


Internal control of expenditure cycle PT DEF parts procurement

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Article Info	ABSTRACT
<p>Keywords: Evaluation, Control, Information Systems, Expenditure cycle, Procurement</p>	<p>This research aims to provide information to PT DEF regarding the results of the evaluation of internal control of spare parts procurement in accordance with the internal control framework published by COSO in 2013. PT DEF is a manufacturing company that has been established since 1993. The company has a spare parts inventory value which continues to increase by 12% every year from 2018 to 2023. This research is qualitative in nature using data collection methods of direct interviews with related parties, documentation studies, and direct observation of the expenditure cycle for spare parts procurement at PT DEF. The interviews used in this research were based on the Green Book internal control assessment which was adapted from the internal control framework published by COSO (2013) and interviews regarding the expenditure cycle and Fraud Triangle Theory were taken from the book by Romney and Steinbart (2021). From the results of the analysis and discussion of this research, it is concluded that internal control of spare parts procurement at PT DEF is not yet effective in the five components of the internal control framework published by COSO (2013), namely control environment, risk assessment, control activities, information and communication, and supervision activities. This causes many purchased spare parts to go unused and pile up in the company's warehouse. PT DEF requires activities to improve the expenditure cycle for spare parts procurement so that spare parts procurement activities run effectively.</p>
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INTRODUCTION

PT DEF is a polypropylene producer company that controls 14% of the market in Indonesia, while 50% of the market is still controlled by the import market. PT DEF focuses on the domestic market and indirectly helps the government in saving foreign exchange for imports of polypropylene products. PT DEF is a national company operating in the petrochemical industry which was founded in 1993 as a producer of polypropylene resin (PP Resin) or plastic pellets. The production machines owned by PT DEF have been owned since 1993 so they require good maintenance. This maintenance requires a lot of replacement of spare parts on the machine regularly so that machines that have been owned for a long time require a lot of spare parts. In the year to date (YTD) period of June 2023, spare parts consumption has reached USD 805,967 or the equivalent of IDR 12

billion. In the last five years, the average use of spare parts in one year was USD 1,209,912 or the equivalent of IDR 18 billion. Its use also always increases by 24% every year.

The spare parts inventory value from PT DEF in September 2023 is USD7,577,782,- or the equivalent of IDR 110 billion. Spare parts inventory figures are also always increasing with an average increase of 12% over the last 5 years. The value of goods that are not used and have been reserved in September 2023 is USD 524,958. However, this value does not include all unused goods in the warehouse because there are still many goods whose value has not been calculated by the Accounting Department. The spare parts inventory cannot be used due to errors in the purchase application such as errors in submitting specifications, submitting spare parts for machines that are no longer used, and submitting spare parts in excess of what is needed.

In this case, the cash disbursement system for procuring spare parts is one of the main systems responsible for carrying out business processes at PT DEF. Based on the previous description, the question that arises in this research is how to evaluate the internal control of the cash disbursement system in PT DEF's spare parts procurement based on COSO's internal control framework?

Romney and Steinbart (2021) state that internal control is a term that refers to the policies, procedures and practices implemented by an organization to safeguard assets, improve operational efficiency and ensure accurate financial reporting. Internal controls are critical to keeping financial information secure and preventing fraud. Internal control has three main roles: preventive control, detective control, and corrective control.

COSO (2013) states that internal control is a process used by all parts of an organization and is intended to ensure that organizational goals will be achieved through efficient and effective operations, credible financial reporting, and compliance with applicable regulations. COSO focuses on five components of internal control. The five components are 1) control environment, 2) risk assessment, 3) control activities, 4) information and communication, and 5) supervision activities.



Figure 1. COSO Internal Control Framework
 Image source: COSO (2013)

In the context of purchasing and paying for goods and services, the expenditure cycle includes a series of operational operations and data processing. The four main activities of the expenditure cycle are ordering materials, equipment and services; receipt of materials, equipment and services; approval of supplier invoices; and cash disbursements (Romney, 2021).

