

Risk Analysis in The Business Process Management And Recording Electricity Costs (Case Study in an Oil and Gas Company in Indonesia)

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Abstract

This research was conducted on one of the State-Owned Enterprises (BUMN) that is engaged in the oil and gas sector which has a trend of outstanding electricity costs that continue to increase from year to year. This study aims to analyze the factors that cause outstanding transactions for recording electricity costs, the risks that arise and corrective actions that must be taken by the company management. The research was conducted by collecting company internal data and semi-structured interviews with informants before and after the company implemented Shared Services. The research method uses qualitative methods with an exploratory case study approach. Based on the results of the study, there are seven risks, namely understated expense, over budget, over payment, company losses, abnormal balance of account payables (debit balance), inaccurate recording, and declining company reputation. The results showed that the risk decreased after risk mitigation was carried out using the Shared Services business model and Robotic Process Automation (RPA) technology. The author suggests that Company should implements a roadmap in business processes, and consistently manages the business process of recording electricity costs in accordance with established policies and procedures.

Keywords

risk analysis; business process;
electricity cost; shared services



I. Introduction

The Company formulates strategies, organizational structures and organizational activities that are mapped to business processes to achieve the Company's objectives in carrying out its operations. Anderson (2017) explains that a business process is a relationship between a series of activities to achieve a goal. The process map is a broad description of the inputs, steps, workflows, as well as interactions with other processes and outputs represented in an image. The process map that is described in high level provides a comprehensive framework for understanding every detail of activities and subprocesses. A thorough understanding of business processes and their risks can help the Company achieve its strategic goals by assessing the risk and risk profile of the organization.

Lam (2017) defines risk as deviation from an expected result due to a certain variable, and can affect the business goals to be achieved and the overall performance of the organization. Companies must integrate risk practices into daily business processes at all levels to be able to provide added value to Enterprise Risk Management (ERM) by implementing risk policies, limits, and governance processes to ensure risks are at an acceptable level for the company.

Companies in this research is one of the State-Owned Enterprises in Indonesia which in one of its business processes in managing the operations and maintenance of assets, there are activities for managing and recording electricity costs in the Company's

environment which are spread across all locations of the Company's Units in Indonesia. Based on the company's internal data, it is known that the trend of outstanding electricity cost recording transactions has continued to increase since the beginning of 2016 until March 2021, which can be seen in Figure 1.



Source: Company internal documents January 2019 – July 2021 (data processed by researchers)

Figure 1. Company Outstanding Transactions for Recording Electricity Costs January 2016 – March 2021

The business process of managing and recording electricity costs is managed by the Asset Management Function, which in practice electricity bills arise according to the Company's operational locations spread throughout Indonesia, and the Company processes electricity bill payments by auto-debit first before the electricity bill is verified and validated by the Function. Asset Management in all units Company's is the owner of the Expenditure Authority. In connection with this, it is known that there is an outstanding trend of recording electricity cost in Company's transactions which continues to increase from year to year which has the potential to cause Company losses and audit findings, based on these problems the authors formulate research problems as follows:

1. What are the factors that cause outstanding transactions for recording electricity costs at Company?
2. What are the risks arising from the business process of managing and recording electricity costs at Company?
3. What corrective actions should be taken by the Company Management?

Based on the description and background above, the purpose of this research is to answer the problem formulation of the factors that cause outstanding electricity cost recording transactions, find out the risk register of the business process of managing and recording electricity costs at Company, and corrective actions that must be taken, carried out by the Company Management.

The research period is July 2020 to March 2021 before the implementation of the Shared Services business model, and April 2021 to December 2021 after the implementation of the Shared Services business model. The research method uses qualitative methods with an exploratory case study approach. The research was conducted by collecting company internal data and semi-structured interviews with informants before and after the company implemented Shared Services.

The results of this study can contribute to providing added value to the Company's Management regarding risk identification, risk mitigation, alternative problem solving that can be done to improve company operations, as well as providing recommendations for the

implementation of an Enterprise Risk Management (ERM) roadmap in the business process of managing and recording electricity costs. This research contributes academically to the analysis of business processes, risks and impacts, as well as the application of Enterprise Risk Management (ERM) to enrich learning and can be used as a reference for further research.

