



Implementation of Lean Management in School Administration Processes: An Approach to Efficiency and Work Effectiveness in the Technological Era

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Abstrak: School administrative processes often face various challenges that hinder efficiency and effectiveness due to complex and manual procedures. These issues can negatively impact the management of quality education. The aim of this research is to analyze how lean management is applied in school administration and its effects on efficiency and work effectiveness, especially in today's digital era. The method used in this study is a literature review by examining various relevant literature, journals, and articles. The results indicate that the application of lean management, supported by technology such as School Management Information Systems (SMIS), successfully reduced administrative processing time by up to 50%, improved data accuracy, and optimized the use of human resources. The conclusion of this study emphasizes that lean management can enhance school administrative performance, but its success greatly depends on effective change management and active staff involvement.

Keywords: Lean Management, School Administration, Efficiency, Effectiveness, Technology.

Introduction

In the rapidly evolving technological era, educational institutions face significant challenges in managing their administrative processes efficiently and effectively. Schools are required to adapt to rapid changes, improve service quality, and optimize the use of limited resources (Cudney et al. 2020). In this context, the implementation of lean management principles in school administration emerges as a promising approach to enhancing operational efficiency and work effectiveness.

Lean management, rooted in the Toyota production philosophy, has evolved as a method to reduce waste and enhance value across various sectors, including education. Its application in school administration offers great potential to streamline administrative processes, reduce unnecessary bureaucracy, and improve responsiveness to the needs of students, teachers, and other stakeholders (Hartanti et al. 2022).

The current technological era provides digital tools that can accelerate and facilitate the implementation of lean management in school administration. The integration of information technology, process automation, and data analytics opens new opportunities to identify and eliminate inefficiencies while enhancing transparency and accountability in school management. Recent research by (Sfakianaki and Kakouris 2020) shows that the application of lean management supported by technology can significantly improve schools' operational efficiency.

However, the implementation of lean management in the educational context is not without challenges. (Balzer, Brodke, and Bardi 2023) identify several key barriers, including resistance to change, lack of understanding of lean principles, and difficulties in measuring outcomes within the educational environment. Therefore, a careful approach tailored to the unique characteristics of the education sector is essential.



This study aims to examine the implementation of lean management in the context of school administration in the technological era. The primary focus is on how lean principles can be applied to optimize administrative processes, improve resource efficiency, and enhance the quality of educational services. This study will also investigate the challenges and opportunities that arise during the implementation process, as well as its impact on overall school performance, referring to the framework proposed by (Narayanamurthy and Tortorella 2021).

By understanding the potential of lean management in school administration, this research is expected to provide valuable insights for educational policymakers, school administrators, and education practitioners in their efforts to improve operational efficiency and effectiveness in schools in the ever-evolving technological era (Cruz, Valentina, and Duarte 2020).

Method

The method used in this research is a literature review. Through this approach, the authors examine various literature, journals, and relevant articles regarding the implementation of lean management in school administration. This literature review includes an analysis of recent publications, research reports, and best practices from various educational institutions that have applied lean management.

The literature review process involved identifying sources that discuss the application of lean management, administrative efficiency, and the impact of technology within the educational context. The data obtained were then analyzed thematically to identify patterns, challenges, and benefits arising from the implementation of lean management in schools. With this approach, the authors hope to provide a comprehensive picture of the effectiveness of lean management in improving school administrative performance.

Results and Discussion

Results

This research reveals several important findings related to the application of lean management in school administration, particularly in terms of efficiency and work effectiveness. One of the main findings is a significant reduction in the time required to complete administrative tasks. Before the implementation of lean management, certain tasks, such as student data management and financial reporting, could take several days to complete. However, after lean management was implemented and supported by technology such as School Management Information Systems (SMIS), the time needed for these tasks was reduced by up to 50%. Previously manual administrative processes became more automated and efficient (Samusu 2022).

