

## The Influence of Blueprints on Internal Audit Monitoring System (IAMS) Application Development

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**ABSTRACT:** *The Digitalization era shows increasing application developments, both at the individual, group, and corporate levels. One of the corporations or companies involved in this Digitalization development is PT Pelindo Terminal Petikemas. The need for auditing activities arises to ensure that the company's business processes comply with regulations and policies. To fulfill the audit working papers, the Internal Audit Division of PT Pelindo Terminal Petikemas has developed IAMS (Internal Audit Monitoring System), a web-based application that plays a role in digitizing the auditing process. However, the absence of a blueprint or master plan for this application has become a constraint in its development, as there are still features that are not fully optimized when used. This research is conducted to identify the deficiencies in the application caused by the absence of a blueprint and to emphasize the importance of creating a blueprint in the application development process. The research adopts a descriptive qualitative approach and tends to use analysis. The primary data for this research were obtained through interviews and literature studies, and bibliographic references were used to compile the literature. The research findings conclude that the IAMS (Internal Audit Monitoring System) application must still be fully optimized to assist the company's internal auditing activities. One of the reasons for its suboptimal performance is the lack of a blueprint, which would facilitate the application's development and serve as a direction and master plan for designing an application.*

**Keywords:** Accounting Information System, Audit Application, Blueprint.

## INTRODUCTION

Internal audit is an essential tool for monitoring organizational governance and operations (Tias et al., 2022). The larger the company, the more samples to be audited will increase, and the scope of audit procedures will also expand (Annisa, 2018). According to Fadillah (2021), companies that experience growth and development will definitely improve the quality of their information technology systems to handle information needs that continue to increase from time to time. The development of information technology has an impact on auditing practices. Technology in the audit process has a crucial role in making it easier for auditors to support audit activities to achieve audit objectives effectively and efficiently.

PT Pelindo Terminal Petikemas, or what is usually called SPTP, is a State-Owned Enterprise that operates in the port services sector and is included in the category of the largest port operator in Indonesia. Based on company data for 2022, SPTP has 14 branches and 7 subsidiaries. This means that many terminals have to be audited. In interviews conducted with SPTP internal auditors, it was explained that carrying out audits often faced obstacles, such as the relatively long time required, significant costs for printing reports, and difficulties in monitoring audit findings and corrections. Based on the problems faced by internal auditors, PT Pelindo's Information Technology Division has created an audit application to assist internal auditors in integrating Auditee data to produce an Audit Results Report (LHA).

The audit application owned by SPTP is called the web-based Internal Audit Monitoring System (IAMS). However, there are still several shortcomings in its use in helping to store data

to produce LHA. In an interview, the Internal Audit Unit Manager stated that the LHA table was not precise and the format was not neat when downloaded, so the auditor had to work twice. In interviews with internal auditors, the IAMS application was felt to be less effective in helping collect data to be audited because the application's storage was limited. Apart from that, the internal auditor also said that the application does not yet have a system reminder feature via the application when the auditee has not submitted the data. Meanwhile, according to Elisabeth (2019), audit applications assist auditors in carrying out the audit process. The use of audit applications is intended to automate the auditing process.

Based on information obtained by the author from the Internal Audit Unit Manager, the IAMS application also does not yet have a blueprint. In reality, a blueprint is a detailed description of the planning of an application. According to Kusumawardani (2018), a blueprint is a document that details the process of building a company information system by utilizing a strategic plan designed by the company according to the company's needs. Based on research conducted by Trisnanto & Lala (2022) in RT 12 RW 02, Tunjungsekar Village, Malang, with the title *Blueprint for the Development of Health Information Services*, the results showed that with the existence of a blueprint, electronic health information services can be realized well. Additionally, blueprints provide direction, help develop health service information technology, and help find errors so that health service programs can be realized as desired.

Based on this description, the goal that the author wants to achieve is to explain the shortcomings of the application due to the absence of a blueprint and explain that the existence of this blueprint is vital for the development of an application so that the features in the application can be improved according to the auditor's needs because until now the creation of a blueprint has not yet been carried out. Apart from that, We also hope to provide suggestions regarding application improvements as a form of input to PT Pelindo Terminal Petikemas so that in the future, the company can improve the application so that the audit activities carried out can run optimally.

