategy, supply chain integration, and process optimization in a real-world industrial setting. Rather than relying on numerical data, this research emphasizes narrative insights, thematic interpretation, and descriptive explanation to capture the depth of Kalbe Farma's operational management system.

The data collection technique employed in this research is document analysis, focusing on secondary sources. These include corporate reports, publicly available operational documents, financial disclosures, journal articles, news reports, and relevant literature that discuss Kalbe Farma's operational framework. Through this method, the researchers were able to identify patterns and strategies employed by the company in various domains such as site selection, layout planning, inventory control, and technological integration.

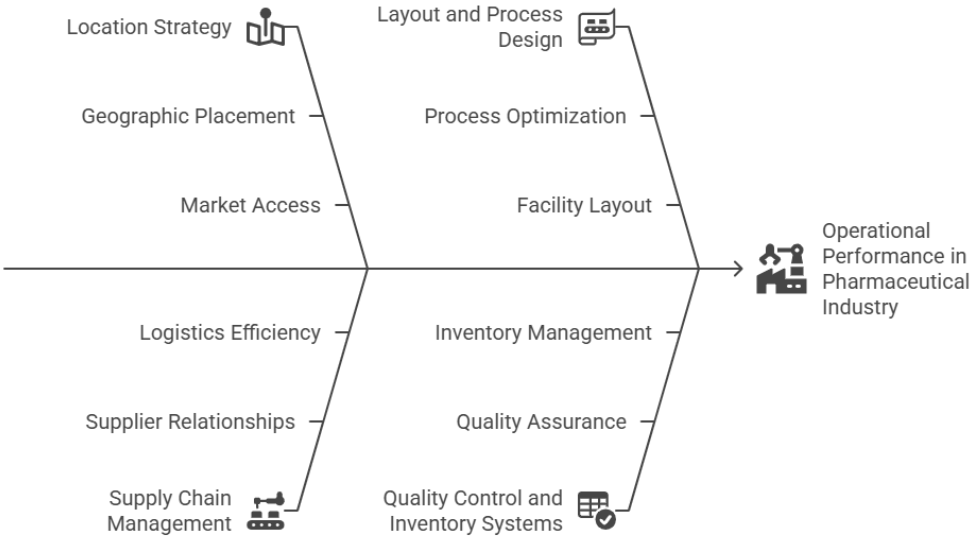

Figure 1. Operational Performance in Pharmaceutical Industry

Although qualitative in nature, this study adheres to academic rigor through triangulation of sources, where multiple data types (academic, industrial, and governmental) were compared to ensure consistency. The use of a single case allows for depth of analysis and contextual relevance. While generalization is not the primary aim, the findings offer transferable insights for companies operating in similarly complex supply chain environments.

4. RESULTS AND ANALYSIS

This section presents the results of the study along with an in-depth discussion of the implementation of operational management strategies at PT Kalbe Farma Tbk. The findings are categorized into four key areas aligned with the principles of operational excellence: location strategy, supply chain integration, human resource development, and technological adoption.

a. Strategic Location Implementation

PT Kalbe Farma Tbk has demonstrated a deliberate and methodical approach in selecting the locations for its manufacturing and distribution facilities. The company's main plants are located in industrial zones such as Pulogadung (East Jakarta) and Cikarang (Bekasi), both of which are in close proximity to major transportation infrastructures like toll roads, international seaports (Tanjung Priok), and airports (Soekarno-Hatta International Airport).

This location strategy is intended to reduce transportation costs, minimize lead time, and facilitate timely product distribution, especially to highly populated areas in western Indonesia. As shown in Figure 1, the geographic positioning of Kalbe Farma's facilities supports a hub-and-spoke logistics model that strengthens its supply chain responsiveness.

Figure 2. *Geographical Distribution of Kalbe Farma's Production and Distribution Facilities (Source: Kalbe Farma Annual Report 2023)*

Site selection was influenced by access to skilled labor and regulatory benefits offered by regional industrial estates, such as infrastructure support and tax incentives. The result is a streamlined logistical network that enables high production output and efficient nationwide distribution.

b. Supply Chain and Distribution Management

Kalbe Farma applies a vertically integrated supply chain management (SCM) approach that encompasses procurement, manufacturing, packaging, warehousing, and distribution. The company collaborates closely with raw material suppliers, especially for active pharmaceutical ingredients (APIs), and has implemented an Enterprise Resource Planning (ERP) system to ensure data synchronization across departments. Inventory is managed using a just-in-time (JIT) method for certain product lines to reduce holding costs and prevent obsolescence. In addition, Kalbe Farma uses a hub-and-spoke model for distribution, with major warehouses serving as central nodes that coordinate the dispatch of goods to regional distributors and retailers. The company's integrated information systems allow for real-time inventory visibility, demand forecasting, and route optimization, which are vital for the temperature-sensitive nature of pharmaceutical products.

