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LEAN ACCOUNTING TO REDUCE LEAD TIME IN THE EXPENDITURE CYCLE

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Abstract

This study analyzes the causes of long payment lead times in the Accounts Payable (AP) process at PT XYZ, an oil distribution company, and suggests improvements based on Lean Accounting principles. The company's vendor payment lead time target is 5 working days, but actual lead times range from 8 to 11.25 days, with only 44–63% of the target achieved. Key issues identified include redundant verification steps, delays in three-way matching (PO, GR, and invoices), and the reliance on physical documents that cause waiting and transportation waste. The process also faces delays due to approval queues, repetitive checks, and document errors requiring rework. Data was collected through interviews with key personnel, field observations, and document analysis. The root cause analysis revealed that the current process is based on a traditional accounting model, focusing on control through multiple manual checks instead of prevention and automation. The proposed Lean Accounting-based improvements include: (1) simplifying verification to a single control point with ERP system support, (2) reducing approval levels from six to three, with spot checks for supervisors, (3) adopting accounting by exception for high-value transactions and new vendors, (4) streamlining document processing to avoid batch waiting, (5) digitizing the process with a vendor portal, and (6) improving error prevention early in the process to reduce rework.

Keywords: Lean Accounting, Account Payable, Lead Time

INTRODUCTION

The focus of this research is on Lean Accounting and its role in improving the efficiency of the Accounts Payable (AP) process at PT XYZ, a company in the energy distribution sector. With an annual volume of transactions and a complex operational structure, PT XYZ faces significant delays in vendor payment processing. These delays, ranging from 8 to 11 days, are far beyond the company's established KPI of 5 working days. This issue is critical as it directly affects cash flow, vendor relations, and operational efficiency. The need for a more efficient payment process is pressing, given the strategic importance of PT XYZ in the energy sector and its commitment to maintaining high standards of service delivery. Lean Accounting offers a promising solution by reducing waste, streamlining processes, and enhancing decision-making through real-time financial insights.

This paper aims to explore the root causes of these delays, identify the waste within the AP process, and propose improvements using Lean Accounting principles. PT XYZ's challenges are compounded by multiple layers of verification, redundant checks, and an over-reliance on manual processes, all of which create significant bottlenecks. The main objective of this research is to redesign the AP process to reduce lead time, improve control, and increase overall efficiency.

This study contributes to the growing body of knowledge on Lean Accounting, particularly in the context of energy sector companies. It also provides practical recommendations for companies looking to adopt Lean Accounting to address inefficiencies in their financial operations. The findings of this research will not only enhance PT XYZ's AP process but also offer valuable insights for other businesses in the industry seeking similar improvements.

REVIEW OF LITERATURE

Lean Accounting, a specialized approach within Lean Management, focuses on simplifying accounting processes and eliminating waste. According to Womack & Jones (1996), Lean principles can significantly reduce operational inefficiencies, especially in administrative processes such as Accounts Payable. Several studies have demonstrated that Lean Accounting can streamline financial reporting, improve data accuracy, and reduce the time required for decision-making (Kennedy & Brewer, 2009; Yousef & Elrahman Atef, 2015). By eliminating unnecessary steps and automating routine tasks, Lean Accounting reduces lead times and enhances operational flexibility.

The application of Lean Accounting to the Accounts Payable process is particularly beneficial in sectors where the volume of transactions is high and the complexity of the verification process is a significant challenge. Romney et al. (2024) emphasize that the process of verifying invoices and matching them with purchase orders and goods receipts, often referred to as the "three-way match," is a critical stage in the AP process. However, delays and errors in this stage can lead to significant inefficiencies and increased operational costs.

In PT XYZ's case, the AP process has been identified as a bottleneck due to the reliance on manual verification and the multiple layers of approval. The inefficiency of these traditional methods has been documented in studies by Heizer et al. (2017), which show that manual processes and redundant checks in AP often lead to extended lead times.

Furthermore, the research by Ool (2019) highlights that ineffective coordination between departments, compounded by administrative inefficiencies, exacerbates delays in payment processing.

