



The Integration of Workload Analysis, Role Clarity, and Lean Management on Operational Efficiency and Organizational Performance: A Study Case of PT Etana Biotechnologies Indonesia

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Abstract. This research examines how workload is perceived. How can defining job roles clearly and using simple HR techniques help PT Etana Biotechnologies Indonesia achieve better performance and results? By combining workload analysis, role definition, and human resource management, you can improve your company's operational efficiency and organizational efficiency. The study also examines the amount of assistance companies can receive. Increase productivity and achieve success. We talked to people and took a closer look at one company to find out how the work is divided. How clear is the public performance? We gather information by talking to key employees. Examine documents and note what is happening at the agency. The findings show that good human resource management, such as making sure everyone knows their job and is good enough to do it, actually helps employees get more work done. Improving company performance When HR teams use simple tools such as value stream mapping, kaizen, and incremental improvement methods, time is wasted and the business runs more smoothly.

Keywords: Workload Analysis, Role Clarity, Lean HR, Human Resource Management, Organizational Performance.

1 Introduction

In a highly competitive and regulated industrial environment, organizations need to continuously improve their operational performance while maintaining high levels of productivity and quality. As one of the new biopharmaceutical companies that focuses on mass production of high-quality products. Companies must improve operational efficiency and organizational efficiency. The approach used to achieve this goal includes workload analysis. Transparency and effective role management.

Workload analysis among employees is key component in operational efficiency and organizational performance. Each year, HR staff continuously improve workload analysis to prevent employee overload and job mismatches. In Addition, role clarity serves

as the important component that enables organizations to allocate tasks and responsibilities proportionally based on employees' capabilities. The Previous studies have demonstrated that well-defined roles and balanced workloads can improve employee performance, reduce inefficiencies, and improve overall organizational outcomes [1, 2]. However, another study states that role clarity cannot stand alone and requires other variables to reduce employee burnout and improve employee performance, while also strengthening organizational commitment and job satisfaction [3].

People Responsibility Another important point in creating HRM is managing people well so that the company can perform better [4-7]. Lean management, on the other hand, focuses on eliminating waste and finding ways to become better and more successful. It gets worse. Many people have talked about how HRM and Lean can work together. Various studies show that human resource management practices related to lean manufacturing principles such as lean manufacturing (LP), total quality management (TQM), just-in-time quality (JIT) and total production maintenance (TPM) can increase operational efficiency and increase organizational innovation. Lean HR practices also emphasize continuous improvement through methods such as Kaizen and Plan, Check, Act (PDCA) cycles. But it also encourages employees to identify inefficiencies and contribute to process improvements. Human Resource Management (HRM) works effectively and utilizes the concept of Lean Management more efficient.

On the other hand, depending on the corporate setting, industry traits, and environmental circumstances, Lean HR These ways might work, or they might no Using Lean ideas can be pretty tough for companies in fields like biotech and making medicines because there are so many rules complicated ways of making things, and a need for really good quality, companies have to be careful when using Lean methods to make sure they still follow all the industry rules [8].

Therefore, this research examines three key factors that are considered important for healthy and problem-free operations of PT Etana Biotechnologies Indonesia in a continuous improvement process. However, little research has focused on the HR practices and business resource requirements that facilitate lean work. This has nothing to do with using Lean in the workplace. These differences show how important it is to tailor your HR program to the type of company and industry in which it is used. Totechnology Indonesia was selected for this research study. This is because the company really pays attention to its products having the best quality. Employees have a lot to do and do meaningful work. Monitoring employee workload and implementing lean management can help PT Etana Biotechnologies Indonesia achieve better performance and results.

2 Literature Review

How well a business is managed determines how long the business can survive. Public Relations is closely related to the performance of your employees. How well a person does their job can be influenced by factors such as clarity and clarity of their job responsibilities. We hope that using lean management concepts along with the other two elements will help the office run more smoothly [4, 9, 10]. HR helps companies achieve

greater success by ensuring that employees are well organized and committed to achieving company goals. According to company information, the successful implementation of operational strategies such as lean management often depends on human resource practices and a supportive organizational culture. Likewise, research shows that human resource management strategies that focus on developing employee capabilities and measuring performance can significantly improve organizational performance. Several studies confirm that HR practices such as employee training, organizational commitment, and job satisfaction are directly related to employee performance. We found that organizational commitment and learning have a significant effect on work performance through job satisfaction. This is especially true in manufacturing environments. Most previous research shows that the use of simple principles in human resource management has a positive impact on organizational performance. According to this study, workload analysis and role description were included as additional variables.