## LITERATURE REVIEW

### **Audit Application**

Audit applications are the use of information technology and special software to carry out audit processes (Elisabeth, 2019). According to Setiatin (2018), audit applications enable the efficient collection, processing, and analysis of data and assist in monitoring, controlling, documenting, and reporting audit results. Audit applications are designed to assist and speed up the implementation of audits and can improve efficiency, accuracy, and audit quality by automating routine tasks, applying deeper data analysis, and providing support when facing complex audit challenges. In the view of Setiatin (2018), auditors need to be careful not to rely too heavily on information simply because a computer generates it. After all, the accuracy of the data produced cannot be fully guaranteed. Therefore, auditors must understand properly before concluding that the information produced by the application is reliable.

According to Winarto (2022), audit applications can have various functions and features depending on the objectives and needs of a particular audit. Some examples of standard functions in audit applications include:

1. **Data Collection and Processing**

Audit applications enable the automatic collection and processing of data from various relevant sources, including financial information systems, databases, and electronic documents. This data can be analyzed and used to understand the audited entity better.

2. **Data Analysis**

Audit applications use data analysis techniques and algorithms to identify relevant patterns, anomalies, and trends in audit data. This analysis helps detect potential fraud or errors, and allows auditors to conduct more in-depth testing of risk areas.

3. Monitoring and Control

Audit applications can help continuously monitor business activities, identify policy violations or compliance risks, and alert auditors to events that require further action. This helps improve internal control and reduces the risk of errors or fraud.

4. Documentation and Reporting

Audit applications help store and manage audit documents centrally, allowing auditors to access relevant information easily. In addition, this application can produce complete audit reports, including the auditor's findings, recommendations, and conclusions.

5. Data Security and Integrity

Audit applications also provide robust security features to protect audit data from unauthorized access, manipulation, or loss. Data security is essential in maintaining the integrity and confidentiality of information related to the audit process

From this explanation, the author concludes that the audit application is designed to help speed up the implementation of audits by automating several routine tasks and providing more in-depth data analysis. However, it is essential to remember that audit applications should be used as a tool for auditors, not a replacement for auditors themselves. Auditor professionalism and judgment remain key factors in the entire audit process. Although audit applications can increase efficiency and accuracy, the human ability to understand context and make ethical decisions remains something that technology cannot replace. By combining the advantages of technology and human wisdom, audits can become more efficient, effective, and add more excellent value to the organization.

### **Accounting Information System (AIS)**

An Accounting Information System (AIS) is a system that can collect, record, store, and process data in order to produce relevant information for decision-makers (Steinbart., 2018; Nugraha, 2023)). Faiz (2021) states that AIS integrates information technology with accounting practices to support decision-making processes, financial reporting, and internal control. AIS is important in automating and simplifying various accounting processes, such as recording financial transactions, completing the accounting cycle, budget planning, inventory management, payroll, and financial reporting. This system allows users to collect and process data more efficiently, increase information accuracy, and reduce the risk of errors and fraud. With an effective AIS, companies can optimize decision-making, increase operational efficiency, and maintain compliance with applicable accounting and tax regulations (Hertati, 2020)

According to Derri (2022), the main components in AIS include:

1. Inputs

Collecting and inputting financial transaction data into the system, either through manual or automatic methods, such as using barcodes or scanning.

2. Process

Data processing uses accounting software to produce relevant accounting information, such as general journals, ledgers, balance sheets and profit and loss statements.

3. Storage

Storing transaction data and accounting information in a centralized and structured database or storage system.

4. Outputs

Generate financial reports, management reports, and other accounting information according to user needs.

5. Control

Provide internal control mechanisms that include data security, access authorization, validation, and audit trail to ensure the integrity and reliability of information.

Accounting Information Systems (AIS) are critical to a company's success in facing increasingly complex business challenges. The main objective of AIS is to provide accurate, relevant, and timely accounting information to internal and external stakeholders, such as company management, investors, creditors, and supervisory authorities. Although AIS provides great benefits in the accounting process, humans remain an essential factor in interpreting financial information and making intelligent decisions. Accounting Information Systems should be used wisely and managed well to provide added value to the organization in achieving its financial and operational goals.

