Implementation of an Electronic Integrated Management System at PT. ASDP Indonesia Ferry (Persero)

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Abstract

This research aims to increase information and knowledge related to digitalization innovations developed and implemented by PT ASDP Indonesia Ferry (Persero), namely Electronic Integrated Management Systems to support daily office work needs starting from the administration process (submission), preparation process, approval process to the process of storing company procedural documents. This research uses a qualitative approach with data collection techniques, namely observational studies, literature studies, interviews and documentation as primary data, while the secondary data used are previous articles/journals and books related to the research. In this research, researchers used a purposive sampling technique to take some data sources, namely informants or research subjects from the total number of informants, so that they became data sources that were relevant to the research topic. And the researcher validated the data in this research using triangulation techniques and in analyzing the data the researcher used an interactive analysis model. The research results show that the implementation of E-SMT to date has gone well according to its function in managing SOPs at ASDP. However, several SOP management processes have not been fully integrated into the application. So the implication of this research is that to achieve employee performance that is classified as more effective, companies must pay attention to the obstacles that occur and develop an E-SMT application that is designed and built so that the SOP management process can run optimally and completely digitally so that there are no more processes manually.

Keyword: electronic integrated management system; sop digitization; implementation; sop management; application

1. Introduction

It is important to know that managing a company, especially a company with a large scope, both in terms of work and diverse human resources, is not an easy thing, so it is important that there are standards that must be set by the company in dealing with a problem that always becomes an obstacle in implementing policies and find the Company's strategy as a reference in daily work.

Standard Operating Procedures (SOP) are written documents included in the Integrated Management System, documents that contain detailed, step by step and systematic work procedures. Currently, SOPs have been implemented in the world, such as in Danish companies, India, large Indonesian companies such as PT Semen Indonesia, PT Mayora Indah Tbk and other companies (Arnina et al., 2016).

So there is a need for a clear application of Standard Operating Procedures (SOP) so that it will help employees in carrying out their daily work so that performance results are achieved that are in line with the company's expectations (Soediro & Nurbianto, 2021). So, in order to achieve proper application of SOPs by every employee, all company procedures must be well managed and well documented.

At the research site that will be studied by researchers, namely PT ASDP Indonesia Ferry (Persero), one of the technological innovations that has just been developed and is currently being used to support the company's vision of digital transformation is E-SMT. E-SMT (Electronic Integrated Management System) is a web-based application that can be accessed by all Work Units at Head Office, Work Units at Regional Offices, and Work Units at Branch Offices. However, after conducting observations and short interviews, the researcher saw that several problems were found consisting of; (a) The system for submitting changes/additions to documents in e-SMT has not been implemented to date, the cause has not been found by researchers. So that applications for changes or additions to SOPs from the relevant BPO (Work Unit) currently still use the official note system outside the E-SMT application; (b) In carrying out procedural revisions, currently we still use applications outside of E-SMT; (c) The SOP validation process is still done manually, not integrated into E-SMT. Considering that the number of procedures in a company is not small, this can trigger human error. So it is necessary to follow up based on the results of observations with the research title "Implementation of an Electronic Integrated Management System at PT. ASDP Indonesia Ferry (Persero)"

2. Literature Review
2.1 System Implementation

System implementation is a stage carried out by the user by implementing the system that will be implemented or tested. According to Sudarsono in the book "Public Policy Analysis", states that system implementation is an activity that is closely related to completing work in an organization, of course utilizing the use of tools. System implementation is carried out with the aim of whether the system operated by employees is in accordance with the expected needs of the company or not, so an information system is needed that can make each activity easier so that the processing time can be effective to find out whether the system created can work (Pratama et al, 2024).With the various benefits that arise from the emergence of the use of technology that is able to facilitate human work which was initially done manually, as

time goes by, the manual method is slowly changing into a digital system (Saiful Anam et al., 2024).