Proper workload distribution allows organizations to optimize employee performance while preventing excessive workload or underutilization of human resources. The Job Demands–Resources (JD-R) model developed by [10] explains that job demands such as workload can influence employee performance and well-being, depending on the availability of adequate resources and support from the organization. Previous research in the *International Journal of Safety and Security Engineering* proposes a hybrid SEM-PLS and AHP framework for evidence-based decision-making in high-risk industries [11], approach emphasizes the importance of structured analysis in identifying critical factors and improving operational performance. However, several studies state that workload does not affect company performance if it is not balanced with good management. Workload has a greater influence on job satisfaction, which not all job satisfaction can run the company efficiently [12]. Other research also states that workload is only a mediator, not a key variable for company performance. In particular, lower levels of perfectionistic concerns were associated with a positive relationship between workload and workaholism, and lower levels of work engagement were related to a negative link between workaholism and job performance [13]. Based on these differences of opinion, this study attempts to combine workload analysis and role clarity balanced with the application of lean human resource management as key variables on company performance and operational efficiency.

In addition to workload analysis, role clarity is an essential factor that influences employee effectiveness. Role clarity refers to the degree to which employees understand their job responsibilities, authority, and expected performance within an organization [2]. When people know what their job is, they can do their work better and help the company reach its goals.

Lean management is a management philosophy that focuses on maximizing customer value while minimizing waste in an organization's operations [5-7, 14, 15]. This idea is from Toyota. Many other companies are now using this concept to provide better performance and stay ahead. Lean manufacturing practices often include methods such as lean manufacturing, Total Quality Management (TQM), Just-in-Time Maintenance (JIT) and Total Production Maintenance (TPM) aim to increase production efficiency and process efficiency. According to the company, human factors such as employee participation, management support, and organizational culture play an important role

in the successful implementation of lean manufacturing. He also noted that human resource management plays an important role in supporting the implementation of lean manufacturing by ensuring that employees have the necessary skills, training, and motivation to participate in continuous improvement initiatives. His research shows that when HR supports lean systems well, employee performance improves. It is easy for companies to respond to new technologies and changes. This approach helps organizations identify their weaknesses and continuously improve their operations. Various studies show that companies enable their employees to do more and also motivate them to develop. There are many opportunities to combine HRM and Lean, but factors such as industry type, company culture, and level of competition can influence performance. Biotechnology and pharmaceutical companies face many challenges in implementing lean production concepts. Because the regulations are strict and the manufacture of the product is complex, care must be taken to follow the rules.

Previous research on project-based organizations in Indonesia shows that individual job performance varies greatly. How clear is their role? How often do they work together? And how well they work together. In this research, these elements are integrated with lean management and value stream mapping (VSM) principles to achieve process efficiency in the biopharmaceutical sector. Research shows that organizational culture and leadership support have a significant influence on employee performance and the success of HR operations [15-18]. Likewise, he emphasizes that transforming HR practices into lean processes can significantly improve organizational efficiency and effectiveness. Additionally, organizations implementing Lean must ensure that their HR practices are aligned with technological developments and legal requirements. Advanced system integrations, training programs, and talent development can help improve your operations by empowering your employees. This company was founded.

2.1 Research Gap

PT Etana Biotechnologies Indonesia, as a company that is closely related to employee performance in carrying out its operational activities, requires integration of workload analysis and appropriate role definition to improve performance. Although many previous studies have examined the relationship between lean implementation and human resource management with role descriptions or workload analysis, no research has yet looked at these three variables simultaneously in a comprehensive study. In this study, we tested these three scenarios to see how they work in a company with complex regulations like PT Etana Biotechnologies Indonesia.

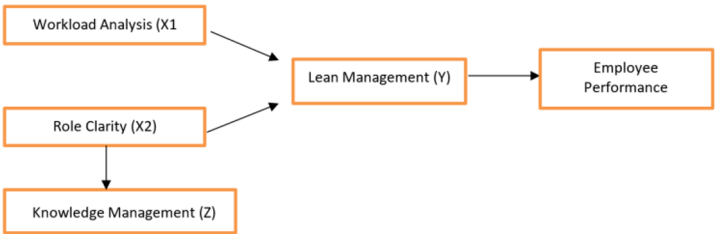


Fig. 1. Conceptual model.