II. Review of Literature

2.1 Enterprise Risk Management

COSO (2017) explains the definition of Enterprise Risk Management (ERM) is the culture, capabilities, and practices that have been integrated with the established strategy, which organizations rely on to manage risk in connection with creating, preserving and realizing value. The ERM framework that will be discussed in this research, among others, refers to COSO (2017) and ISO 31000: 2018 which will be described in the following explanation:

a. COSO ERM Framework

Framework COSO ERM (COSO, 2017) has five interrelated components as depicted in Figure 2, namely:

1. Governance and culture: corporate governance decides the organization's tone, reinforces its importance, and decides on supervisory responsibilities for enterprise risk management.
2. Strategy and objective setting: the company's risk management and strategy are mutually integrated and integrated into the strategic planning process. Risk appetite is created and aligned using strategy. The business objectives of implementing the strategy also serve as the basis for identifying, assessing, and responding to risks.
3. Performance (performance): risks that can affect the achievement of business strategies and objectives need to be identified and assessed. Risk is prioritized from the level of severity in the context of risk appetite. The organization then determines the risk response and takes a portfolio view of the amount of risk it carries.
4. Review and revision: By reviewing the entity's performance, the organization can consider how well the components of enterprise risk management are functioning over time and given substantial changes, and what revisions are needed.
5. Information, communication, and reporting: Enterprise risk management requires an ongoing process to obtain and share the necessary information, both from internal and external sources, flowing up, down, and across the organization.



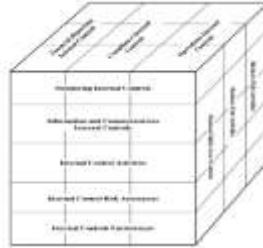
Source: COSO (2017)

Figure 2. COSO ERM Framework

In the following discussion, the concept of internal control recommended by COSO will be explained.

b. COSO Internal Controls Framework

COSO developed a definition or description of internal control which has five horizontal levels or layers, three vertical components, and many sectors that include all three dimensions depicted in Figure 3 below.



Source: Moeller (2011)

Figure 3. COSO Internal Controls Framework

Based on Moeller (2011) revealed that the notion of internal control is a process, which is influenced by the board of directors, management, and other personnel of an entity, which is designed to provide reasonable assurance regarding the achievement of objectives in the categories of operating effectiveness and efficiency, reliability of financial reporting and compliance with applicable laws and regulations. COSO internal control emphasizes the main components of internal control including operations, financial reporting, and compliance. Risk assessment related to financial reporting is best done by the entity and shared with the auditor.

c. ISO 31000:2018

Based on ISO 31000:2018 the effectiveness of risk management can be described as follows:

1. Integrated in the sense of risk management is an integrated part of the overall organizational activities.
2. Structured and comprehensive, i.e., risk management has a comprehensive and structured approach to provide consistent and comparable results
3. Tailored to user needs (customized), namely the framework on risk management according to its use and comparable to external and internal contexts including related objectives.
4. Inclusive in the sense that stakeholders are involved in a timely and adequate manner, sharing knowledge, views and perceptions is taken into consideration to increase awareness of the maturity of risk management implementation.
5. Dynamic, namely the emergence, disappearance or change of risk can occur due to changes in internal and external contexts, therefore risk management can scan, handle, understand and anticipate events and changes adequately and in a timely manner.
6. The best available information, namely historical information, current information and predictions or future expectations will provide input for risk management, so that risk management understands the limitations of available information and the uncertainty that exists in the information and expectations.

7. Cultural and human factors (human and cultural factors), namely culture and human behavior will affect the implementation of risk management as a whole.
8. Continuous improvement, namely continuous improvement in relation to risk management activities according to learning and experience.

2.2. Shared Services Center

Based on the Institute of Management Accountants (2000) the application of Shared Services is to:

1. Work performed in general across all business units.
2. Customer service requirements are uniform across all business units.
3. Work is repetitive and routine.
4. There is significant duplication of work within the company.
5. There are opportunities to use technology automation.
6. High transaction volume intensity.
7. There are relatively few regulatory, legal or labor union barriers.
8. Activities impacted on a large number of employees or units.
9. Low business and financial risk.

The more uniform, general and general a service is, the more likely it is to implement a Shared Services Center.