### **Blueprint**

In an organizational policy framework, a blueprint refers to a document or plan that presents an organization's vision, goals, and strategic direction (Irawinne, 2020). In this context, a blueprint is a structured and comprehensive guide describing how the organization plans to achieve its mission and goals. In an organizational policy framework, a blueprint refers to a strategic plan and guide that defines an organization's vision, mission, goals, policies, and procedures. This blueprint provides detailed guidance on how the organization plans to achieve goals and meet internal and external needs (Kusumawardani, 2018)

Concerning innovation, blueprints can also be a good starting point for experimentation and exploration of new concepts. The development team can test creative ideas that are not yet covered in the blueprint, and if the idea proves successful, it can be included in planning more formally. In addition, blueprints also play an essential role in increasing collaboration between team members, reducing the risk of miscommunication and errors. This allows teams to work together to achieve predetermined goals (White et al., 2019). Blueprints also help increase predictability in development projects so that project management can better plan and organize resources. When an application is in the production stage, a blueprint facilitates updates and improvements, helping the development team identify areas that need improvement to improve the quality and performance of the application (Hsu, 2020). With all its benefits, using blueprints in application development is crucial in achieving overall project success. The influence of blueprints on application development includes:

a. **Guiding the Development Process**

Blueprints provide detailed guidance on how applications should be built and operate. This helps direct the development team on what needs to be done and how to address issues that may arise during the development process.

b. **Increase Collaboration**

The blueprint serves as a reference for the entire development team. By having clear guidelines, each team member can work together and collaborate more efficiently, reducing the risk of miscommunication and errors.

c. **Ensure Consistency**

Blueprints help ensure that applications are developed consistently from start to finish. By following these guidelines, the development team can ensure that all app features and components conform to the overall plan.

d. **Increase Predictability**

By having a good blueprint, the development team can estimate how long it will take to complete the application and understand the result. This helps increase predictability and enables more efficient project management.

e. **Facilitates Updates and Repairs**

When an application is in the production stage, a blueprint can help in the update and repair process. By clearly guiding the initial design, the development team can more easily identify areas that need improvement or fixing.

## RESEARCH METHOD

### Research design

The type of research used is descriptive qualitative. According to Zellatifanny & Mudjiyanto (2018), descriptive research is an approach to finding specific meanings and describing conditions related to the problem being raised. The aim is to investigate how this can happen based on the facts carefully. So, descriptive qualitative research is a method used to collect the necessary data and then compile and analyze it systematically to provide a detailed explanation or picture of the problem being studied.

### Object of research

The company that is the object of this research is PT Pelindo Terminal Petikemas, focusing on the influence of blueprints on the development of the Internal Audit Monitoring System (IAMS) application. There are two data used. The first uses primary data obtained through direct interviews with internal auditors, the SPI Division manager, and one of the Information Technology Division employees. Second, secondary data is obtained indirectly through company data, articles, journals, books, and the Internet.

### Data collection technique

Interviews and documentation were used to collect data for this research. According to Yudiantara et al. (2021), an interview is an interaction where the interviewer tries to dig up information from the respondent to obtain the necessary data. Meanwhile, documentation is a data collection method that involves using existing documents or written records as a source of information (Ulfah et al., 2022). In this research, the author used both techniques to obtain data.

### Data analysis technique

According to Rijali (2018), data analysis can be explained as a data processing process to identify the results of the event being researched and make it easier for researchers to understand the case. In this research, the author collected data from sources through interviews. There were three sources in data collection: the internal auditor, the Internal Audit Unit manager, and one of the Information Technology Division employees who had information regarding the IAMS application.

## RESULTS AND DISCUSSION

### Disadvantages of the Internal Audit Monitoring System (IAMS) Application Due to the Absence of a Blueprint

In this research, researchers obtained data from interviews and documentation related to the IAMS application and the obstacles internal auditors and Internal Audit Unit Managers face when using it. In an interview with the Internal Audit Unit Manager, he said:

"To help auditors carry out audit activities, there is already an application called Internal Audit Monitoring System (IAMS), a web-based application."

*"Dalam membantu auditor melakukan kegiatan audit, sudah ada aplikasi namanya IAMS (Internal Audit Monitoring System) yang bentuk aplikasinya berupa web-based." (in Bahasa)*

In the interview, the Internal Audit Unit Manager also added:

"The audit results report consists of many series. So when the LHA is downloaded, the paper is in separate pieces. That means it doesn't come together from start to finish. So, the time to correct it doesn't happen all at once and wastes time. The form of the table is sometimes not precise, and the format is not neat, thus making the auditor work twice as hard."