3 Methodology

This study employs a qualitative case study approach to examine the integration of workload analysis, role clarity, and Lean HR practices in the context of PT Etana Biotechnologies Indonesia. The case study approach was chosen because it allows for in-depth exploration of organizational processes and HR practices implemented in real-life settings. This method is considered appropriate for discussing how human resource management practices interact with Lean management principles to enhance operational efficiency and employee performance. The study focuses on analyzing how workload distribution, role clarity, and Lean HR practices are applied within the organization and how these practices contribute to improving operational effectiveness. The study was conducted at PT Etana Biotechnologies Indonesia a company operating in the biotechnology and biopharmaceutical industry. This sector is characterized by strict regulatory requirements, complex production processes, and high product quality standards. The research starts from March to November 2025 with 20–25 employees as respondents.

A number of qualitative data collection methods were used to collect research data to provide a comprehensive understanding of organizational performance in human resource management and lean manufacturing practices. The first method is an interview. This research uses semi-structured interviews with several key informants who occupy senior positions in the company. Relevant examples include an operations manager, an HR manager, and 10 to 15 related employees. The purpose of the interview is to determine employees' understanding of the distribution of workload. Defining roles and implementing agile management practices in their work.

In addition to interviews, there is also an analysis of company documents such as job descriptions, organizational structures, workload reports, and internal regulations that are followed by all employees. This document analysis is conducted to clearly understand the roles and responsibilities of employees so that they can be properly managed by the company. The next research method is field observation. This method is used to monitor the operational activities and work of employees while lean management principles are applied. After all the data is collected, research data analysis is conducted which requires several stages such as data reduction that identifies relevant information related to workload analysis, role clarity, and lean management. Then, there is data classification which aims to group the relationships between variables. Next is interpretation, which analyzes the relationships and impacts of the trial implementation of lean management on the company's efficiency. The analytical tool used in this study is value stream mapping (VSM), which identifies potential improvements in the inefficiency of the how the company does things day. This way, HR can look at how work gets done and see what works best for the company. To make sure the research results could be trusted, the study used information from interviews, watching what happened, and looking at documents. This way of checking things from different sources helps make sure the results are more accurate and trustworthy. Also, the results were double-checked by asking some of the people who took part to look them over. the opportunity to verify the accuracy of the interpretations derived from the collected data to day.

4 Results

The results of this research data show that there is a strong relationship between workload analysis and role clarity with the implementation of lean management on HR management at PT Etana. This is in accordance with previous research which explains that these variables are part of fundamental theories and methods that can relevantly improve company performance, operational efficiency, and productivity through effective HR management [19, 20]. Although some studies focus more on the Job Demands-Resources model and HR training, which show no less big impact, the use of lean management included in this research variable shows an integration between HR management and lean management that is mutually reinforcing.

Considering the relationship between lean management practices and company performance, PT Etana implements and manages role transparency and workload distribution [21, 22]. This has a direct impact on operational efficiency and effectiveness and is demonstrated through workload analysis models and value stream map (VSM) analysis. Previous research shows that the use of good human resource practices combined with lean manufacturing techniques, such as lean manufacturing, total quality management, and total continuous maintenance of production, can help companies improve business performance and generate new ideas, according to another research. PT Etana combines clear workload assessment and allocation as well as lean management to reduce waste and increase efficiency.

This study shows that combining HR and lean practices can provide additional benefits. Lean HR is not just an HR practice, especially in everyday business. He also uses things like Kaizen and Plan-do-Check-Act (PDCA) to find ways to do things. Always getting better and faster. Specifically regarding how to work and get things done, another article explains how to implement Lean Human Resources and Lean Management in the PT Etana work environment as well as PT Etana's corporate culture so that the Lean concept can run effectively in the company.

Research shows that good human resource management is critical. This is especially true when serving the needs of the biopharmaceutical and biotechnology industries. Aetna must apply simple principles to the way people work together in the pharmaceutical industry. It is characterized by strict regulatory requirements and complex operating procedures. The results show how effective PT Etana's HR processes are. This may indicate that PT Etana is very important in implementing lean management. It depends on factors such as company size. Environmental sustainability and corporate structure.

Tubre & Collins (2000) examined the relationship between role ambiguity, work-related stress, and employee performance, establishing a theoretical foundation for understanding how unclear role delineation within modern organizations, including Etana, may lead to diminished productivity and reduced employee well-being [20]. Their work substantiates the argument that the gap between formal job descriptions and actual work practices at Etana constitutes a critical organizational issue warranting systematic intervention through a Lean management approach. However, the study is primarily confined to individual psychological dimensions and does not address the specific context of the Indonesian biopharmaceutical industry, nor does it integrate Lean Management frameworks. Future research is recommended to investigate the extent to which role

clarity influences performance across individual divisions, with findings subsequently linked to Lean indicators such as waste, lead time, and error rates.