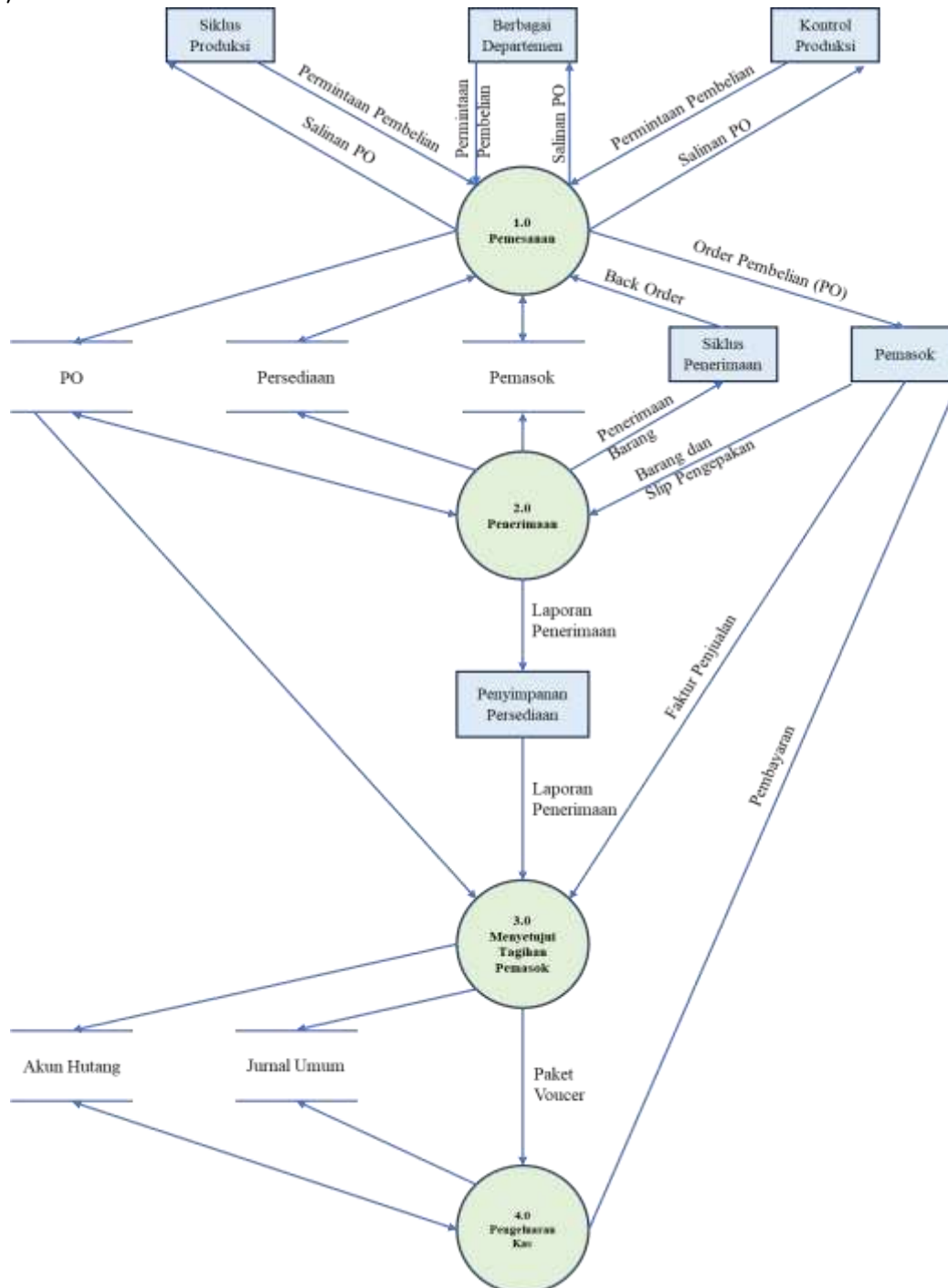


Figure 2. Level 0 DFD Expenditure Cycle
Image source: Romney & Steinbart (2021)