2.3. Digital Transformation

The term “digital” can be defined in three ways: creating value at the frontiers of the business world, optimizing processes that have a direct impact on customer experience, and developing basic capabilities that support overall business initiatives (Dorner and Edelman, 2015). Businesses must adapt and respond to rapid changes in competition, demand, technology and regulations. As new types of digital technology become increasingly popular, businesses need to ensure that their business plans are in line with the development of their surrounding environment (Tobing, Agustinus N et al 2022).

a. Robotic Process Automation (RPA)

Mendling et al (2018) describe the role of humans in business process management will be reduced through robotic process automation. Robotic Process Automation (RPA) is an industry reaction to the large amount of manual work that people do on a daily, weekly, or monthly basis to support various high-volume business activities (Aguirre and Rodriguez, 2017). Mendling et al (2018) also explain that RPA is widely used at the level of finance and accounting tasks, IT infrastructure management, and front-office processing including among application areas. Software programs known as "robots" interact with systems such as Enterprise Resource Planning (ERP) and customer relationship management systems. The robot can collect data from the system and update it. RPA solutions are attractive from a business point of view because they automate operational work. RPA solutions have recently been adopted by a growing number of business industries.

Aguirre and Rodriguez (2017) reveal that RPA can automate processes involving routine tasks, structured data, and deterministic results, for example, transferring data from various input sources such as email and spreadsheets to systems such as ERP and CRM systems. Most RPA applications have been made to automate service business process tasks such as validating sales of insurance premiums, generating utility bills, paying health care insurance claims, keeping employee records up-to-date. There are several business process criteria for RPA:

1. Low cognitive requirements are tasks that do not require subjective judgment, creativity or interpretation skills.
2. High volume is for work that is often done.
3. Access to multiple systems is a process that requires access to multiple applications and systems to perform work.
4. Limited exception handling is a highly standardized task with limited or no exceptions to handle.
5. *human error* namely jobs that are prone to human error due to manual labor.

III. Research Method

The research was conducted using a qualitative method with an inductive approach and aimed to gain a deep understanding of the experience of a person or a group (Wahyuni, 2019). This study uses an exploratory case study method that refers to Yin (2018), which is an exploratory case study to examine data that has interesting phenomena for researchers. Single Case Multiple Analysis is used to conduct case analysis on the three objectives of this research question, namely business process analysis, risk identification, and mitigation, and the application of the ERM roadmap at PT. XYZ. Data analysis in this study uses content analysis, which is a research technique that aims to make conclusions from material to its context of use that can be replicated validly. Krippendorff (2004) reveals that content analysis increases researchers' understanding of certain phenomena, informs practical actions, and provides new insights.

Furthermore, after analyzing the document, the researcher conducted interviews semi-structure that can provide reliable qualitative data because it encourages two-way communication, this research is carried out two-way communication to 10 (ten) informants with 20 (twenty) questions that have been prepared in advance by the researcher referring to the ISO 31000 risk assessment framework which has been described by Susilo (2018), while the researchers use the ISO 31000 framework in accordance with the Risk Management Guidelines at oil and gas Companies in this study.

Phase 1 interviews with informants with Analyst and Assistant Manager positions as officers implementing daily operational transactions to obtain initial identification factors that cause outstanding transactions for recording electricity costs, risks and mitigations carried out. After conducting phase 1 informant interviews, the researcher recorded and analyzed the results of the interviews and compared them with documents that had been analyzed at an early stage. Next, the researcher conducted phase 2 interviews with informants with the position level of Manager and Vice President to obtain validity and additional insights from the phase 1 interview regarding the causes, risks and mitigation factors, as well as gain insight from the perspective of Top Management regarding the implementation of risk management in business processes management and recording electricity costs in the short and long term. Based on this phase 2 interview, the researcher received additional input that the mitigation carried out for the business process of managing and recording electricity costs could be extended to other utility costs such as water and telephone, continuous improvement of business processes, management and recording of electricity costs related to the Three Lines of Defense where the Shared Function Services Asset Management and Treasury Functions as first-line risk owners need to manage risk, and Company needs consistency to manage and record electricity costs in accordance with established policies and procedures so that risk remains within tolerance limits. The following is an illustration of the stages of data collection:



Figure 4. Data Collection Stages

3.1 Organization Profile

Oil and gas Companies in this study has oil, gas and geothermal operating work areas spread throughout Indonesia as well as several overseas areas as well as more than one hundred Subsidiaries and Affiliates within the Group. Prior to the implementation of Shared Services, the activities carried out in each business unit, Subsidiaries and Affiliates were still doing all types of work, both strategic, tactical and transactional. The existence of a support function operational work process that is carried out equally in every business unit, Subsidiaries and Affiliates results in potential inefficiency in business processes at Company due to duplication of work in business support activities (support functions) which are repetitive, routine, and have high volume.

Commitment to transformation in line with rapid business development, information systems and technology encourages Company to increase the operational productivity by providing added value, improving company performance, and gaining a comprehensive competitive advantage in the business support function (support function) through the implementation of One Shared Services.

