

# The Perception of Lean Management Practices on Organizational Performance

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## Abstract

Lean means creating more value for the customer with fewer resources by minimizing waste. Although this concept is applied in manufacturing, the principles of lean management improvement can also be applied in higher education institutions. This paper examines the impact of lean management practices on the organizational performance of Universiti Utara Malaysia (UUM). The underlying assumption is that lean management practices can be perceived and have a significant impact on the organizational performance of UUM. In this study, an online questionnaire was used to collect data at UUM. The results of this study indicate that waste elimination, leadership support, and student value have a significant impact on organizational performance. The study concludes that lean management practices that can be implemented at UUM could have a positive impact on organizational performance.

**Keywords:** Lean Management, Waste Elimination, Organizational Performance, Universiti Utara Malaysia

## Introduction

Lean management, or simply “lean,” is a method of promoting continuous improvement of a company’s processes and products by eliminating waste and maximizing customer value (Klein, Vieira, Marçal, & Pereira, 2023). According to Hadid and Mansouri (2014), lean management also focuses on removing non-value-added tasks from processes by using a range of performance tools and emphasizing excellence in operations to deliver better services. However, lean management initiatives also exist in other sectors such as construction (Li, Fang, & Wu, 2020), the public sector (Rodgers, Antony, Edgeman, & Cudney, 2021), education (Cudney, Venuthurumilli, Materla, & Antony, 2020), and higher education institutions (Francis, 2014; Antony, Krishan, Cullen, & Kumar, 2012; Gomez, & Moyano-

Fuentes, 2022). Although there are numerous successful lean implementations, as noted by Simonyte, Adomaitiene, and Ruzele (2022), the application and awareness of lean management practices are not yet widespread in the latter. According to Petrusch, Vaccaro, and Luchese (2019), organizational change based on the principles of this philosophy has not been a focus in the implementation of lean management practices.

Nevertheless, it is possible to apply and efficiently utilize the practices of lean management in administration if the unique characteristics of these institutions are considered (Klein, De Guimaraes, Severo, Dorion, & Schirmer Feltrin, 2021). For example, the elimination of waste and continuous improvement (Fagnani & Guimaraes, 2017). In addition, leadership support also addresses the target audience, students and/or the academic community (Douglas, Antony, & Douglas, 2015; Lu, Laux, & Antony, 2017). Thus, all these lean management practices can be implemented in the administration of UUM.

This paper is organized as follows. The literature review provides an overview of lean management practices and organizational performance, while the proposed conceptual framework is described in the methodology. Finally, the conclusions based on this study.

## **Literature Review**

### *Organizational Performance*

Hadid and Mansouri (2014) have developed a theoretical model that is very closely related to their current work. In it, they identified and characterized the lean components of services and determined their impact on firm performance, as cited in Klein et al. (2022). Financial performance measures can be objective indicators of organizational performance (Zhu & Lin, 2017). In contrast, non-financial indicators and/or survey instruments are often used to assess performance in internal organizational contexts. These tools consider a variety of factors, including quality, cost reduction, flexibility and responsiveness (Bevilacqua, Ciarapica, & De Sanctis, 2017; Wickramasinghe & Wickramasinghe, 2017). According to Fullerton, Kennedy, and Widener (2014), these measures often calculate an overall performance indicator using different types of Likert scales.

### *Lean Management Practices in HEIs*

Although managers in the service industry still believe that lean concepts only apply to manufacturing companies, universities have adopted lean principles to improve their operations (Kazancoglu & Ozkan-Ozen, 2018). Before implementing lean concepts, HEIs need to identify their values and operations in accordance with their context and procedures. Lean principles are very helpful for the administrative and academic operations of HEIs as they help to eliminate waste, increase stakeholder satisfaction and enable continuous improvement of procedures.

## **Hypothesis Development**

### *Hypothesis 1: Waste Elimination has a Significant Impact on Organizational Performance*

According to Klein et al. (2022), waste is primarily that which uses resources for activities but does not represent value for the user, and as such is closely linked to the definition of value for the user (Ohno, 1988). In the UUM scenario, management needs to consider a range of waste types as potential areas of investigation and disposal options. According to Kang and Manyonge (2014), the main goal of lean is to remove steps from processes and procedures

that do not add value to students or staff, rather than creating waste through things such as redundant information, unclear procedures, multiple approvals, overlapping course modules, pending decisions, and data entry errors. Identifying waste and inefficiencies helps the organization function better and improve performance (Fiorillo, Sorrentino, A., Scala, Abbate, & Dell'aversana Orabona, 2021). Therefore, eliminating waste has a significant impact on organizational performance.

*Hypothesis 2: Continuous Improvement has a Significant Impact on Organizational Performance*

Lean management practices must address continuous improvement as they promote the identification and elimination of waste (O'Reilly, Healy, & O'Dubhghaill, 2018). According to Wiegel (2019), the concept of lean education should be a management tactic that emphasizes waste reduction and continuous improvement. According to Aka, Isah, Eze, and Timileyin (2019), continuous improvement can be thought of as people making small, ongoing improvements to their daily routines that add up to more significant incremental improvement transformations. Therefore, increasing organizational performance is possible through continuous improvement (Maldonado, Leusin, Bernardes, & Vaz, 2020). Therefore, continuous improvement is important for lean management practices to improve organizational performance.

