Standard operational procedure (SOP) auditing process in integrated management system to improve the efficiency of organizational performance

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Abstract. Empirical research on how organizations carry out audit processes in management systems is very little. Organizations have difficulties in implementing integration, such as lack of resources, problems related to organizational culture, differences in general elements of specific standards and requirements. Implementation of audit integration can provide many benefits so that based on existing problems in the implementation of audits integration, the standard operating procedure is required as a consistency in the level of performance or certain conditions. The purpose of this study is to find out the form of organization, job description, activities, inputs, outputs, communication channels that will be used as stages to make the Standard Operating Procedure audit process in an integrated management system so that the SOP is expected to improve efficiency in organizational performance. The research method used in this study is Delphi’s method and questionnaire survey. The product that is produced in this study is the Standard Operating Procedures Audit Process in an Integrated Management System to Improve Organizational Performance Efficiency.

Keyword: Audit, Audit Integration, Standard Operational Procedure, Organizational Performance

1. Introduction
The organization establishes processes that meet the objectives and requirements made previously to carry out a management system standard (MSS) and conduct a system audit to ensure the processes and provision are correctly and efficiently implemented in the organization [1]. The formation of audit single system at all functions were produced from full audit integration and owned complete combination from all cross-functional purposes, processes and resources [7] [8]. Conducting a single or separate audit will experience a more difficult process whereas if the audit is carried out in an integrated manner it will optimize costs and time [6]. Audit integration is more efficient because the process and control are carried out only once [5], causing more synergy and effectiveness in auditing.
Audit integration needs to involve sharing all components between cross audit functions for example for quality, environment and safety audits. Sharing all components between cross audit functions are implicated for audit integration such as quality, environment and safety audits (the components of cross audit and functions are involved for audit integration [4]). Integration audits, audit resources and auditor competences are less in experience, the improvement of knowledge and expertise on integration audits are needed [1]. One of the biggest obstacles to examine an IMS is finding an auditor with sufficient knowledge, ability, and experience on audit with more than one management simultaneously [5]. Difficulties in forming a single audit team for various related management systems [2]. The auditor must have a skill to support in merging the functions of system management and providing procedures to obtain improvement continuously on utilizing audit [1]. Few of empirical research have been conducted on how organizations carry out the process of audit system management [2].

Implementing organizational integration has problem that one of them is caused by diversities in the general elements of specific standards and provision [2] and therefore standardization of operational procedures is needed to improve the efficiency of organizational performance. Standard operational procedures are expected to play a role as a consistency in the level of performance or certain conditions and where officers and the environment in carrying out certain tasks or jobs, as a reference in carrying out certain activities for fellow workers, and supervisors, to avoid failure or error (thereby avoiding and reduce conflict), doubts, duplication and waste in the process of carrying out activities, is a parameter for assessing service quality, to better ensure the efficient and effective use of personnel and resources, to explain the work flow, authority and responsibilities of the relevant officers, as a document which will explain and assess the implementation of work processes when an error occurs that is expected to improve the efficiency of organizational performance.

For that, this study has five goals in answering the problems above:

1. Establish an organizational structure of the audit process in the system of integrated Management
2. Define the roles and responsibilities of each organizational function for audit process in the system of Integrated Management
3. Establish inputs, outputs and activities in the audit process in the Integrated Management System that can improve the efficiency of organizational performance
4. Establish a good communication space on audit process in the system of Integrated Management which is able to improve the efficiency of organizational performance.
5. Establish Standard Operating Procedures (SOPs) on audit process in the System of Integrated Management that shall improve the efficiency of organizational performance

2. Theoretical Views
Some authors said that the forming of one audit system at all functions and also comprehensive incorporation of cross functional purpose, resources and processes are demanded for whole audit integration [7][8]. The distribution of all components of cross functional audits is carried out by audit integration, i.e. they require to divide the time on audit processes, the team of audit, plans and reports [4]. With such integration as Quality, Safety, Occupational Health and Environment Management, audits are lowered to get involved in distributing the amount of components chosen between cross-functional audits [4]. ISO 19011: 2011 is useful to identify the stages needed and need to be carried out in a management system audit process, especially an Integrated Management System audit. ISO 19011 describes business processes in the management of system audit process. The audit system management has international standard guidance such as fundamental audit, audit program management and the performance of audit system management, evaluation guide of individual
competence that involved on audit process, to those people who manage auditors, audit program and the team of audit [9][10][11]. Simon et al [4] said that there are 3 criteria for measuring performance: effectiveness, efficiency, and adaptability. Effectiveness, namely the success of products and programs run by companies or organizations. Efficiency is defined the result of running business programs related to the amount of resources used. Adaptability is the company's ability to respond to changes that occur in the market can be seen the success of new products or services introduced by the company. Standard operational procedures (SOPs) are definite guidelines that guide each employee to carry out his work activities systematically. Standard operational procedures (SOPs) can also be a solution to problems that may also arise in corporate or institutional activities. In this study, the Operational Procedure Standards for the audit process in an integrated management system will improve the efficiency of organizational performance.