The Shared Services Center (SSC) business model is a strategy used by companies to manage the segregation of strategic task activities, separated from operational and tactical tasks. The Shared Services function will become a special function within the organization that has high technical competence and mastery by utilizing technological advances to assist work processes that are repetitive, routine, and high-volume with service management standards that have been measured and have clear implementation.

IV. Result and Discussion

4.1 Research Results and Discussion

Based on the results of the analysis documents and interviews, several risks have been identified in the business process of managing and recording electricity costs that can obstruct the operation of the Asset Management Function as a business process management and affect the recording of costs in the Finance Function (Account Payables and Treasury). The researchers identified seven risks that are understated expenses, over budgets, over payments cash flow, company losses, the abnormal balance of account payables (debit balances), inaccurate recording values of electricity costs, as well as the company's image and reputation decreased. The business process flow is not optimal, but with the improvement of business process flow with the implementation of Shared Services using Robotic Process Automation (RPA) digitization technology, it becomes a mitigation and solution to improve company operations.

4.2 Business Process Risk Analysis Management and Recording of Electricity Costs

Based on the analysis that has been carried out by the researcher on the results of document analysis and interviews in stages 1 and 2, it was identified that the Business Process improper presentation of financial statements that have the potential to become audit findings, causing 7 (seven) risks, namely understated expense, over budget, over payment, company losses, abnormal balance of account payables (debit balance), inaccurate recording of electricity costs, and image and declining company reputation. The factors that cause the problem, the types of risks and the impact of these risks are described in Table 1 below:

Table 1. Inherent risk in Business Process Management and Recording of Electricity Costs prior to the implementation of the Shared Services Business Model

No .	Risk Code	Risk	Factors Causing Outstanding Transactions	Impact Description
1	R1	<i>Understated Expense</i>	The Asset Management function as an Expenditure Authority has not verified and validated electricity bills and sent bills, supporting documents and SP3 to the Account Payables Function.	The presentation of the Company's Financial Statements is not fair because the expenses for electricity bills are not recorded according to the period in which the electricity charges are incurred.
2	R2	<i>Over budget</i>	Monitoring of electricity costs is not carried out optimally, giving rise to the assumption that the electricity budget is excessive and then transferred to other costs or even less.	The Company's budget realization report is not in accordance with the RKAP.
3	R3	<i>Overpayment</i>	The company has made an auto-debit electricity payment in advance for timely payment, before the invoice value is verified and validated by the Asset Management Function.	The money paid by the Company is not in accordance with the recognized electricity costs.
4	R4	Company Losses	Payment for inactive company assets (example: the building is no longer rented in the name of the company) because it has not been updated to the Bank for auto-debit for inactive assets.	The company suffers losses due to paying electricity costs that should not be billed.

No .	Risk Code	Risk	Factors Causing Outstanding Transactions	Impact Description
5	R5	<i>Abnormal Balance Account Payables (Debit Balance)</i>	The number of outstanding account payables debit balance transactions is due to unclear information remarks at the time of account debiting and cannot be identified.	A journal account payables debit balance that cannot be cleared with a fee.
6	R6	Inaccurate recording of the value of electricity costs.	The entire process of verification, validation and manufacture of SP3 is done manually so that there is an error in recording electricity costs due to human error.	1. The electricity costs recorded in the company's system are not accurate. 2. It is not possible to clear the auto debit payment of electricity costs with the cost because the value in SP3 does not match. <i>Outstanding transactions</i> account payables balances debit balances that are not cleared with fees.
7	R7	The company's image and reputation is declining.	The presentation of the Financial Statements is not fair and inaccurate and is a recurring finding from the internal audit.	Stakeholder trust decreases, which can affect consumers' desire to obtain products or services from the company, as well as the motivation of suppliers to establish relationships with the organization.

