



Implementation of Digitization Audit Reporting for Supports Performance LPSQ Function at PT.XXX

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Abstract

Loss Prevention Safety and Quality/Designed Person Ashore (LPSQ/DPA) is responsible for ensuring safety elements on Pertamina International Shipping vessels and ensuring the fulfillment of maritime-worthy documents before ships set sail. This research aims to identify the challenges faced by PT.XXX in implementing digital audit reporting to support the performance of the LPSQ Function and to determine the benefits of implementing digital audit reporting on the performance of the LPSQ Function at PT.XXX. The research method used in this study is a qualitative descriptive approach. Data collection techniques include interviews with internal and external sources, observations, and documentation. Data analysis techniques involve data reduction, data presentation, and drawing research conclusions. Data validity testing includes credibility testing, source and technique triangulation, and member checking. This research reveals several challenges in the data grouping process, human errors, and server downtime. The benefits of implementing digital audit reporting on the performance of the LPSQ Function at PT.XXX include improved audit planning compliance and audit execution fulfillment, resulting in improvements in the audit reporting phase. The improvements obtained from using this application include easy presentation of audit results and more effective and efficient data delivery to audit leaders.

Keywords: LPSQ; Human Error; Server Dow

INTRODUCTION

In the modern era, technological advancements have had a profound impact on human life. One tangible example of technological progress began with the invention of the internet in the early 21st century. The application of the internet in human life has provided opportunities to simplify communication. Rapid technological advancements have propelled humanity into a transitional era where everything becomes more advanced and faster.

Pertamina International Shipping utilizes IoT to serve both external service implementation and better internal management. External services involve the entire business process carried out by the company, while internal management applications support activities carried out externally. In the development of IoT, whether internal or external, both have a balanced position and tend to influence each other.

Pertamina International Shipping acknowledges that the development of the information technology ecosystem will simplify internal management. Various information technology means are being developed to facilitate the business processes. Each function or unit is establishing an information technology framework, eventually evolving into an information technology ecosystem known as Det Norsk Veritas German Llyoid System (DNVGL).

DNVGL was implemented in 2019. It has aided the operations and activities of the LPSQ/DPA function in accelerating since the COVID-19 pandemic, which introduced work from home practices. Company leaders recognize the importance of digitalization in influencing employee performance, especially in the LPSQ/DPA function.

The Loss Prevention Safety and Quality/Designed Person Ashore (LPSQ/DPA) function is responsible for ensuring safety on Pertamina International Shipping vessels. Additionally, this

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department is responsible for overseeing the quality and safety of vessels to ensure compliance with maritime-worthy documents before ships set sail. This function has started implementing an information technology framework as part of its core duties in ensuring the suitability of the Safety Management System Manual (SMS Manual). The SMS Manual is a systematic approach to safety management, including the necessary organizational structure, responsibilities, policies, and procedures (KM No.20 of 2009). Safety factors are taken very seriously in line with indications from various elements, including accident rates in the maritime industry. In the maritime world, the SMS Manual represents a new paradigm, which has always been the essence of maritime safety.

Digitalization, as a manifestation of IoT, aims to enhance human resource productivity, ultimately affecting employee performance in the LPSQ/DPA function. Digitalization, according to Brennen and Kries, involves digital communication and the impact of digital media on contemporary social life. Digital technology changes through the process of digitalization will have an impact on employee performance and functions.

Based on the discussion above, the research questions in this study can be formulated as follows:

1. What are the challenges faced by PT.XXX in implementing digital audit reporting to support the performance of the LPSQ Function?
2. What are the benefits of implementing digital audit reporting for the performance of the LPSQ Function at PT.XXX?

This research is conducted with the aim of identifying the challenges faced by PT.XXX in implementing digital audit reporting to support the performance of the LPSQ Function and to determine the benefits of implementing digital audit reporting for the performance of the LPSQ Function at PT.XXX.

LITERATURE REVIEW

1. Theory description

1. Implementation

Implementation refers to a process or a series of activities in which each individual is expected to accept and adapt within an organization to achieve a certain goal. Goals can be achieved through a reliable execution network (Rosad, 2019).

2. Digitalization

The digital era, marked by advancements in information technology, has opened up broad prospects for every aspect of society. Digitalization not only updates methods and forms but also creates clear expectations and understanding of the work to be done. The rapid development of digitalization is characterized by the emergence of various sophisticated tools, where ease in processing, producing, sending, and receiving various information can be done flexibly, meaning it can be done anywhere and anytime. From this, we can realize that the digital era brings about changes, both positive and negative, becoming a new challenge for us (Nurfadillah, 2022).