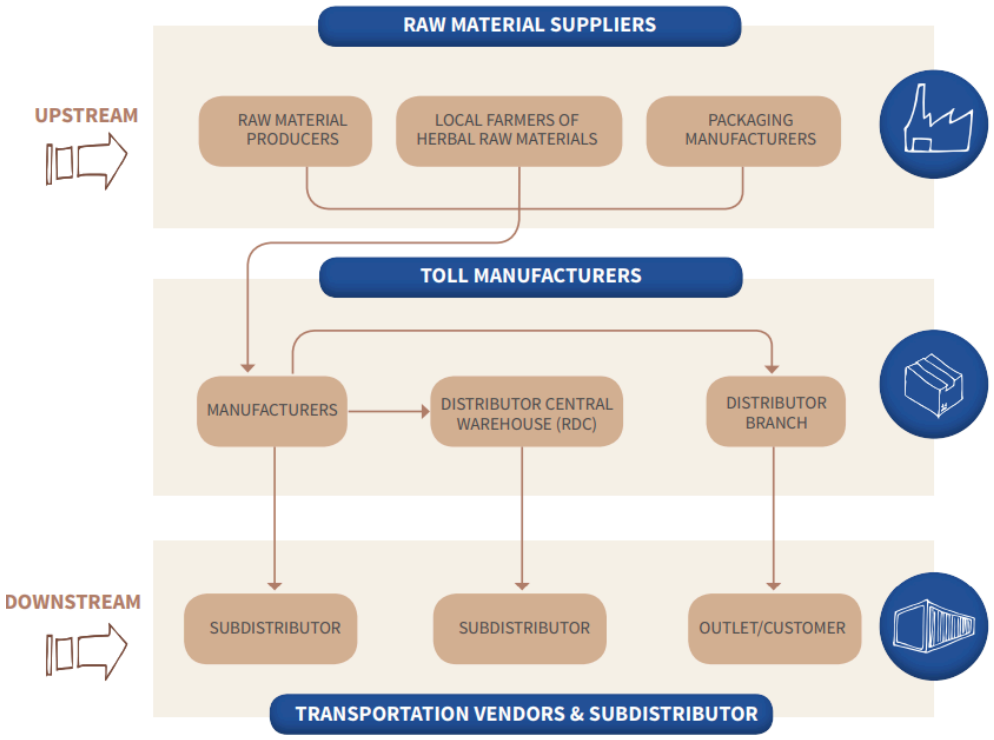

Figure 3. *integrated supply chain management*
(Source: Kalbe Farma Annual Report 2023)

c. Human Resource and Job Design Strategy

Human resources play a pivotal role in ensuring the consistent quality of pharmaceutical production. Kalbe Farma emphasizes structured job design, regular training programs, and standard operating procedures (SOPs) to align employee performance with Good Manufacturing Practice (GMP) regulations. Emphasized that operational success depends on aligning workforce capabilities with job complexity. Kalbe Farma applies a tiered job structure supported by performance monitoring tools and certification programs. This approach has helped reduce operational errors and improve compliance with national and international standards. Additionally, the implementation of 5R (Ringkas, Rapi, Resik, Rawat, Rajin) and continuous improvement programs enhances workplace discipline and process optimization.

d. Technological Integration in Operations

Kalbe Farma integrates technology across multiple levels of its operations. The company uses automated production lines for mass-manufactured products and digital quality control systems to reduce human error.

An example of the technological application in Kalbe's operation is the use of ERP to control production scheduling and materials planning. The adoption of such models supports lean manufacturing principles and facilitates data-driven decision-making. Kalbe also uses track-and-trace systems mandated by BPOM (Indonesia's FDA) for drug distribution monitoring, enhancing accountability and product integrity throughout the supply chain.

e. Challenges and Improvement Opportunities

Despite its strategic approach, Kalbe Farma still faces several challenges, including:

1) High land costs in industrial zones;
2) Traffic congestion affecting delivery timeliness;
3) Complex regulatory compliance due to global export destinations;
4) Market volatility affecting demand forecasting accuracy.

To address these, Kalbe Farma has begun decentralizing some operations to tier-2 cities, increasing warehouse automation, and investing in AI-based demand forecasting tools.

f. Discussion

The case of Kalbe Farma highlights the critical importance of aligning operational strategies with organizational goals in high-regulation sectors such as pharmaceuticals. Location and layout strategies directly impact logistics and service responsiveness. The use of digital tools ensures real-time visibility and transparency. Moreover, the human factor, through structured training and SOP adherence, remains essential to achieving quality standards. This research confirms that successful operational management results not only from technological investments but from the integration of people, processes, and place. These findings are consistent with the literature suggesting that lean operations, ERP systems, and SCM integration significantly influence firm performance in manufacturing industries

5. CONCLUSION

This study has critically analyzed the operational management practices of PT Kalbe Farma Tbk, focusing on location strategy, coordination of the supply chain, technology, and human resources development. As the largest agent in Indonesia's pharmaceutical industry, Kalbe Farma is an example of how operational excellence can drive both market competitiveness and sustainability. The findings suggest that Kalbe Farma's decision to locate its manufacturing and distribution facilities in industrial zones that are close to the transportation network has significantly improved logistics, reduced delivery time, and improved customer service. Because Kalbe Farma's supply chain is vertically integrated and has the ability to introduced technology (through ERP and automation), they can manage inventory in real time, forecast demand efficently, and distribute efficiently across the archipelago. Kalbe Farma also has systematic investment in talent and their commitment to following a systematic approach to job design has been shown to improve compliance with Good Manufacturing Practice (GMP) and reduce production variability. Kalbe Farma's investment in digital technologies ranging from ERP systems, automated systems in manufacturing, and track-and-trace sytems used by BPOM help create key elements of manufacturing success; product quality, tracebility, and

operational transparency. While these represent considerable advantages, Kalbe Farma has continuing difficulties with expensive land costs.

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