Bakker & Demerouti (2017) introduced the Job Demands–Resources (JD–R) framework, which posits that the balance between job demands and available job resources significantly influences employee burnout, engagement, and overall performance [1]. Within the context of the Etana study, this framework is employed to conceptualize workload as a primary job demand, while role clarity and supervisory support are classified as essential job resources. The model's principal contribution lies in providing a conceptual structure for designing Lean HR interventions, demonstrating that excessive workload unaccompanied by adequate resources inevitably leads to burnout, thereby reinforcing the strategic importance of process redesign and work standardization. Nevertheless, the generalized nature of the JD–R model necessitates contextual adaptation to Etana's operating environment, particularly with respect to pharmaceutical regulations and Indonesian organizational culture, and the model does not offer direct technical guidance for process mapping methodologies such as Value Stream Mapping (VSM). Subsequent research may seek to measure job demands and resources within Etana and examine their relationship with burnout and performance outcomes, which could serve as the empirical basis for prioritizing Kaizen initiatives in high-risk operational areas.

Bonavia & Marín-García (2011) underscored the pivotal role of Human Resources (HR) as the primary enabler of successful Lean implementation, emphasizing that job design, employee training, performance evaluation systems, and workforce participation are determinative factors in Lean outcomes [19]. In the present study, this perspective is used to position Etana's HR function as the principal driver of Lean HR transformation through the revision of job descriptions, the institutionalization of Kaizen initiatives, and systematic workload improvement. The study offers academic justification for treating Workload Analysis and Job Clarity not as purely administrative functions, but as strategic levers within a broader Lean Management framework. A notable limitation, however, is that the original research was conducted predominantly within general manufacturing contexts and does not directly address the regulatory complexities of the biopharmaceutical sector or the cultural and structural nuances of Indonesian organizations. Future research at Etana could examine the relationship between Lean HR practices and operational and quality key performance indicators (KPIs), as well as the role of HR as a change agent in cross-functional Lean transformation.

The Lean Enterprise Institute presented standardized work, waste elimination, and core Lean principles as actionable operational guidelines [4]. Within the Etana study, this reference serves to articulate how the misalignment between formal job descriptions and daily operational activities generates forms of waste — including overprocessing, unnecessary waiting, and excessive motion — all of which necessitate standardization through Lean methodologies. Its primary contribution is the provision of practical tools and terminology, including Kaizen, PDCA cycles, and standardized work protocols, which can be directly incorporated into the design of a future-state workflow at Etana, thereby bridging the gap between academic theory and applied practice. A recognized limitation is that LEI materials are largely prescriptive in nature and do not consistently provide empirically verifiable evidence within the specific context

of Etana, thus requiring careful adaptation to the stringent regulatory requirements of the pharmaceutical industry. Future research endeavors may focus on measuring the impact of standardized work implementation on HR and operational process lead times, as well as conducting before-and-after studies grounded in VSM to assess the degree of waste reduction following Kaizen and PDCA deployment.

Nurheman & Octavia (2019) reviewed the application of Value Stream Mapping (VSM) as a methodological tool for mapping current-state versus future-state processes and for systematically identifying value-added and non-value-added activities [21]. In the context of the Etana study, VSM is employed as the principal analytical instrument for examining administrative workflows. The study's foremost contribution is the provision of a structured technical methodology — progressing from Workload Analysis data, through VSM process mapping, to the identification of workload imbalances and waste points, culminating in the design of a more Lean future state — thereby ensuring that proposed interventions at Etana are grounded in rigorous process analysis rather than subjective judgment. A key limitation is that the original study was conducted within a specific industrial setting, and its application to Etana requires substantial adaptation to accommodate the complexity of biopharmaceutical processes, including multi-layered approval systems and rigorous documentation standards. For future research, it is recommended that VSM be applied across a broader range of Etana's processes — spanning HR, Production, Quality Control, and Logistics — and that it be integrated with Fishbone Analysis and the 5 Whys methodology to ensure that root causes are comprehensively identified and addressed, alongside quantitative measurement of time and cost efficiencies achieved.

5 Conclusion and Recommendation

After looking at the eight articles and how they fit with PT Etana, we can say a few Etana can improve operational efficiency and employee performance. Things like the type of business, the company's culture, and how much competition there is all have a big impact on how well HRM and Lean Management work at PT Etana. Considered when designing and implementing HRM practices that are more adaptive to the situation of PT Etana, which operates in a highly regulated and changing industry. things: Using good HR practices along with Lean methods really makes sense for PT Etana.

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