3. Audit Reporting

According to Gusti Rai in Bayyinah (2020), the fundamental idea behind audit reporting standards is that every audit will not be successful if the results obtained are not effectively communicated. Therefore, audit results must be communicated in the form of an audit report. Auditors must strive to prevent readers from misunderstanding the tasks performed. This is done to achieve the audit objectives, especially if the tasks have limited time and resources. Accurate information disclosure, such as objectives, scope, and audit methods, is

crucial for audit result users to understand the purpose and type of audit and provide the necessary opinions in the report.

4. Performance

According to Arya (2018), performance in an organization is an individual's response to achieving job qualifications done on time, resulting in good quality in line with the organization's vision and mission. This is interpreted as a response that will affect the quality produced.

5. Loss Prevention Safety and Quality/Designated Person Ashore (LPSQ/DPA)

The Loss Prevention Safety and Quality/Designated Person Ashore Department (LPSQ/DPA) is responsible for ensuring safety elements on Pertamina International Shipping's vessels. Additionally, this function is responsible for supervising vessel quality and safety to ensure the adequacy of maritime documents before the vessel embarks on a voyage, with internal audits and safety oversight conducted by a Designated Person Ashore (DPA). According to the International Safety Management Code (ISM Code), every shipping company is required to have someone responsible for overseeing and reviewing all aspects related to vessel safety (Suganjar & Hermawati, 2019).

RESEARCH METHOD

The research method used in this research is descriptive qualitative method.

1. Research Method

The research method used in this study is qualitative research using a descriptive pattern. Qualitative research aims to provide a clear picture and description of actual events. Qualitative research is conducted based on natural subject conditions, with the researcher as the key instrument, using data collection techniques through triangulation, inductive data analysis, and producing research that emphasizes generalization (Abdussamad, 2021).

2. Research Time and Location

a. Research Time

This research was conducted during the onshore training program to fulfill semesters V and VI of the Semarang Maritime Polytechnic, which took place at PT.XXX from August 2021 to August 2022.

b. Research Location

During the research, the author was stationed in the Loss Prevention Safety and Quality/Designated Person Ashore (LPSQ/DPA) function, responsible for ensuring safety elements on ships owned by PT.XXX. During the onshore training, PT.XXX was located at PT.XXX, Jl. Yos Sudarso No. 32-34, Kebon Bawang, Tanjung Priok RT.19/RW.5, Kb. Bawang, Tj. Priok, North Jakarta, Special Capital Region of Jakarta 14320.

3. Data Sources/Informants

a. Primary Data

Primary data includes opinions, knowledge, actions, and notes related to the digitization process in the LPSQ/DPA function. The data obtained by the author resulted from direct observations during the author's training at PT.XXX.

b. Secondary Data

Secondary data are indirectly obtained from official documentation or other records. Secondary data sources were used to support the information obtained from official websites, previous research, user manuals for the DNVGL application, and SMS Manual documents, as well as audit reports from PT.XXX related to the "digitization process"

carried out by employees in the office. This was needed as a guide to enhance the researcher's understanding of data management in this research theoretically and formally.

4. Data Collection Techniques

a. Observation

Observations were participatory and conducted by the author over a period of 12 months during the onshore training at PT.XXX. During this time, the author was placed in the LPSQ function. The author also participated in direct observations of the digitalization implementation of audit reporting as a cadet. The author, in the role of a cadet, was responsible for processing internal audit data and inputting it into an application called Det Norske Veritas & Germanischer Lloyd (DNVGL). This application helped employees manage existing data, such as monthly reports on near misses, unsafe acts, and unsafe conditions routinely conducted on all ships owned by PT.XXX. While on duty, the author observed the digitalization that supported the performance of the LPSQ/DPA function and identified challenges and benefits that arose during the implementation of digitization.

b. Interviews

The author conducted direct interviews with internal LPSQ/DPA personnel, including the Senior Superintendent and DPA, Junior Officers, as well as external LPSQ/DPA personnel from Fleet Insurance Budgeting and Performance. This was done by the author to obtain information/data related to the digitalization output of DNVGL that was connected to their daily work. This aimed to demonstrate how the performance of the LPSQ/DPA function improved and became better with both internal and external digitization. The author conducted interviews with informants outside of onshore training time, either in person or via online Zoom Meetings. The author conducted semi-structured interviews, asking the same questions to informants to determine whether the performance of the LPSQ/DPA function could be considered good according to the digitalization indicators mentioned earlier.

c. Documentation

Documentation was used to complement the research process, obtained through observations and interviews. Documentation served as a qualitative research method used by the author to obtain data from non-human sources, such as DOC certificates, audit plan lists, DPA arrangements, audit results summaries, ISSC certificates, audit results, and validation status lists.