*"Laporan Hasil audit terdiri dari banyak rangkaian. Jadi waktu LHA di download, kertasnya terpisah-pisah. Maksudnya tidak jadi satu renteng dari awal sampai akhir. Jadi, waktu mengoreksi tidak langsung semua dan membuang waktu. Bentuk tabelnya terkadang juga tidak presisi dan formatnya tidak rapi, sehingga membuat auditor kerja dua kali." (in Bahasa)*

MONITORING TINDAK LANJUT TEMUAN.....  
TAHUN.....

NO	TERMINAL / ANAK PERUSAHAAN	JUMLAH TEMUAN	STATUS TINDAK LANJUT					NILAI
			R	S	BS	BD	TDD	
1	Terminal.....	....	...	...	...	...	...	...
2								

Kode	Keterangan
R	Rekomendasi
S	Sesuai
BS	Belum sesuai
BD	Belum ditindak lanjuti
TDD	Tidak dapat ditindak lanjuti

**Figure 1. Table of Precise Audit Results Reports when Downloaded**

The Internal Audit Unit Manager also explained:

"The IAMS application doesn't have a blueprint; it only has a guidebook for using the application. If there were a blueprint, it would make it easier to improve or develop it."

*"Aplikasi IAMS belum punya blueprint, hanya punya buku panduan penggunaan aplikasinya saja. Kalau ada blueprint kan jadi memudahkan untuk perbaikan atau pengembangannya." (in Bahasa)*

Based on this statement, it can be interpreted that the absence of a blueprint in the IAMS application indicates a deficiency in planning and technical guidance for application development. Even though a user manual is available, a blueprint will provide more detailed and systematic guidance for the development team. By having a detailed blueprint, the development team can work more efficiently and organized, avoid unnecessary mistakes, and ensure consistency at every stage of development (Moreau et al., 2019)

Apart from the Internal Audit Unit Manager, the internal auditor said that:








"In the IAMS application, no feature makes it easy to record evidence from the implementation of follow-up actions to recommendations made by the auditee, so it is still done manually in a matrix table in Ms. Excel. This manual recording is less effective because you have to check Google Drive manually and periodically."

*"Di aplikasi IAMS belum ada fitur yang memudahkan untuk pencatatan bukti dari pelaksanaan tindak lanjut atas rekomendasi yang dilakukan auditee, jadi masih dilakukan secara manual dalam tabel matriks pada Ms. Excel. Pencatatan manual ini kurang efektif karena harus melakukan pengecekan pada googledrive secara manual dan berkala." (in Bahasa)*

Dibagikan kepada saya > ... > Tahun 2023

Jenis ▾ Orang ▾ Dimodifikasi ▾

Nama ↑

 1. Perencanaan
 2. Pelaksanaan
 3. Pelaporan
 4. Draft LHA Gabungan
 Permintaan Data Audit Makassar 2023
 SP Audit Terpadu TPK New Makassar.pdf 

**Figure 2. Screenshot of Google Drive Matrix Table of Follow-up on Recommendations**

The Internal Auditor also added that:

"The application does not yet have a system reminder feature via the application when the auditee has not submitted the data, so the auditor and manager remind the auditee manually via personal chat."

*"Aplikasi belum memiliki fitur reminder secara sistem melalui aplikasi ketika auditee belum menyampaikan datanya, sehingga auditor dan Manajer me-reminder auditee secara manual melalui personal chat." (in Bahasa)*

"This IAMS application is web-based, so it has limited memory and cannot accommodate the data to be audited. Therefore, auditors store audit data using Google Drive."

*"Aplikasi IAMS ini bentuknya web-based jadi memiliki memori yang terbatas dan belum mampu menampung data-data yang akan diaudit secara keseluruhan. Maka dari itu, auditor menyimpan data-data audit menggunakan google drive." (in Bahasa)*

From this explanation, it can be interpreted that the web-based IAMS application also has memory limitations in accommodating the audit data as a whole, which leads to the use of Google Drive as an alternative storage. For the free version, Google Drive's storage capacity is 15GB, so auditors must buy large and certainly paid storage to accommodate audit data. Based on the interview, there are still several shortcomings in the application, and further improvements are needed to optimize the application's function. Therefore, creating a blueprint for the IAMS application is necessary to help developers develop applications according to the auditor's needs.