Researchers can conclude that system implementation is a stage that produces an activity in accordance with the goals of the organization by utilizing existing tools (tools) as the current era develops, namely the use of systems or technology that suit the company's needs so that it is hoped that it can help make human work easier and easier. help without any interference/obstacles. System implementation is important for information system developers in assessing the success of the information system, whether it is running according to plan and whether it has fulfilled the wishes of its users.

2.2 Electronic Integrated Management System (E-SMT)

Based on the 2021 PT ASDP Indonesia Ferry (Persero) E-SMT Application Job Specification Business Requirements, E-SMT is a web-based Electronic Integrated Management System that can be used by all employees at the head office, regional offices and branches at PT. ASDP Indonesia Ferry (Persero). The purpose of this e-SMT is; (a) assist in managing the Integrated Management System (SMT) documentation which is recorded and structured well and historically, so that it remains well documented and maintained according to user requirements; (b) assist in making it easier to obtain information on additions, updates and revision changes to the Integrated Management System in real time which is of course in accordance with real needs in the field; (c) assist in identifying submissions such as additions, updates and changes to Integrated Management System documents in accordance with company needs which are submitted via user to the BPO (Business Process Owner) for review; (d) it is hoped that the BPO (Business Process Owner) can be proactive in identifying preparations and changes to the Integrated Management System documents; (e) It is hoped that procedure management can be carried out systematically and that there is a good track record from submission to distribution of the Integrated Management System documents

Based on the 2022 Electronic Integrated Management System (E-SMT) User Guide, this application has several menus and functions that are integrated in the application

1. Login Menu

   Login to E-SMT, using the email and password provided by PT ASDP Indonesia Ferry (Persero)

2. Dashboard Menu

   This menu displays several of them as follows; (a) information related to SOP documents that have been updated for all ASDP head office, regional and branch work units that have submitted changes or additions to SOPs; (b) the latest nonconformity report information; (c) Recent activity which displays the latest activity of additions, changes and reports of document discrepancies.

3. Master Data

   a) Documents, this is the storage place for all SOP documents in each directorate (ISM Code and Non ISM Code) and the documents have been filtered properly using ascending and descending filters. So that all ASDP employees can see the SOPs that apply in the company and download the SOP attachment which consists of; (1) Form; (2) Work Instructions; (3) Report; (4) Checklists

b) Document Input, this is the place where the latest SOP documents are input or replaced with updated SOP documents with existing SOP documents.

4. Submission

In this menu, it will be displayed; (a) list of proposed changes, updates and additions to SOP from each BPO (Business Process Owner) PT ASDP Indonesia Ferry (Persero); (b) a disposition list of submission documents complete with a disposition history; (c) list of follow-up document dispositions complete with disposition history.

5. Control

In this menu, a list of document controls will be displayed complete with an approval history to see approval or rejection in submitting PT ASDP Indonesia Ferry (Persero) SOP document control applications.

6. Nonconformity

In this menu, a list of nonconformity report documents will be displayed, complete with a list of nonconformity report dispositions and follow-up to the disposition of nonconformity report documents for PT ASDP Indonesia Ferry (Persero) SOPs.

7. Download History

In this menu, the download history of the PT ASDP Indonesia Ferry (Persero) SOP document will be displayed in real time.

8. Profile

In this menu, the identity and photo of the user profile are displayed which can be edited to suit your needs

9. Log Out

This menu can be used if you want the application to be closed immediately.

2.3 Standard Operating Procedures (SOP)

It is very difficult for every company leader to manage a company that has a complex scope of work and diverse human resources, if there are no standards that are implemented. The standards used within the company must cover all existing elements and of course must be able to run effectively and efficiently so that the company's vision and mission can be achieved according to targets and expectations.