5. Data Analysis Techniques

Qualitative descriptive data analysis was used to analyze the data obtained from interviews, field notes, and research documentation. The following data analysis techniques were used:

a. Data Reduction

Data reduction involves simplifying, categorizing, and eliminating unnecessary data to generate meaningful information and facilitate drawing conclusions.

b. Data Presentation

Data presentation is one of the activities in preparing research reports to ensure that the data can be understood and analyzed according to the desired objectives.

c. Drawing Conclusions/Verification

Drawing conclusions/verification is the process of seeking or understanding meaning, patterns, explanations of cause and effect, or propositions.

6. Data Validity Testing

Credibility testing in qualitative research, also known as intrinsic validity, involves data that aligns with what the researcher reports and what actually happened with the subjects being studied. For example, weaknesses were found in the data input process during the preparation of audit reports. This issue needed to be examined in more detail. Data credibility testing in qualitative research consists of prolonged engagement, increased persistence, triangulation, and member check (Mekarisce, 2020).

a. Triangulation

1) Source Triangulation

Source triangulation is done by verifying data obtained from various sources.

2) Technique Triangulation

Testing credibility using the technique of triangulation is done by verifying data obtained from the same data source but with different technique applications (Mekarisce, 2020).

b. Member Check

Member check is the process of directly verifying data with its source. From its purpose, member check is data obtained in research that aligns with the data/source. Member checks can be conducted after each data collection period. The procedure can be carried out individually, where the researcher responds to data sources in group discussions.

FINDINGS AND DISCUSSION

PT.XXX is a business entity engaged in the oil and natural gas mining industry. This company is a State-Owned Enterprise (SOE) that manages oil and gas mining operations in Indonesia. PT.XXX has several directorates that support its operational activities. These directorates include the Business Planning Directorate, Commercial Directorate, Operations Directorate, Fleet Directorate, Human Resources and Support Directorate, and Finance Directorate. One of the directorates we will discuss is the Fleet Directorate.

Within the Fleet Directorate, there is the Loss Prevention Safety Quality/Designated Person Ashore (LPSQ/DPA) function, which focuses on managing owned vessels. In the LPSQ/DPA function, there are 10 employees, including the manager of LPSQ/DPA, who plays a crucial role in the department's operations. Below the manager is the Assistant Manager of the Safety Management System, who is assisted by a Junior Officer. In this function, employees are responsible for processing data such as ship seaworthiness documents, monitoring audit execution, reporting near misses, unsafe acts/conditions, and more.

The Superintendent serves as the Designated Person Ashore (DPA) and directly conducts audits on PT. PIS-owned vessels. There are 5 DPAs, each representing a fleet. According to the latest data available, there are 89 owned vessels divided into 5 fleets, each with its DPA responsible for internal and external audits. DPAs must ensure that documentation and onboard safety compliance are in line with the SMS Manual provided for each ship.

1. Problem Analysis

During the research period, the ease that employees experienced in the LPSQ/DPA function with the use of digitalization, specifically the DNVGL application, was observed. This application simplifies tasks related to reporting and data recording on ships, such as audit reporting. This application assists employees in recording audit results, scheduling audits (both planned and realized), and more. Figure 3 below outlines the steps in conducting internal audits within the DNVGL application.

Before the DNVGL application, the use of paper was considered ineffective and inefficient. For example, when an unsafe condition was reported, the ship's captain would

document it on paper, sign it, scan it, and email it to the office. The office would then verify the accuracy of the ship crew's report, and once verified, the document would be sent back for signatures by the responsible parties on the ship. Afterward, the office would compile the completed reports. Figure 5 illustrates an example of manually documented audit results by the LPSQ/DPA function.

With the advent of DNVGL, each ship crew member has their own account for reporting, which can be approved directly by the ship's captain and office personnel. This allows for immediate data compilation and automated analysis. Captain Willy Hernando, the Superintendent and DPA in the LPSQ/DPA function, emphasized that the automated audit reporting output from this application greatly assists in the monthly reporting process to superiors such as the Vice President or even the Director. The automated analysis results from the DNVGL application.

2. Problem Discussion

a. What challenges did PT.XXX face in implementing digitalization of audit reporting to support the performance of the LPSQ/DPA function?

1) Data Categorization

In the LPSQ/DPA function, there are two types of data input, filtered and unfiltered, according to the interviewee. Filtered data requires authorization and procedures for categorization, while unfiltered data, which increases with more reports, becomes challenging to categorize. To address this, organized data categorization is implemented to minimize input errors. However, errors may still occur, so the LPSQ/DPA function has a shore-based system to ensure data accuracy.