METHOD

Creswell (2013) states that qualitative research is a type of research that investigates complex problems or phenomena in a certain way and provides an in-depth explanation of them. Merriam (2009) states that qualitative research is a type of research that investigates phenomena in their natural context, taking into account the meaning given by research participants. Qualitative research usually collects data through observation, interviews, and document analysis to gain a better understanding of the problem under study. In qualitative research, data analysis is carried out interpretively. Researchers seek to understand the social context and meaning of the data. This research was written using a scenario for evaluating the effectiveness of spare parts procurement at PT DEF. This research will evaluate the effectiveness of spare parts procurement at PT DEF.

Data analysis was carried out through documentation, interviews and observations during the data collection process. This analysis aims to collect current data, ensure the correctness of unclear information, and organize the current analysis. Compiling interview results, making observations, and examining documents grouped by activity according to Romney and Steinbart's spending cycle theory are all steps that can be taken during the data collection process. Next, the grouping results will be analyzed further by grouping them based on the components of the COSO internal control framework.

Researchers will interpret, summarize, analyze and develop research data patterns obtained from observations, interviews and document studies systematically. Researchers connected the data they obtained with the literature review used in this research. Researchers also evaluated internal control over the ongoing expenditure cycle for PT DEF's spare parts procurement. This evaluation was conducted in accordance with COSO's internal control framework. The results of this evaluation are the basis for researchers to make recommendations to answer the problems in this research.

RESULTS AND DISCUSSION

Based on 17 (seventeen) internal control principles from 5 (five) internal control components, below are presented the results of the evaluation of the internal control of the cash disbursement system in PT DEF's spare parts procurement based on COSO's internal control framework in Table 2.

Table 2. Evaluation Results of Internal Control of the Cash Disbursement System in Spare Parts Procurement

Component	Results	Evaluation
Control Environment	Not Effective Yet	Executive management has set a “tone of the top” which has been communicated and practiced by executives and management throughout the institution. The company's vision, mission and core values have been reflected in the company's operations such as in the Collective Work Agreement (PKB), Standard Operational Procedure (SOP), and Standard Practice (SPR) including the SOP and SPR for spare parts procurement. However, the determination of the company's vision and mission is still based on the

Component	Results	Evaluation
		wishes of executive management without formal documentation. Currently, PT DEF is creating a new vision and mission that is in accordance with the company's business model canvas.
Risk Assessment	Not Effective Yet	The new management established the Risk Management Department in 2023 and is just starting to shape how risk assessments are carried out in each department. Determining risk identification is still in the development stage at this time.
Control Activities	Not Effective Yet	PT DEF has not carried out an assessment of the need to purchase spare parts which causes spare parts purchases to always increase and not be used for several reasons such as excess purchases, goods received that do not match specifications, and several other reasons.
Information and Communication	Not Effective Yet	PT DEF does not yet have any other communication media apart from Oracle. Currently, communication still relies on email, telephone and the WhatsApp application.
Monitoring Activities	Not Effective Yet	Currently, PT DEF is still in the stage of developing supervisory activities through the audit committee and internal auditors. The results of continuous monitoring have been carried out for several departments related to spare parts procurement. However, an internal audit will only be carried out for the finance department in 2023 and the process is still ongoing.

Discussion

Evaluation of the Spare Parts Procurement Control Environment

According to COSO's list of effective internal control principles, control environment analysis is based on five control principles:

1) Demonstrate Commitment to Integrity and Ethical Values

The results of observations and documentation studies show that the company's ethical principles and values are included in the Collective Labor Agreement (PKB). Apart from these principles and values, the core value that PT DEF is currently changing, namely AKHLAK, is also the company's way of adhering to its integrity and ethical values. Amanah is the first acronym of AKHLAK, which means fulfilling promises and commitments that have been decided, adhering to moral and ethical principles, and being responsible for the tasks, decisions and actions taken.