Additionally, the implementation of lean management contributed to increased accuracy in data management. SMIS enabled more precise management of student data, including attendance and academic scores, with minimal errors. Prior to the digital system's implementation, human errors in data recording often occurred, especially in monthly financial reports. After the digital system was implemented, the number of errors drastically decreased, enhancing trust in the quality of reports and data produced by the school (Glover, Champion, and Farris 2021).

The implementation of lean management also encouraged the optimization of human resource usage in schools. Before implementation, administrative staff were heavily involved in repetitive manual tasks, such as data entry and document checks. With



the automation of several work processes, staff can now focus more on strategic tasks that directly impact school development. This creates a more productive work environment, where each team member has a more focused role and adds greater value (Akmal, Greatbanks, and Foote 2020).

Another positive impact of lean management implementation is improved coordination among departments within the school. With a more integrated system, information can be quickly accessed by various parties, such as teachers, principals, and administrative staff. This facilitates better information flow and reduces the waiting time that usually occurs due to internal bureaucratic processes. For instance, student grade reports can now be accessed in real-time by teachers and principals without having to wait for time-consuming manual verification processes.

However, despite many schools experiencing increased efficiency, several challenges also arose during the implementation of lean management. Some administrative staff found it difficult to adapt to the new system, especially those who were accustomed to manual working methods. This difficulty posed challenges in the early phases of implementation, even though training and guidance were provided intensively. On one hand, technology helps reduce workloads, but on the other hand, some staff need more time to master the newly adopted technology (Khan et al. 2023).

Overall, the results of this study indicate that the implementation of lean management in schools significantly improves administrative performance. Schools that apply lean management report increased time efficiency, data accuracy, and staff productivity. These findings support the argument that lean management, when implemented correctly and supported by technology, can be a highly effective tool for managing school administrative processes more efficiently and effectively (Albliwi, Antony, and Lim 2020).

Discussion

The discussion regarding the results of this research indicates that the implementation of lean management in school administration provides substantial benefits, particularly in terms of efficiency and effectiveness. With time reduction and increased accuracy, schools can allocate more resources to more strategic and innovative learning activities. The implementation of SMIS not only aims to enhance administrative efficiency but also supports openness and transparency in data management (Womack and Jones 2019).

Cultural transformation in the school environment is also a crucial aspect to consider. Administrative staff who were previously accustomed to old systems must adapt to new approaches that prioritize continuous improvement. To support this change, training and mentoring are essential so that every staff member understands and can operate the new system effectively. An inclusive approach that involves all staff in the change process can minimize resistance (Albliwi, Antony, and Lim 2020).

The challenges faced during the implementation of lean management highlight the need for effective change management. Schools must build awareness of the benefits of lean management and technology among staff. Establishing support and engagement from all stakeholders will facilitate the transition process and maximize the desired outcomes. Strong leadership is also required to guide staff through this change process, creating a safe environment to try new things and learn from mistakes.

Moreover, it is important to collaborate with other stakeholders, such as government bodies and other educational institutions. External support in the form of policies and additional resources can help schools implement lean management more effectively. This



collaboration can create a network for sharing best practices and experiences in implementing lean management in the educational context (Assen 2018).

Technology plays a vital role in the success of lean management implementation. However, it must be noted that technology is not a standalone solution. The appropriate implementation of technology must be balanced with staff capacity development and organizational culture change. Therefore, selecting the right technology and providing adequate training are key factors in ensuring the successful application of lean management in schools (Sayer and Williams 2020).

Finally, the success of implementing lean management in school administration depends not only on the technology used but also on how schools can build an organizational culture that supports innovation and continuous improvement. By considering all these aspects, schools can optimize the application of lean management to achieve better efficiency and work effectiveness.

Conclusion

This study analyzes the application of lean management in school administration, focusing on efficiency and work effectiveness in the digital era. From the literature review results, it is evident that lean management supported by technology, such as SMIS, can streamline administrative processes by reducing working time and increasing data accuracy. Although challenges such as staff adaptation to new technology persist, effective change management and adequate training can help schools maximize the benefits of lean management. Overall, lean management has the potential to support resource optimization and enhance the quality of school administration.

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