*Hypothesis 3: Leadership Support has a Significant Impact on Organizational Performance*

According to Klein et al. (2022), strong leadership support is a must for any lean management practice. This support can be viewed as leadership commitment to implementing and promoting lean practices (Balzer, Brodke, & Kizhakethalackal, 2015; Sfakianaki & Kakouris, 2019; Seidel, Saurin, Marodin, & Ribeiro, 2017). To achieve this, leadership increases student satisfaction (Kruja, Ha, & Tabaku, 2021), supports and recognizes employees' contributions (Allaoui & Benmoussa, 2020), and works to improve employees' work, interpersonal, and communication styles (Lu et al., 2017). Better and more reliable working conditions are promoted by these leadership behaviors and actions (Ko, Ma, Bartnik, Haney, & Kang, 2018), which is an indicator of organizational performance (Sahibzada, Xu, Afshan, & Khalid, 2021). Therefore, leadership support can improve organizational performance.

*Hypothesis 4: Student Value has a Significant Impact on Organizational Performance*

Student value is considered one of the essential elements of lean management practices in higher education institutions to increase the value of services to end users (LeMahieu, Nordstrum, & Greco, 2017; Balzer, 2020). According to Sfakianaki and Kakouris (2019), students are the most important "customers" of education. With this in mind, Balzer (2020) created a list of different processes or variables to consider when improving student services, including the admissions process, college residence halls, classroom design, student orientation, and course design. The teaching process is described in detail by Emiliani (2015). The author argues that it must be organized and conducted in a way that improves student performance. Therefore, the value of students has a significant impact on organizational performance.

### **Research Methodology**

This study uses a quantitative research approach. A questionnaire was distributed to respondents through an online platform using Google Forms to collect primary data. UUM

students and staff were selected as respondents for this study. Cohen (1992) was used as a reference to measure the number of sample sizes. 118 questionnaires were collected for the study. Structured questionnaires were designed and distributed which consisted of three sections namely Section A (General Information), Section B (The Perception of Lean Management Practices on Organizational Performance) and Section C (Organizational Performance in Universiti Utara Malaysia). For data analysis, multiple regression analysis was used in this study to examine the relationship between these variables (waste elimination, continuous improvement, leadership support, and student value) and organizational performance.

### A Proposed Conceptual Framework

Based on the presented dimensions of lean management practices, the conceptual research model to be tested in this study is presented in Figure 1. All these practices are applicable to lean management initiatives in College Utara Malaysia. The independent variables of this study are the lean management practices (waste elimination, continuous improvement, leadership support, and student value). The dependent variable is organizational performance.

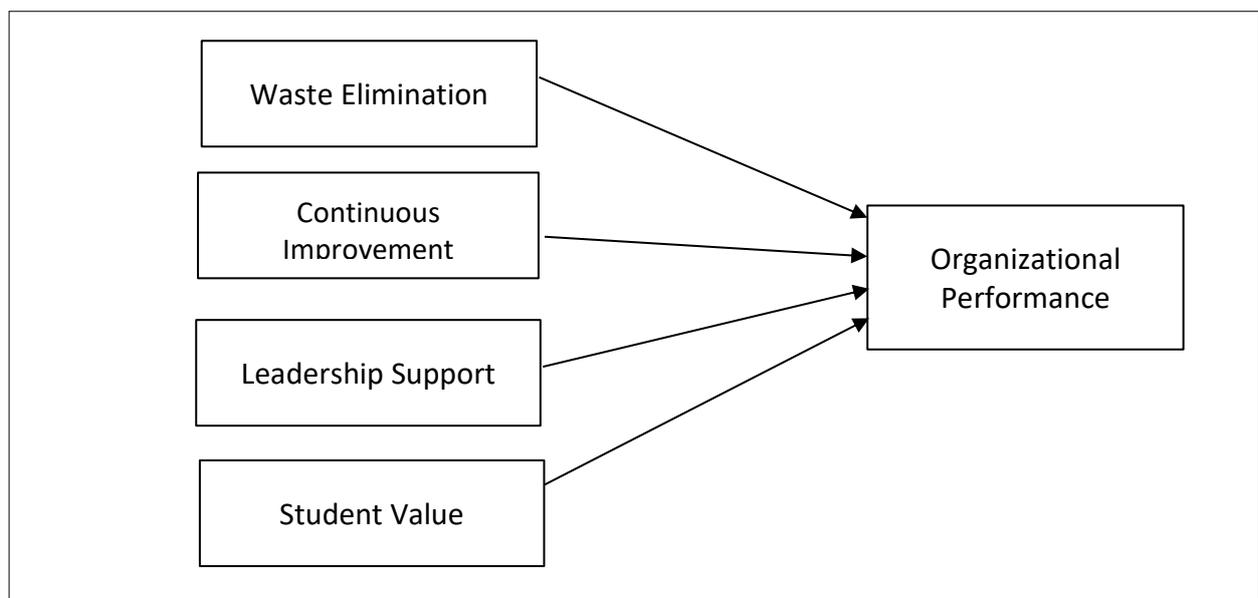


Figure 1. The Proposed Conceptual Framework

### Conclusions

In conclusion, there is a significant influence between lean management practices and organizational performance at Universiti Utara Malaysia (UUM). The implementation of lean management practices should be carried out as the practices are interrelated. Furthermore, this study provides clear evidence of the importance of eliminating waste, leadership support, and student value in improving the performance of UUM. One limitation of the study was that the four dimensions of lean management practices were used to examine the respondents' perceptions of their impact on organizational performance. From the researcher's perspective, future research could consider other lean management practices to examine the relationship between lean management practices and organizational performance, such as 5S. 5S is a cyclical method: sort, fix, shine, standardize, and sustain the cycle. In addition, the

scope of this study was limited as the researchers did not have complete control over the respondents as the data collection was conducted online. Another limitation is the use of a sample of UUM students, which may not be representative of the overall population. Future research should aim to improve the understanding of the relationship between organizational performance and continuous improvement, which was not found to be significant in the model tested in this study.

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