According to interviews, management and directors demonstrate integrity and ethics in their daily behavior in addition to adhering to the company's code of ethics. Management regularly informs employees about how to behave on a daily basis. This is done through meetings at the Town Hall and emails sent by the company secretary. An integrity pact that is not signed by every employee, especially those involved in the spending cycle, does not demonstrate integrity.

Each violation of the code of ethics will be processed based on how light or serious the violation is—from very light to very serious or intolerable—based on research and analysis conducted on the company's CLA documents. Verbal warnings are given for lesser infractions. A first warning letter is given for more serious violations, followed by a second warning letter, a third warning letter, suspension, and finally termination. This applies to all employees including all parties involved in the expenditure cycle for spare parts procurement.

2) Carrying out Supervisory Responsibilities

If we look at PT DEF's organizational structure, the President Director is directly responsible for the Internal Audit Department. The Internal Audit Department is not under the Operations Directorate to prevent conflicts of interest. PT DEF also currently has an Audit Committee that controls PT DEF's internal control, whose supervisory role is carried out by the Internal Audit Department.

Based on the results of interviews and observations, currently the Internal Audit Department is conducting a comprehensive audit of all Divisions including the Finance & Accounting Division, which according to previous research results did not carry out an internal audit because it was considered to have been audited by an External Auditor. All procurement activities starting from ordering, receiving, approving supplier invoices, to cash disbursements have been audited by the company's internal auditors whose findings and evaluations have been addressed to the President Director. However, the results of the findings and evaluation cannot be published to maintain company confidentiality.

3) Establish Structure, Responsibilities, and Authority

Internal control over the company's financial procedures and adequate and efficient reporting is the responsibility of the directors and management. The roles and responsibilities of subordinates in internal control are evaluated in stages. Coordination meetings held every three months discuss the effectiveness of internal control. The Board of Directors and senior management must approve significant changes in personal responsibilities related to the expenditure cycle.

After conducting interviews, the company created a PT DEF organizational structure that shows the duties and responsibilities of the company as a whole. This structure was only authorized in September 2023, designed taking into account how complex and useful it would be. For example, two new directorates were formed at this time, namely the Commercial & Support Directorate and the Strategy and Planning Directorate. By adding new directorates and new divisions and departments, there is more separation of duties, which helps reduce fraud and improve the accuracy of accounting records. Development was also carried out on the organizational structure of cash disbursement activities for spare parts procurement. Management decided to create a separate Warehouse department so that control of Warehouse activities is more effective and efficient. The Warehouse Department is responsible for ordering and receiving spare parts. In addition, there is a separation of directorates between the Finance Department and the Procurement Department to avoid issues of fraud in procurement activities.

Currently, management has also designed reporting processes for the implementation of authority, responsibility and information flow in an SOP for several

business cycles, especially SOPs for the procurement of public goods and services. Based on the results of interviews and documentation studies, currently PT DEF also maintains SPR in each department as a standard for the company's operations. However, some of the department's SPRs have not been submitted to the ISO Center Department and are still carrying out their operations according to custom.

4) Demonstrate Commitment to Competency

The policy of the company's Human Capital & General Administrative (HC & GA) Department is to attract, develop and retain talented employees who have the necessary competencies and qualities, according to the results of interviews and observations made by research subjects. After the appointment of new employees, each prospective employee will undergo a trial period of three months before becoming a permanent employee. During this trial period, the HC & GA Department will provide training and outreach to provide the necessary knowledge, skills and abilities. After the trial period ends, employees will be evaluated for one year's performance through Key Performance Indicators (KPI).

Currently the company has not conducted regular training and development for all levels of the organizational structure. Periodic training and development is held only up to Supervisor level. Training and development at staff level is proposed by the relevant department in accordance with the company's competence and needs in carrying out its work after obtaining approval from the manager of the relevant department. After that, the HR development department will register the training or seminars proposed by these departments.