Source: Data processed by researchers

4.3 Risk Likelihood Level Criteria

The determination of possible risks in this study is based on PT Company's Risk Management Guidelines which refers to ISO 31000: 2018. The research was conducted by analyzing 9 (nine) months before Company implemented Shared Services to get the trend of outstanding transactions before the Shared business model changes. Services, and compared with 9 (nine) months after the implementation of Shared Services to analyze whether there is an improvement in business processes after the change in the business model. The research period was carried out for 9 (nine) months before and after the change in business processes due to the limitation of detailed data that could be obtained by the researcher. Based on this research period, referring to the Risk Possibility Level Criteria that have been owned by the company,

1. Rare: $(0\% \times 9 \text{ Months} = 0 \text{ Months}) < x (20\% \times 9 \text{ Months} = 2 \text{ Months})$
2. Unlikely: $(20\% \times 9 \text{ Months} = 2 \text{ Months} < x (40\% \times 9 \text{ Months} = 4 \text{ Months})$
3. Moderate: $(40\% \times 9 \text{ Months} = 4 \text{ Months} < x (60\% \times 9 \text{ Months} = 5 \text{ Months})$
4. Likely: $(60\% \times 9 \text{ Months} = 5 \text{ Months} < x (80\% \times 9 \text{ Months} = 7 \text{ Months})$
5. Almost Certain: $(80\% \times 9 \text{ Months} = 7 \text{ Months} < x (100\% \times 9 \text{ Months} = 9 \text{ Months})$

In Table 2 describes the results of the conversion of the Month of the Risk Likelihood (Probability) Scale:

Table 2. Criteria for Possible Risk Level

Likelihood Scale	Possibility	Description	Range Index	Criteria Index (x)
1	Rare	Impossible to happen	$0\% < x \leq 20\%$	0 – 2 Months
2	Unlikely	Rarely happening	$20\% < x \leq 40\%$	2 – 4 Months
3	Moderate	Could occur	$40\% < x \leq 60\%$	4-5 Months
4	Likely	Very possible	$60\% < x \leq 80\%$	5 – 7 Months
5	Almost Certain	Almost Definitely Happening	$80\% < x \leq 100\%$	7 – 9 Months

Source: Company's 2020 internal documents (data processed by researchers)

The Criteria Index is determined based on the research period for the business process of managing and recording electricity costs prior to the implementation of the Shared Services business model for 9 months from the beginning of July 2020 to March 2021 multiplied by the percentage range index that indicates how long the duration of the risk event will be. Likewise, the Impact Level Criteria refers to ISO 31000: 2018 as well as Company's Risk Management Guidelines which are specified in the following Table 3:

Table 3. Criteria for Risk Impact Level

Impact Scale	Impact	Description	Financial	Reputation
1	Insignificant	Very small	$x < 20\%$ of Batas Toleransi Risiko (BTR)	Limited to internal impact
2	Minor	Small	$20\% \leq x < 40\%$ of Batas Toleransi Risiko (BTR)	Internal impact
3	Moderate	Currently	$40\% \leq x < 60\%$ of Batas Toleransi Risiko (BTR)	Local (impact on the city)
4	Significant	Big	$60\% \leq x < 80\%$ of Batas Toleransi Risiko (BTR)	Impact on the area
5	Catastrophic	Very large	$x \geq 80\%$ of Batas Toleransi Risiko (BTR)	National and international wide impact

Source: Company's 2020 internal documents

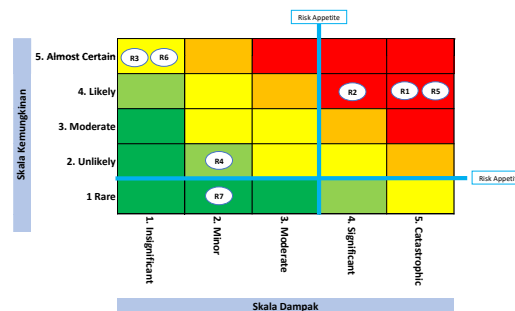
Based on Table 2 and Table 3 above, a risk evaluation is carried out based on the Risk Priority Number (RPN) where **RPN = Impact Scale Value × Likelihood Scale Value**, with the following conditions:

Table 4. Risk Levels based on the Relationship between Likelihood Scale and Impact Scale (RPN)

RPN	Risk Level	Evaluation result
1 - 3	Low	Risk Handling that can be done through existing internal controls.
4	Low to Moderate	
5 - 9	Moderate	Priority to do Risk Management
10 - 12	Moderate to High	
15 - 25	High	

4.4 Risk Appetite and Measurement of Innate Risk Level

Based on the company's internal documents, it is known that the risk appetite that is set for the probability level is 2% or Rare, while the impact level is at the Moderate level, for an illustration of the risk appetite line, it can be seen in Figure 5 below. From the results of the assessment of the likelihood and impact of risks that have been described previously, then the risk level mapping is carried out at each Risk Level based on the Relationship between the Likelihood Scale and Impact Scale (RPN) which is described in the following Risk Heat Map:



Source: Data processed by researchers (2022)
Figure 5. Risk Appetite and Innate Risk Level

4.5 Business Process Risk Mitigation Management and Recording of Electricity Costs

After identifying the risks in the business process of managing and recording electricity costs along with their causes and impacts on the company, the researchers identified the mitigations carried out on the list of risks based on interviews with informants with the following conclusions:

Table 5. Inherent Risks, Risk Causes and Risk Mitigation in the Business Process of Electricity Cost Management and Recording

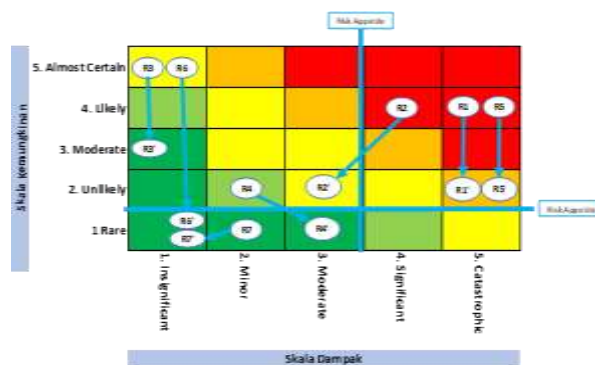
No.	Risk Code	Risk Event	Risk Mitigation
1	R1	Understated Expense	Improve business processes with the Shared Services business model.
2	R2	Over budget	Establish a policy that the electricity budget cannot be transferred to a budget other than electricity to be allocated to clearing electricity costs properly.

No.	Risk Code	Risk Event	Risk Mitigation
3	R3	Over Payment	Monitoring and reconciling outstanding Account Payables Debit Balance on a regular basis.
4	R4	Company Losses	Update the company's asset database regularly.
5	R5	Abnormal Balance Account Payables (Saldo Debit)	Rule generation and standardization of auto-debit remarks with Robotic Process Automation (RPA) Technology.
6	R6	Inaccurate recording of the value of electricity costs	Develop Robotic Process Automation (RPA) Technology which requires funds of around 70 million rupiah for development and licensing.
7	R7	The company's image and reputation are decreasing.	Upskilling business processes, socialization, and change management to increase employee awareness.

Source: Data processed by researchers (2022)

4.6 Residual Risk Level Measurement

Based on the results of the assessment of the likelihood and impact of risk after the mitigation described in point 5.3 previously, then a mapping of the risk level at each Risk Level is carried out based on the Relationship between the Likelihood Scale and the Impact Scale or also called the Risk Priority Number (RPN) which is described in Risk. The following heatmaps:



Source: Data processed by researchers (2022)

Figure 6. Risk Appetite and Residual Risk Level

4.7 Company Management Corrective Actions on Business Processes Management and Recording of Electricity Costs

As a form of improvement in the business process of managing and recording electricity costs at Company to support continuous improvement, researchers make recommendations for corrective actions that need to be taken by Company's Management, which can be seen in the Enterprise Risk Management (ERM) roadmap on business processes management and the recording of electricity costs as follows:

Table 6. Enterprise Risk Management (ERM) Roadmap on the business process of managing and recording electricity costs

No	Program	Activity Stage	Q1	Q2	Q3	Q4
1	<i>Refreshment</i> increase employee awareness of business processes and use of electricity budget as part of change management every year.	Socialization and Upskilling of Business Processes and their risks and impacts to increase awareness.				
2	Continuous monitoring of the implementation of risk mitigation that has been determined every quarter.	1. Implementation of monitoring and reconciliation every month to ensure the Outstanding Account Payables Debit balance can be cleared at no cost. 2. Ensuring RPA technology operates properly for smooth operations				
3	Implementation of evaluation every 6 (six) months.	The Asset Management, Treasury, Internal Auditor and Finance functions periodically evaluate business processes for managing and recording electricity costs.				
4	Follow-up based on evaluation results.	The Asset Management and Treasury functions as risk owners follow up on the evaluation results.				
5	Risk Monitoring Report quarterly and annually.	Reporting on the results of risk monitoring is carried out on a quarterly and annual basis.				