3. Research Methods
This study uses the Delphi method for content validation and constructs for survey research and case study strategies by asking for agreement or opinions from competent experts, analysing the data obtained, and using questionnaire instruments and interviews with experts who have experience in management systems, systems integrated management and audit process. The following is the research process that were carried out.

Figure 1. Research Process.
3.1 Phase I Data Collection and Analysis
In this research by providing questionnaires validation of the expert to determine whether the form of organization, *Job Description* made by the author in accordance with the organization, *Job Description* is needed on the audit process in integrated management systems. At this stage, a descriptive analysis were carried out to determine responses related to the suitability and needs of the organizational form, and *Job Description*, in the audit process in the integrated management system. At this stage, the Delphi method were utilized for verification, clarification, and validation of the questionnaire given by the researcher in the form of approval, responses to the addition and subtraction of variables, and suggestions. Expert criteria in fulfilling the requirements in this study are three people, has 5 years of experiences in integrated management systems in state-owned construction service companies.

3.2 Phase II Data Collection and Analysis
Phase 2 in this study by providing a validation questionnaire to experts to find out whether the activities, inputs and outputs that occur in the audit process are appropriate. At this stage, the Delphi method was using for verification, clarification, and validation of the questionnaire given by the researcher in the form of approval, responses to the addition and subtraction of variables, and suggestions. Expert criteria in fulfilling the requirements in this study are 3 people, have 5 years of experience in integrated management systems in state-owned construction service companies. activities, inputs and outputs that are compliance needed to develop standard operating procedures in the audit process in integrated management systems

3.3 Phase III Data Collection and Analysis
Phase 3 in this study is to determine the flow of communication that occurs in the audit process in an integrated management system and know the person in charge of each activity that occurs. Expert criteria in fulfilling the requirements in this study are 3 people, have 5 years of experience in integrated management systems in state-owned construction service companies. If the components are not suitable, improvements would be made in the form of reductions or additions. The results of validation from resource persons related to RACI (Responsibility Assignment Matrix) matrix to create the communication flow needed to prepare the Standard Operating Procedures in the audit process in the integrated management system.

3.4 Phase IV Data Collection and Analysis
Phase 4 of this study the SOP was made after completing the data collection phase 1 through stage 3. Validation at this stage was to determine whether the SOP that has made to improve the efficiency of organizational performance in accordance with the indicators set out in the questionnaire. The roots used are 3 people, have 5 years of experience in Standard Operating Procedures, internal audits, integrated management systems in state-owned construction service companies.

4. Research and Discussion
In the 5 problem formulations in this study, there are 4 stages carried out in data collection and data analysis. Discussion of the results of research carried out based on the formulation of existing problems.

Organization structure and job description
The shape of the organizational structure changes according to the needs of the audit process include:
- There is a Director who directly oversees the Management System Manager and has a direct line of work with the Auditee
- The Management System Manager is in charge of more than one Audit Chair
- The Chairman of the Audit is in charge of more than one Auditor
- The Chair of the Audit and Auditor has a line of work with the Auditee
The organizational structure can make it easier to see the labor division and how different functions or activities can be well coordinated. In this study, the form of the organization are adjusted to the proposal, where the position contained in the proposed organizational structure is the party carrying out a scope of work in the audit process with the ability and expertise of each to achieve the objectives planned in the audit process.