5) Enforcing Accountability

Everyone must do their work according to their duties and responsibilities. Management and employees must communicate and remind their colleagues to comply with the code of ethics and SOPs that apply according to their role in the company. The HC & GA Department sets incentives and rewards for the results of their performance evaluation. Based on the results of the interview, KPI is the basis used to achieve work evaluation results. This KPI will then be used as a benchmark for employee incentives. Depending on the company's KPIs assessed by third parties, it will differ each year.

The cash disbursement activity for procurement of spare parts already has an accountability report for each activity which can be downloaded via the Oracle application or reports made manually by certain parties, such as payment reports, operating cost reports, spare parts usage reports, and other reports. This report is proof of the responsibility of employees in charge of cash disbursement cycle activities for the procurement of spare parts.

Evaluation of the Risk Assessment of Spare Parts Procurement

There are four principles related to risk assessment, namely:

6) Determine Goals and Risk Tolerance

The company has a vision, mission and core values which serve as a reference in carrying out its operations. With this vision and mission, the company sets clearer goals, both financial and non-financial, based on the company's code of ethics. The vision and mission will also provide an overview of the company's main competitive advantages and

will serve as a reference for building the company's strategic management. All heads of relevant agencies have also been involved in setting goals at the activity level.

Based on the results of interviews and documentation studies, the company is currently trying to become the polypropylene market leader in Indonesia by focusing on customer and stakeholder satisfaction. Currently the company is developing its business by increasing production capacity. The addition of production capacity increases transactions in the expenditure cycle. Currently, capacity addition is carried out by creating a new factory in the same location as the existing factory. The financing for the creation of the new factory is state money with the placement of new shares because this additional capacity is also one of the state's efforts to reduce imports of polypropylene. This use of state money is very risky for companies if it is not equipped with adequate documentation. PT DEF is currently improving payment documentation by separating operational payment documents and payment documents for new factory construction projects.

Apart from separate documentation, payment accounts for operations and new factory construction projects are also separated to avoid mixing state money with the company's operational money. However, PT DEF does not yet have an SPR approved by the ISO Center department for vendor payments until November 2023.

7) Risk Identification, Analysis and Response

Based on the results of interviews, the company currently only has three formal documents related to risk: quality identification, K3 identification, and environmental identification. For the procurement of goods and services, including spare parts, there are no formal documents. The absence of identified risks causes the company to never carry out a risk assessment of the expenditure cycle on spare parts procurement. In the spare parts procurement expenditure cycle, there are significant risks. For example, purchasing goods that are not needed causes the accumulation of goods, which is detrimental to the company because it reduces cash flow but is never used or capitalized into assets.

8) Access Fraud Risk

To prevent fraud, no specific training has been created. Employees have not been regularly trained on fraud awareness and appropriate actions to take when fraud is suspected. Management has a fraud response plan and knows how to respond in a timely manner when fraud is suspected. The fraud policy is regulated in the Collective Labor Agreement (PKB).

9) Identify, Analyze, and Respond to Change

Management plans to conduct regular reviews so that they can adapt to internal and external potential and situations. The Risk Management Team follows management directions. With regular reviews, it is hoped that identification of changes will include the most recent identification. Management control lies in corporate-level KPIs, which are then cascaded down to the departmental level.

Evaluation of Spare Parts Procurement Control Activities

There are three principles related to control activities, including:

10) Control Activity Design

A common problem that occurs at PT DEF in the principle of design control activities is that the SOPs and SPRs they have are not reviewed regularly to ensure written policies

and procedures are still relevant to the activities that occur in spare parts procurement. For example, the Finance Department SOP related to the activity of approving supplier invoices and cash disbursements does not yet exist. Apart from the SOP and SPR not being updated, PT DEF also does not yet have formal documents regarding job descriptions for all spare parts procurement activities. Based on the results of interviews with all relevant sources, separation of duties has been carried out for all parties related to spare parts procurement.