In dealing with the above problems, it is necessary to create an efficient and effective Standard Operating Procedure (SOP), so that by creating, validating, enforcing and implementing it efficiently and effectively, the SOP will make it easier for every job carried out by the company's various employees. and if there are new employees, it will be easier to adapt because there are clear Standard Operating Procedures (SOP) (Muhaling et al., 2021). Head of BKD Kaltim HM Yadi Robyan Noor is of the opinion that in order for work implementation to be carried out well it is necessary to have SOPs which can be used as a form of concrete effort with the aim of achieving positive direction of change in terms of performance, service quality, time and clear procedures. (Samsul, 2014). Standard Operating Procedures or SOPs are guidelines that are clearly prepared and enforced regarding all the work carried out daily by all employees (Maritim & Makassar, 2023).

Of course, the preparation of procedures has been regulated in the regulation of the Minister of State Apparatus Empowerment and Bureaucratic Reform of the Republic of Indonesia No. 35 of 2012 concerning Guidelines for Preparing Standard Operational

Procedures for Government Administration. The importance of preparing and ratifying this SOP is that it can be used as a guideline for all companies, agencies/ Institutions, Central and Regional Governments in carrying out the process of identifying, compiling, documenting, developing, monitoring and evaluating SOPs in accordance with their duties and functions.

2.4 Standard Operating Procedures Management

Carrying out the management procedures, it is important to apply the underlying management principles in order to achieve effective and efficient procedural management. Based on the concept of Total Quality Management (TQM) theory put forward by W. Edwards Deming and Joseph M. Juran, there are 4 TQM principles that need to be applied, namely; (1) Procedure Submission Process; (2) Procedure Preparation Process; (3) Procedure Validation Process; and (4) Procedure Documentation Process (Hartati & Hasan, 2023).

The researcher strongly agrees with the Quality Management Theory put forward by the 2 experts above, because if the management of procedures in the company has implemented the 4 principles well, it will produce appropriate procedures so that the company's mission can be achieved, namely increasing and fulfilling customer satisfaction, both internal and external.

3. Material and Method.
3.1 Design Study

In this research, researchers used qualitative research with a descriptive approach. In the research method that researchers use, researchers focus on phenomena that occur based on actual data, not theory. The theoretical basis used in this research is used as a support for the research focus. The theory used in this research can expand, deepen and even discover new theories.

A qualitative approach in obtaining data must be based on phenomena that actually occur in the field (Suardi, W., & Ismail. 2019). The researcher chose a qualitative research method because the researcher raised a phenomenon that is growing rapidly in companies, namely the use and development of technology.

In this research, researchers collected data and information through observation studies, literature studies, interviews and documentation. Data collection was carried out by this researcher to strengthen the validity of the research data.

3.2 Data Analysis

Researchers use an interactive analysis model derived from the theory of Miles, A., Michael Huberman & Johnny Saldana in research by Aprilia, A (2023) which consists of; a) Data collection, at this stage the researcher collects data in the form of observation results, interview results with informants and real application documentation that occurs in the field; b) Data reduction, the stage carried out by the researcher in sorting the data results received by the researcher by adjusting the research topic raised; c) Data presentation, this stage is carried out by the researcher after obtaining the incoming data and in accordance with the research topic, then the researcher enters it into this research; d) Verification and drawing conclusions, is the final stage carried out by researchers in providing conclusions on the results of the research data obtained and analyzed.
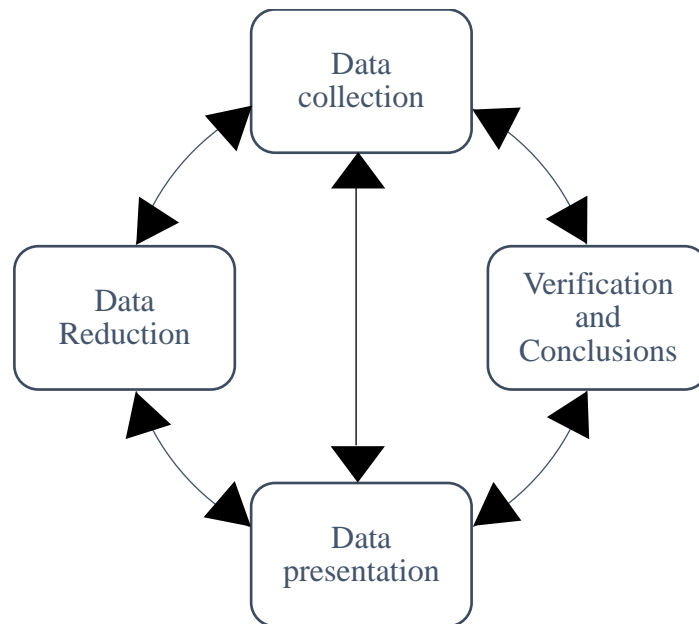
Figure 1. Research Model