2) Human Error

Human errors still occur because the DNVGL system relies on human input for data input, monitoring, and analysis. Preventive measures include monthly familiarization with circulars and application usage guidelines. Pre-joining ship training is conducted to explain the application's use and safety procedures to ship crews. Communication between the office and ship crews is maintained through WhatsApp groups to address any input issues promptly. In essence, the LPSQ/DPA function provides comprehensive support for crew members in using the DNVGL application.

3) Server Outages

Server downtime and occasional disruptions in the information technology ecosystem due to weak network connections or busy hours are challenges. Preventive actions include problem mapping and communication among users, vendors, and IT personnel regarding problematic servers and networks.

b. What are the benefits of implementing digitalization of audit reporting for the performance of LPSQ/DPA at PT.XXX?

The implementation of digitalization of audit reporting for the LPSQ/DPA function at PT.XXX has been ongoing since 2012 and became widespread in 2018. With the implementation of the DNVGL application, audit reporting processes have become more efficient. Several benefits have been gained, including improved reporting, data compilation, and analysis.

Benefits of implementing the DNVGL application include:

1) Audit Planning Alignment

DNVGL's role in Loss Prevention Safety and Quality/Designated Person Ashore (LPSQ/DPA) audit planning involves using historical audit findings and clause checks

for non-compliance. DNVGL automatically generates analysis results from input data, which then become graphical analysis charts. After analysis results are generated, LPSQ/DPA function employees conduct monthly reviews to discuss the findings reported by the ship crews each month.

2) Audit Execution Fulfillment

Both internal and external audits can be conducted online using the DNVGL system, allowing auditors to directly access data from start to finish based on automatically stored data in the DNVGL application. Designated Persons Ashore (DPAs) who serve as auditors can optimize audit timing, ensuring that ship operations are not impacted by the audits.

In another study case, DPAs can exchange information and data using DNVGL. This demonstrates that the use of DNVGL has an impact on timeliness and effectiveness in audit execution, indicating good organizational performance.

3) Improvement in the Audit Reporting Phase In the audit reporting phase, the use of DNVGL plays a crucial role. Audit results are easily accessible, and the delivery of audit results to management review meetings is efficient and timely. This leads to improved performance in presenting timely and accountable reports, as well as training on DNVGL usage that has been conducted previously to equip auditors with the skills needed for effective application usage.

CONCLUSIONS

Conclusions

- a. Challenges of implementing digitization in audit reporting at PT.XXX.
 - 1) Data categorization: Categorizing data obtained from reports generated by the DNVGL application is crucial to prevent input errors and data loss due to disorganized data.
 - 2) Human error: Human input errors still occur frequently as the application relies on human input. Utilizing tools like BJST and easy communication through WhatsApp groups can help minimize human errors.
 - 3) Server issues: Server-related problems may arise due to weak network connections and high usage during peak hours when many users are accessing the system.
- b. Benefits of implementing digitization in audit reporting at PT.XXX.
 - 1) Audit planning accuracy: The application can automatically generate analysis and historical data from previous audits, enhancing the accuracy of audit planning.
 - 2) Audit execution efficiency: Using this application for audit reporting optimizes audit time and facilitates information exchange among the DPA team. This ensures timeliness and effectiveness in audit execution.
 - 3) Improvement in audit reporting: The application streamlines the presentation of audit results and makes data delivery to audit leaders more efficient. It supports performance improvement by providing timely reporting.

Recommendation

- a. Establish clear and consistent data categorization standards by creating guidelines for application users to ensure accurate data categorization. LPSQ/DPA can verify and validate data after input to ensure proper categorization and no errors.
- b. Provide comprehensive and regular training and familiarization to DNVGL application users regarding proper usage and accurate data input procedures. Additionally, consider developing innovations, such as automatic validation or data error checks during input, to minimize human errors.

- c. Involve the audit planning team in application development and maintenance to gather input and suggestions for enhancing audit planning accuracy. PROVIDE TRAINING AND GUIDANCE ON APPLICATION USAGE TO THE ENTIRE AUDIT TEAM, INCLUDING DPA, TO ENSURE GOOD UNDERSTANDING AND EFFECTIVE USAGE.
- d. Pay attention to comprehensive risk mapping implementation, not only in specific units, and ensure that risk zones on the risk map serve as guidelines for all users (employees and ship crews) to anticipate, mitigate, avoid, or eliminate risks that could lead to significant losses, such as server downtime due to events like fires resulting in data loss. Evaluate the network infrastructure and servers in use and ensure they have sufficient capacity to handle the number of users and intensive access during peak hours. Perform routine maintenance on servers and networks to ensure optimal performance by strengthening the network infrastructure to prevent potential weak network issues. Additionally, it's essential for the company to have an emergency plan and backup solutions to address server downtime situations, including system recovery policies and alternatives to ensure the smooth flow of audit reporting processes.

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