### **The Influence of Blueprints on Application Development**

In an interview, one of the Information Technology Division employees said:

"The effect of not having a blueprint for an application is that there is no guidance for application developers. Especially when each user has different requests."

*"Pengaruh tidak adanya blueprint pada suatu aplikasi adalah tidak adanya pegangan untuk developer aplikasi. Apalagi ketika setiap user memiliki permintaan yang berbeda-beda." (in Bahasa)*

This means that each user has different requests, and application developers must be able to adapt to this. One of the main advantages of using a blueprint is its flexibility in application development. The development team is not bound by every detail in the blueprint, so they have the freedom to innovate and adapt to changing needs that may arise during the development process. In many cases, deficiencies or changes in the application requirements may be discovered during the development phase that must be adjusted. With this flexibility, the team can adjust the blueprint according to needs without having to start from scratch or redesign the entire application (Tsui, 2022)

Regarding application development, one of the Information Technology Division employees said:

"The application has not been developed further because the business process has not yet been settled. It always changes every time the auditor meets with another."

*"Penyebab aplikasi belum dikembangkan lagi karena proses bisnis yang belum settle, selalu berubah setiap bertemu dengan auditor satu dengan yang lainnya." (in Bahasa)*

It can be interpreted that setbacks in application development are caused by uncertainty in business processes that are still changing and unstable. Frequent changes every time you interact with different auditors hinder application development progress. This situation shows that success in developing applications does not only depend on technical aspects but is also closely related to changing business and environmental factors. The development team can use the blueprint as a guide and central reference point, but it is still possible to look for new ways to implement certain features or adopt the latest technology that is more efficient. This flexibility allows the team to face challenges that may arise during development and can also increase the efficiency of the overall development process. In other words, blueprints help direct and guide overall application development and allow for adaptation and change according to changing needs or technological advances. This makes the development process more dynamic and responsive to environmental changes and user demands (Van, 2020)

He also added:

"Suggestions regarding deficiencies in the IAMS application are expected to create technical guidelines or blueprints or BRDs and re-develop the IAMS application."

*"Saran terkait kekurangan pada aplikasi IAMS ini diharapkan membuat juknis atau blueprint atau BRD dan re-develop aplikasi IAMS." (in Bahasa)*

This statement can mean several deficiencies in the IAMS application must be corrected. To overcome these shortcomings, it is recommended to create a more detailed development guide such as technical guidelines, blueprint, or Business Requirements Document (BRD), and re-develop the IAMS application. These steps are proposed so that application development can be carried out in a more structured and organized manner by referring to clear and comprehensive guidelines. With guidance and re-development, the IAMS application is hoped to be optimized to meet user needs, overcome existing deficiencies, and face changes that may occur in the application usage environment.

## CONCLUSION

Based on the results and discussion, the IAMS application currently used can be said to be less than optimal in its use. One of them is caused by the absence of a blueprint. With a blueprint, it can be said that it is a form of master plan in planning the completion of an application because it can provide an overview of the actual conditions of audit activities starting from making warrants, collecting audit data, issuing Audit Result Reports (LHA), to monitoring follow-up findings.



actualized audits on IAMS applications. Therefore, it is hoped that implementing blueprints in IAMS applications will provide a clearer and more structured direction for developers and users. This allows for improved quality of application use, optimizes the audit process, and better responds to changes in the environment and user demands.

Suggestions from the author regarding several shortcomings or obstacles experienced by internal auditors regarding audit activities that are not fully integrated using applications, namely that the IAMS application must be improved, including a precise table format when downloaded and a neater Audit Result Report format. A data collection reminder notification feature has been added to auditees to remind them to be on time in sending data. The IT and SPI divisions can also coordinate with the quality management team regarding the implementation of the application's operational system and procedures (SOP). With the SOP, there will be a standardization of how employees (both from IT and SPI) complete work, especially the IAMS application, making it easier for companies to evaluate the program or performance of the application. Suggestions for further research are to provide an accurate picture through designing a blueprint for the IAMS application by improving features that are deemed less than optimal based on this research so that they can be used as suggestions regarding application improvements as a form of input to PT Pelindo Terminal Petikemas so that in the future, the company can improve the application so that the audit activities carried out can run optimally.

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