Performance measurement of spare parts procurement uses Key Performance Indicators (KPI) that apply specifically to each department. However, KPI has not been able to increase the discipline of the parties involved in procurement activities to comply with the policies and procedures in the SOP and SPR. This has the threat of poor performance. Each department must have formal SOPs and SPRs and submit them to the ISO Center Department. Apart from that, there must be a managerial report containing daily activity reports such as spare parts ordering reports which the Procurement Department does not currently have. Each department must also carry out periodic reviews every year regarding the suitability of SOPs and SPRs every year because the company is experiencing rapid growth so there are many adjustments to activities in cash expenditures for spare parts procurement. This process will also show whether each related party complies with the applicable SOPs and SPRs.

11) Information Systems Design Activities

As previously explained in point 4.3, currently PT DEF uses Oracle E-Business Suite on Premise (EBS on Premise) version 11 and will update its system to Oracle version 12. Spare parts procurement activities are supported by web-based applications. created by the MIS Department by integrating it into Oracle systems, such as MR, PO, and RIR which are currently effectively used by PT DEF. Next, the MIS Department will create a web-based application to help the Finance Department process payments. Based on interviews with the MIS Manager, the creation or development of this application was carried out because the Oracle system did not support PT DEF's needs.

To access these applications, users are given a user ID and password created specifically for each user. Access is also given according to its function, such as access to the MR application is only owned by the spare parts warehouse admin with a unique User ID and password. Even though it seems to be effective, this still carries the risk of user ID and password data leaking if the employee who has access is not disciplined in safeguarding User ID and password information that is only addressed to him.

If there are changes and additions to the program, the program will be tested periodically to ensure that the applications run effectively according to user needs. However, program or application changes are not documented by the MIS Department as the party responsible for adding and developing the application. Approval of changes or developments is also carried out only between the parties who need the application, in this case such as the Warehouse Department, Procurement Department and Finance Department, with the MIS Department as the party responsible for carrying out the process, which is called the User Acceptance Test. This risks having no control over the many

applications owned by PT DEF related to spare parts procurement and no control over applications that are still in use and applications that are no longer in use.

12) Carrying out Control Activities

In general, in the procurement of spare parts, control activities have not been evaluated periodically to ensure that these activities are still appropriate and functioning as they should. Not all parties are aware of the importance of SOP and SPR in spare parts procurement control activities. This is proven that in 2023 not all cash disbursement activities in spare parts procurement will have SOPs and SPRs registered with the ISO Center Department. Not all parties are aware that the importance of routine activity reports is one of the important things in implementing control activity components. Activity reports can be used as controls for companies to assess their controls.

When ordering spare parts, one thing that is not yet effectively controlled is the list of items in min-max stock. There is no department that analyzes goods requirements, so orders always run according to min-max stock. In spare parts receiving activities, something that has not been effectively controlled is the discipline of Receiving Inspection Report (RIR) authorization which is often hampered and causes delays in payments. In the activity of approving supplier invoices, bill naming is standard, so that bills received twice will be recorded twice. In cash disbursement activities, things that have not been effectively controlled are the creation of vouchers which are still manual and cause double payments and payment errors.

Evaluation of Spare Parts Procurement Information and Communication

There are three principles related to the information and communication components, namely:

13) Use Quality Information

Based on the findings and discussions, the Oracle company ERP system has integrated data about the spare parts procurement expenditure cycle, starting from purchasing submissions, ordering, receiving, and bill payments, to all departments that handle spare parts procurement cash expenditures.

The system is designed to remain secure, and the information entered into it takes into account its timeliness, completeness, and can be verified and maintained. Only people who have the necessary authority can access and/or rework the system.

14) Internal Communication

To ensure that each staff member understands and carries out their responsibilities for internal control, an internal information communication process is used. The interview results show that companies use Oracle as a communication tool to convey policy or control changes. Nowadays, using Oracle is very easy to communicate documents. However, some employees sometimes ignore Oracle information, such as invoices that have not been completed with RIRs and follow-up processes. As a result, unpaid transactions continue to hang over AP Aging.