4. Result

The following are the results of research conducted by interviews

Theory	Question	Informant (Yes/No)			
		A	B	C	D
System Implementation	Has E-SMT been implemented well?	**Yes**	**Yes**	**Yes**	**Yes**
SOP Management (Total Quality Management from W. Edwards Deming and Joseph M. Juran)					
1. Procedure Submission Process;	Does the submission of the SOP use the E-SMT application?	**No**	**No**	**No**	**No**
2. Procedure Preparation Process;	Does the preparation of the SOP use the E-SMT application?	**No**	**No**	**No**	**No**
3. Procedure Validation Process;	Does the validation of the SOP use the E-SMT application?	**No**	**No**	**No**	**No**
4. Procedure Documentation Proces	Does the documentation of the SOP use the E-SMT application?	**Yes**	**Yes**	**Yes**	**Yes**

5. Discussion

5.1 System Implementation

Currently, E-SMT can be used to input SOPs that have been approved up to the board of directors to be seen by all ASDP head office, regional and branch employees with different work units. The aim is of course to make it easier for ASDP employees to know and understand the business processes involved. applies in each ASDP work unit. The following are the steps and features of the E-SMT application. There are steps to operate E-SMT;

1. Login to E-SMT, with email and password from the company;

2. To upload SOP documents that have been validated to the board of directors. The steps are as follows: Master data > Input Document > Existing Document > input document details > Input File. And there are 3 Features in E-SMT;

   a. Electronic Document Feature

      Before the design of E-SMT, storage of SOP documents belonging to all Divisions at ASDP still used organizers which were stored in archive lockers belonging to the Company Management System on the 7th Floor. Based on the results of interviews, distributing documents from the head office to the branch offices took quite a long time, of course it could not be said that effective and efficient, because there is a need for coordination, printing documents according to the number of requirements and then sending them to their destination. Currently, after the design of E-SMT, ASDP employees no longer experience the problems that occurred above. With E-SMT, ASDP employees only log in to their personal accounts and can view, save, and even reprint procedures that apply to ASDP without space and time limitations;

   b. Index List Feature

      Based on the results of interviews, the existence of this index list feature makes it very easy for ASDP employees to find out SOP list information based on each directorate that oversees it and of course the updated information includes procedure names, procedure codes, revision codes, effective dates. Of course, the results of this index list are PDF, so ASDP employees will be greatly helped without recapping again using Microsoft Word or Microsoft Excel;

   c. Real time SOP Information Dashboard feature

      Based on the results of the interview, this dashboard will certainly make it easier for ASDP employees to find out what SOPs have just been approved and are in effect at ASDP. Of course, apart from using the official memorandum made by the Internal Division to the relevant Division that submitted the application, it is often missed and this happens to some ASDP employees. However, the design of this dashboard is the right feature to be developed by the IT Division so that all work units can be informed about the most updated SOPs.

Based on the results of observations, documentation and interviews conducted by researchers together with 4 informants with different divisional backgrounds, it can be concluded that the current implementation of the e-SMT application at ASDP has been implemented well because with E-SMT, the company can minimize the use of paper because all SOP documents are well documented in E-SMT which can be accessed by ASDP employees to be used properly in the interests of the company. This is in line with previous research that the existence of e-data can certainly increase the productivity of document administration which can be utilized so that quality documents do not need to be printed again which can reduce the company's production costs (Harmin & Rosnani, 2022).