Source: Data processed by researchers (2022)

V. Conclusion

Based on data analysis of the documents collected and interviews in stages I and II conducted by researchers, the results obtained are as follows:

1. The business process of managing and recording electricity costs is still managed by each function.
2. The Business Process of Management and Recording of Electricity Costs is included in the category of operational risk, and the factors that cause outstanding transactions for recording electricity costs at oil and gas Companies in this research are because the Asset Management Function has not verified and validated electricity bills and sent a Payment Process Request Letter (SP3) document to the Function Account Payables, monitoring of electricity costs is not carried out optimally and electricity costs are transferred to other costs, the company has made advance payments for electricity by autodebit, payments for inactive company assets, the number of outstanding

transactions account payables debit balances due to unclear information remarks at the time debiting accounts, all verification, validation and SP3 creation processes are carried out manually, improper presentation of financial statements that have the potential to become audit findings.

3. Due to the factors that cause outstanding transactions in number 2 (two) above, 7 (seven) inherent risks arise in the business process of managing and recording electricity costs at Company, namely understated expense, over budget, over payment, company loss, abnormal balance account payables (debit balance), inaccurate recording of electricity costs, and declining company image and reputation. The results of the risk evaluation carried out by measuring the likelihood and impact of risk obtained a Risk Priority Number (RPN) with a risk level, namely 3 (three) risks of understated expense, over budget and outstanding abnormal balance accounts payable debit balances with a high level. There are two risks, namely over payment and inaccurate recording of the value of electricity costs at a moderate level. One risk is the loss of the Company with a low to moderate level.
4. Based on these inherent risks, risk mitigation is carried out, namely improving business processes with the Shared Services business model, establishing a policy that the electricity budget cannot be transferred to a cost budget other than electricity, monitoring and reconciling outstanding Account Payables Debit Balance regularly, updating the company's asset database regularly. , making rules and standardizing remarks autodebit with RPA technology, developing RPA technology to perform autodebit settlement, as well as upskilling business processes, socialization, change management to increase employee awareness
5. After risk mitigation has been carried out, it is known that the residual risk identified where the Risk Priority Number has decreased, namely two risks, namely understated expense and abnormal balance account payables (debit balance) with a moderate to high level. One risk is over budget with a moderate level, and four risks, namely over payment, company losses, inaccurate recording of the value of electricity costs, and the company's image and reputation declining at a low level.
6. This research contributes to providing added value to the Company's Management regarding corrective actions that must be taken by the Company's Management in the form of a recommendation for an Enterprise Risk Management (ERM) roadmap on the business process of managing and recording electricity costs, namely refreshment in order to increase employee awareness of Business Processes and the Use of Budgets. Electricity, carry out continuous monitoring of risk mitigation implementation, carry out continuous management and evaluation of the business process of managing and recording electricity costs so that risks remain within tolerance limits, following up on evaluation results, and making quarterly and annual risk monitoring reports on these business processes.

References

- Accenture (2020). Winning With Intelligent Operations. Shared Services: Your best defense and offense to outpace change, now and in the future.
- Aguirre, S., & Rodriguez, A. (2017). Automation of a business process using robotic process automation (RPA): A case study. In J. Figueroa-García, E. López-Santana, J. Villa-Ramírez, & R. FerroEscobar (Eds.), *Applied computer sciences in engineering* (pp. 65-71). Berlin: Springer
- Altuntas, Muhammed, Thomas R. Berry-Stölzle and Robert E. Hoyt. (2020). Enterprise