To address these issues, Lean Accounting proposes a streamlined approach that integrates systems and reduces manual intervention. According to Cesaroni & Sentuti (2014), implementing Lean Accounting involves automating routine tasks, improving process flow, and focusing on continuous improvement. These practices have been shown to significantly reduce errors and processing times. Additionally, the integration of Value Stream Mapping (VSM) with Lean Accounting provides a comprehensive method for visualizing and eliminating waste in the process flow (Yousef & Elrahman Atef, 2015).

While Lean Accounting has proven effective in various industries, its application in the energy sector is still relatively novel. This research extends the findings of Ditkaew (2022), who notes that the energy sector's unique operational characteristics—such as high transaction volumes and complex supply chains—require tailored solutions. PT XYZ's ongoing digital transformation and the implementation of a new ERP system present an opportunity to apply Lean Accounting principles effectively. However, as highlighted by Kennedy & Brewer (2016), the success of Lean Accounting is contingent upon strong managerial support, staff training, and the alignment of organizational culture with Lean principles.

RESEARCH METHOD

This study employs a qualitative approach with a single case study of PT XYZ. Data collection was carried out through semi-structured interviews with key stakeholders, including Accounting Officers, Accounting Supervisors, Procurement Officers, and Tax Officers. These interviews provided valuable insights into the challenges faced by the AP team and the inefficiencies within the existing process. Additionally, direct observation of the AP workflow and analysis of internal documents such as SOPs, flowcharts, and historical data were conducted to gain a comprehensive understanding of the current state of the AP process.

Root cause analysis was performed using the 5 Why's method, which helped identify the underlying causes of delays and inefficiencies in the AP process. This method allowed the researcher to trace the issues back to fundamental problems, such as redundant verification layers, manual processes, and a lack of integration between systems. The findings from the interviews and observations were further analyzed through the lens of Lean Accounting to design process improvements.

To ensure the reliability of the results, data triangulation was employed, combining multiple data sources and perspectives to validate the findings. The research also integrated the concept of Q Control to analyze the variability in lead time and to assess the impact of proposed process improvements.

RESULTS AND DISCUSSION

The study revealed that PT XYZ's AP process suffers from significant delays due to several key factors. First, the process involves multiple layers of verification, with each level performing redundant checks on the same data. This manual checking system not only slows down the process but also increases the likelihood of errors and miscommunication between

departments. The inefficiency of this system is compounded by the reliance on physical documents, which creates additional waiting time and delays.

Another significant issue identified is the three-way matching process. Discrepancies between Purchase Orders, Goods Receipts, and Invoices often lead to delays, as the verification process is not automated and requires manual intervention. Additionally, the lack of a centralized control point for document verification creates bottlenecks, with multiple departments reviewing the same documents at different stages.

Lean Accounting principles suggest several improvements to streamline the AP process. The proposed process redesign includes simplifying verification into a single control point at the Accounting Officer level, with automated pre-matching support in the ERP system. This change would reduce the need for multiple checks and minimize waiting time. The study also recommends reducing the number of approval levels from six to three, with spot-checking methods for supervisors. By focusing on high-value transactions and new vendors for manager approval, the process can be more efficient while maintaining necessary controls.

The implementation of one-piece flow document processing was another key recommendation. This approach eliminates batch waiting and reduces delays caused by the distribution of physical documents. By digitizing the process through a vendor portal, PT XYZ can also eliminate transportation waste and ensure that documents are processed in real-time, reducing the overall lead time significantly.

Finally, strengthening error prevention mechanisms in the early stages of the process, such as implementing automated validation for data matching, would reduce defects and rework. These changes align with Lean Accounting's focus on eliminating waste and improving the efficiency of financial processes, ultimately helping PT XYZ meet its KPI for lead time.

CONCLUSION

In conclusion, the application of Lean Accounting principles to the AP process at PT XYZ has the potential to significantly reduce lead times, eliminate waste, and improve the overall efficiency of the company's financial operations. The findings of this study suggest that by streamlining verification processes, automating routine tasks, and reducing the number of approval levels, PT XYZ can meet its KPI for vendor payment lead time and enhance its operational effectiveness.

The proposed process improvements, including digitalization and the implementation of a one-piece flow system, offer a roadmap for PT XYZ to optimize its AP process. By adopting these Lean Accounting practices, PT XYZ can achieve greater control over its financial operations, reduce costs, and improve relationships with vendors, positioning itself for continued success in the competitive energy sector.

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