Adjustments to the job description that fit the needs of the audit process include the following:

- The addition of the task of planning and directing the implementation of audits on variable X2.1
- The transfer of responsibility is to submit a report on the implementation of internal audit in the company on variable X2.1 to variable X2.2
- Changes The changes the content and word on responsibility conduct internal audits be planned implementation of a variable internal audit X2
- The task reduction represents the auditor in discussion with the audit before, during, and after in variable X2.2
- Changes the content and critical word on the task of providing direct information related to the findings of audit on critical discrepancy in variable X2.2
- transferring the task of conducting a study to find out the root cause of the deviation and making proposed improvements and objective information about the audit activities carried out on variable X2.2 to variable X2.4

Job description underwent several adjustments in the form of additional tasks and responsibilities of several parties involved in carrying out the task. Job descriptions is adjusted with recommendations from experts have shown the qualifications needed for the position.

Activities, Inputs, and Outputs
The results of adjustments to the activities, input, and output of each activity obtained from the data collections and analysis carried out there are five audit processes along with the activities, inputs and outputs that occur in it. The adjustments made are as follows:

The shape of the organizational structure changes according to the needs of the audit process include:

- Additional 2 activities check the results of the activities and report the results of the activities sorted at the end after the implementation of the activities is finished
• Inputs on activities reporting the results of activities are work reports and documentation of work results
• Outputs on activities checking the results of activities are work reports and documentation of work results
• The output on activities reporting the results of activities is the official report on the results of work

In this study, there are five audit processes in an integrated management system. The process of determining the objectives of the audit program has 9 activities, establishing the audit program has 15 activities, carrying out the audit program has 17 activities, monitoring the audit program has 14 activities, and reviewing and improving the audit program has 14 activities. Each of these activities are identified as input and output.

Communication flow
In this research, a good communication flow is established in the audit process in an integrated management system. Five communication flowcharts are formed for the audit process. The following is an example of a communication flowchart determining audit objectives.

| No | Activity                                                                 | Management system manager | Executive | Input | Output |
|----|--------------------------------------------------------------------------|---------------------------|-----------|-------|--------|
| 1  | Organization makes an audit program purpose consistently and supports the IMS policy and purpose (quality, environment, K3) and in line with the business organization processes. | Chief of audit | Auditor | Audit Program purpose | Audit Program purpose |
| 2  | Organization assures that the establishment of audit program purpose for audit planning and implementation effectively. | | | Audit Program purpose | Audit Program purpose |
| 3  | Organization determines current internal and external issues that is relevant to the organization purpose, performance of customer satisfaction and direction strategy of organization | | | Organizational context | Organizational context |
| 4  | Organization determines parties on behalf which is relevant to IMS and decide the needs and hopes of each parties. | | | Needs and expectations for parties on behalf | Needs and expectations for parties on behalf |
| 5  | Organization assigns the scope of IMS (quality, K3, environment) by considering internal and external issues, parties on behalf and parties expectation | | | The scope of audit program | The scope of audit program |

Figure 3. Research result, Communication Flow Chart Chart Audit

Standard Operating Procedures
In this research, the Standard Operating Procedure (SOP) is applied to the audit process in the Integrated Management System that can improve the efficiency of organizational performance. There are adjustments to the SOP that has been made namely the addition of the term content in the SOP. The results of the validation carried out at this stage show that the SOPs made can improve the performance of the organization with the affected indicators namely productivity and resources. The components contained in the Standard Operating Procedures as a whole already can be implemented in the company. Organization structure can already be used because organizational form of the results of
these studies have had the aspect of involvement in the audit process, the job description has been representing tasks or functions and responsibilities, the activity is not defined, will be sufficient, in compliance with the input and output are in accordance with aspects of the fulfilment system standard, the communication flow in the form has fulfilled the logic of the management system standard flow to be carried out.

5. Conclusion
It can be concluded from this study based on on the objectives of this study include
- In connection with the result of research that considers results validation of experts, it is necessary to adjust the organizational structure in the audit process.
- The Job Description is adjusted according to the needs of the audit process
- There are 5 audit processes in the integrated management system. The process of determining the objectives of the audit program has 9 activities, establishing the audit program has 15 activities, carrying out the audit program has 17 activities, monitoring the audit program has 14 activities, and reviewing and improving the audit program has 14 activities. And there are inputs and outputs in every activity
- Establishing the SOP for audit process in the system of integrated management has several stages to be conducted as follows:
  - Establish organizational forms and job descriptions of organizations
  - Identify the activities, inputs and outputs of each activity in the audit process
  - Establish communication space
  - Assign sop to the audit process within the integrated management system
- SOPs made in this study can improve the efficiency of organizational performance in terms of productivity and resources
- All components contained in the SOP that are part of the author’s research results allow to be applied in the company.

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