- Risk Management Adoption and Managerial Incentives. *Journal of Insurance Issues* 2020, 43(2):1–42. Western Risk and Insurance Association.
- Anderson, UL, Head, MJ, Ramamoorti, S., Riddle, C., Salamasick, M., & Sobel, PJ (2017). *Internal Auditing – Assurance & Advisory Services* 4th edition. USA: The Institute of Internal Auditors.
- Chris, Andrew. (2003) *Shared Service Centers Delivering value from more effective* Committee of Sponsoring Organization of the Treadway Commission. (2017). *Enterprise Risk Management - Integrating with Strategy and Performance*. New York: Committee of Sponsoring Organization of the Treadway Commission.
- Decael, Jupiter. (2009). *Service Dominant Logic and E-Commerce in Marketing*. *Journal of Economics Cita Ekonomika* Volume V, Number 1, May 2011 ISSN: 1978-3618.
- Dorner, K. and Edelman, D. (2015). *What 'digital' really means*. McKinsey & Company.
- Faisal, Muhammad et al (2020). *Enterprise Risk Management and Firm Value: The Role of Board Monitoring*. *Asia Pacific Fraud Journal*. Volume 6, Issue (January-June) 2021. finance and business processes. Great Britain : Pearson Education Limited.
- Fraser, John RS et al (2021). *Questions that are asked about enterprise risk management by risk practitioners*. *Business Horizons*. Volume 65, Issue 3, May – June 2022, Pages 251 – 260.
- Hansen, R. Don and Maryanne M. Mowen (2007). *Managerial Accounting* 8th Edition. USA : Thomson South Western.
- Institute of Management Accountants (2000). *Implementing Shared Services Centers*. United States : Institute of Management Accountants.
- International Organization for Standardization. (2018). *ISO 31000 International Standard – Risk Management Guidelines* Second edition. Switzerland.
- Jallow AK, B Majeed, K Vergidis, A Tiwari and Roy. (2007). *Operational risk analysis in business processes*. *BT Technology Journal*, Vol 25 No 1. January 2007.
- Kardina, Gems (2021). *Risk Management Analysis Based on Environmental and Social Aspects (Case Study: PT A)*. Thesis. Jakarta : University of Indonesia.
- Kennewell, Suzanne and Laura Baker. (2016). *Benefits and risks of shared services in healthcare*. *Journal of Health Organization and Management*, Vol. 30 Iss 3 pp. 441 – 456.
- Krippendorff, Klaus. (2004). *Content Analysis An Introduction to Its Methodology*. California : Sage Publications, Inc.
- Lalonde, Carole and Olivier Boiral. (2012). *Managing risks through ISO 31000: A critical analysis*. *Palgrave Macmillan Journals : Risk Management* Vol. 14, No. 4 (November 2012), pp. 272-300 (29 pages).
- Lam, James. (2017). *Implementing Enterprise Risk Management*. New Jersey : John Wiley & Sons, Inc.
- Lusch, Robert F. and Stephen L. Vargo. (2014). *Service-Dominant Logic Premises, Perspectives, Possibilities*. USA: Cambridge University Press.
- Mendling, Jan et al. (2018). *How do Machine Learning, Robotic Process Automation, and Blockchains Affect the Human Factor in Business Process Management?* *Communications of the Association for Information Systems*: Vol. 43 , Article 19.
- Moeller, Robert R. (2011). *COSO Enterprise Risk Management 2nd Edition. Establishing Effective Governance, and Compliance Process*. New Jersey : John Wiley & Sons, Inc
- Nugraha, Ucu and Rozahi Istanbul. (2019). *Implementation of ISO 31000 for Information Technology Risk Management in the Government Environment*. *International Journal of Innovation, Creativity and Change*. Volume 6, Issue 5, 2019.

- PwC Indonesia (2021). Operational Efficiency Through Shared Service Center (SSC) Webinar Series. Jakarta
- Ruiz, Jose and Canela Lopez (2021). How Can Enterprise Risk Management Help in Evaluating the Operational Risks for a Telecommunications Company? *Journal of Risk and Financial Management*.
- Strickwerda, J (2014). Chapter 1 Shared Service Centers : From Cost Savings to New Ways of Value Creation and Business Administration. Emerald Group Publishing Limited.
- Susilo, Leo J and Victor Riwu Kaho. (2018). Risk Management Guidelines for Risk Leaders and Risk Practicioners ISO 31000 : 2018. Jakarta : PT Grasindo.
- The Institute of Internal Auditors (IIA). (2016). International Standards for the Professional Practice of Internal Auditing (Standards).
- The Institute of Internal Auditors (IIA). IIA's Triple Line Model 2020. An update of the Triple Line of Defense Model. 2020.
- Tobing, Agustinus N. et al. (2022). Understanding Digital Transformation From A Digital-Based Dynamic Capabilities Perspective: A Case Study From Indonesia Life Insurance Industry. Universidad del Quindio.
- Tuanakotta, TM (2019). Risk Based Internal Audit. Jakarta: Salemba Empat
- Ulbrich, Frank. (2006). Improving shared service implementation: adopting lessons from the BPR Movement. *Business Process Management Journal*, Vol. 12 Iss 2 pp. 191 – 205.
- Ulbrich, Frank. (2010). Adopting shared services in a public-sector organization. *Transforming Government: People, Process and Policy*, Vol. 4 Iss 3 pp. 249 - 265
- Wahyuni, S. (2019). Qualitative research method: Theory and practice (3rd ed). Jakarta: Salemba Empat.
- Yang, Songling et al (2018). Enterprise Risk Management Practices and Firm Performance, the Mediating Role of Competitive Advantage and the Moderating Role of Financial Literacy. *Journal of Risk and Financial Management*.
- Yin, RK (2017). Case study research and applications: Design and methods (6th ed.). Thousand Oaks, CA: SAGE Publications