Based on the results of the interviews, the Board of Directors and General Managers hold Senior Management Meetings every two weeks to discuss progress towards the company's strategic goals and coordinate the activities of all departments and divisions. During the meeting, information was distributed to related parties for further follow-up.

According to interview findings, the employee's internal communication system can be accessed via WhatsApp, office telephone, and/or personal telephone. Currently, there are no specific applications used to communicate between employees other than Oracle. Employees can follow the procedures stated in the Collective Labor Agreement (PKB) if they wish to report potential violations.

15) External Communication

The cash disbursement cycle is always connected to data from external parties. The company always provides investors, debtors, partners, media and the public with accurate and timely information. The Corporate Secretary Department functions as the main intermediary between the company and external interested parties, such as the Financial Services Authority, Indonesian Stock Exchange, shareholders, external auditors, legal consultants, appraisal companies, investors, analysts and the public. The Corporate Secretary Department can convey relevant information to external parties through internal meetings, annual and extraordinary GMS, and investor meetings.

Evaluation of Spare Parts Procurement Supervision Activities

There are two principles related to supervisory activities, namely:

16) Carrying out Monitoring Activities

The company maintains ongoing monitoring to ensure that all its operations run smoothly. Performance monitoring is carried out through adequate supervision, bank reconciliation, multi-layered procurement process authorization, and cash flow reports to ensure that funds are available for payments. However, because parties authorizing transactions often do not know what they have signed during the internal audit process, monitoring activities are ineffective when carried out.

17) Evaluate Problems and Correct Deficiencies

In 2023, a comprehensive internal audit will be carried out in all departments. The Internal Audit Department helps carry out evaluations regarding internal controls that are deficient and/or ineffective and efficient so that improvements can be made immediately. This internal audit report will be addressed directly to the President Director and approved by the Audit Committee.

CONCLUSION

This research discusses internal control in the spare parts procurement expenditure cycle at PT DEF in accordance with COSO 2023. This research evaluates the effectiveness of internal control over spare parts procurement at PT DEF. Internal control over the procurement of spare parts at PT DEF has not been effective in the five components of COSO 2013 internal control, namely control environment, risk assessment, control activities, information and communication, and supervision activities. This causes a large number of spare parts purchased to be unused, resulting in them piling up in the company's warehouse due to the absence of risk assessment analysis and analysis of the need for purchasing spare parts. The main thing that needs to be improved is the risk assessment of spare parts procurement and analysis of existing spare parts purchasing needs at PT DEF.

REFERENCES

1. Committee of Sponsoring Organizations of the Treadway Commission (COSO). (2013). COSO Internal Control-Integrated Framework. New York: The Committee of Sponsoring Organizations of the Treadway Commission (COSO)
2. Creswell, J.W. (2013). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches. 4th Edition. London: SAGE Publications, Inc.
3. Federal Internal Control Standards. (2014). Standards for Internal Control in the Federal Government. Amerika Serikat: United States Government Accountability Office
4. Merriam, S. B. (2009). Qualitative research: A guide to design and implementation. San Francisco,CA: Jossey-Bass
5. Puspitasari, Nindya Farah Dwi. (2018). Evaluasi Sistem Pengendalian Internal pada Siklus Pengeluaran Kas: Studi Kasus pada Perusahaan Jasa Konstruksi PT XYZ. Jakarta: Universitas Indonesia
6. Ramadiyansari, Rika. (2020). Evaluasi Proses Bisnis Siklus Pengeluaran Kas dalam Meningkatkan Efektivitas Operasional dan Pengendalian Internal Organisasi (Studi Kasus: PT XYZ). Jakarta: Universitas Indonesia.
7. Romney, Marshall B., Steinbart, Paul J., Summers, Scott L., Wood, David A. (2021). Accounting Information Systems, 15th Edition. United Kingdom: Pearson
8. Saumi, Myla Galuh. (2021). Analisis Pengendalian Internal pada Sistem Pengeluaran Kas: Studi Kasus pada PT DEF. Jakarta: Universitas Indonesia.