According to Saiful Anam et al (2024), with the various benefits gained from the use of this technology, of course the emergence of many lines of human work which were initially done manually then slowly changed to a system. Based on the researcher's statement above, it is supported by the results of the researcher's interview with the informant above that before the existence of E-SMT, the SOP document distribution process was still done manually so

that problems arose such as inefficiency in terms of time for printing documents, sending documents, and coordination between one party to another. Of course, this is in line with the research statement that information systems can make every activity easier so that the processing time can be effective and it can be seen that the system created can work well (Pratama et al., 2024). From the three research statements above, it can be concluded that implementing E-SMT well will produce a positive impact on employees and the company.

5.2 SOP Management With an application E-SMT

Based on the results of observations and interviews, they are as follows; (1) The SOP management process has not been fully integrated in E-SMT. Based on the concept of Total Quality Management (TQM) theory put forward by W. Edwards Deming and Joseph M. Juran, there are 4 TQM principles that need to be applied, namely; (1) Procedure Submission Process; (2) Procedure Preparation Process; (3) Procedure Validation Process; and (4) Procedure Documentation Process (Hartati & Hasan, 2023). Of the 4 principles above, only the Procedure Documentation/Archiving process is integrated by E-SMT, the SOP submission process is submitted by each work unit in ASDP and then processed by the Internal Division, the SOP preparation process is carried out by each work unit and checked by Internal Division, while SOP approval is carried out by the Director so that these three processes are still carried out manually both internally and from other divisions. Based on previous research by Surahman (2021), submitting SOPs using hard files is classified as ineffective and inefficient, apart from the conventional review process (reading and analyzing documents) of course it will have an impact on the completion of SOP submissions and the total number of SOPs that have been approved cannot necessarily be identified properly so it is very It is important that the entire SOP management process can be properly integrated into the online SOP application. In response to this problem, companies need to pay attention so that the designed application can be redeveloped to be more effective and efficient in the overall SOP management process.

6. Conclusion, Implication, and Recommendation
6.1 Conclusion

Based on the results of observations, interviews and documentation, the researcher can conclude that; (1) The implementation of E-SMT at PT ASDP Indonesia Ferry (Persero) has been going well accompanied by developed features including; (a) SOP e-document; (b) SOP Information Dashboard; (c) List of SOP Indexes that function well and are useful for ASDP employees for the past 2 years, namely from 2022 until now. However, several SOP management processes have not been fully integrated into the application, including; (1) Procedure Submission Process; (2) Procedure Preparation Process; (3) Procedure Validation Process. In response to this problem, Internal Divisions will continue to receive input from other Divisions and continue to improve their development as a basis for coordination with the Information Technology Division.

6.2 Implication
1. Theoretical Implications

Based on research on Implementation of an Electronic Integrated Management System at PT. ASDP Indonesia Ferry (Persero), there are definitely theoretical implications for the

Company and readers as well as for further research. The implication in this research is that digitalization of SOPs certainly plays an important role because apart from keeping up with current technological developments and realizing the company's vision and mission in digital transformation, it also has a positive impact on employees and the company. Apart from that, this research can increase knowledge and also explore theory with field facts related to the implementation of SOP digitization as well as further development by the company.

2. Practical Implications

Based on research on the Implementation of an Electronic Integrated Management System at PT. ASDP Indonesia Ferry (Persero), there are definitely practical implications that companies need to pay attention in developing the current E-SMT so that the SOP management process can be completely integrated in E-SMT so that no manual processes are carried out any more.

6.3 Recommendation

Based on research on Implementation of an Electronic Integrated Management System at PT. ASDP Indonesia Ferry (Persero), of course there are recommendations for further research, namely; (1) it is hoped that they can develop and analyze more deeply regarding the digitalization of SOPs in the company; (2) it is hoped that further research can increase the number of literature studies that are related to the research focus to be studied; (3) it is hoped that they will be able to use a mixed research approach so that of course the results of this research will produce deeper meaning.

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