

Fishbone diagram: Application of root cause analysis in internal audit planning

Novan Bastian Dwi Ardha¹, Nur Indah Riwijanti², Zainal Abdul Haris³

Accounting Department, State Polytechnic of Malang, Indonesia^{1,2,3}

bastian.novan@gmail.com¹, nur.indah@polinema.ac.id², zainal.abdul@polinema.ac.id³



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Abstract

Purpose: This study applies a fishbone diagram to analyze the root cause of problems in the internal audit planning of J Corp, an Indonesian state-owned enterprise.

Research methodology: A qualitative approach was employed to conduct a case study at the internal audit unit of an Indonesian state-owned enterprise. Research data were gathered from the results of focus group discussions with internal auditors, the analysis of the company's standard operating procedure for internal auditing, and the observation of the workflow of internal audit planning. These data were then analyzed to identify the root causes of these problems.

Results: Six key factors were identified that cause poor internal audit planning at J Corp. These are policies, processes, people, plants, programs, and products. To overcome these problems, this study provides several suggestions that can be implemented in the internal audit unit of J Corp.

Limitations: This study is limited by the nature of the business and environment of J Corp, which affected the problems arising in the process of its internal audit planning; hence, the need to understand the entity to replicate this method for future research.

Contribution: This study could be directly beneficial for internal auditors at J Corp to immediately improve the business process of internal audit planning. Furthermore, this study could contribute to future studies in which researchers or practitioners could replicate this method in another context.

Novelty: The fishbone diagram was used to analyze the root causes of problems in the process of internal audit planning. Studies on the improvement of internal audit planning have been limited.

Keywords: *Fishbone Diagram, Root Cause Analysis, Internal Audit, Planning*

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1. Introduction

The primary role of the internal audit function is to evaluate the effectiveness of corporate governance, risk management, and internal controls on the entity's activities of finance, operation, human resource management, information technology, and others. The presence of internal audits in Indonesian state-owned enterprises is important because of the challenges and problems they face. Fraudulent financial reporting by an Indonesian airline company (Prayoga & Purwanti, 2020) and the poor financial management of an Indonesian insurance company (Setiawan, 2020) are two recent cases in Indonesian state-owned enterprises that should be addressed by conducting an effective internal audit. Several studies have shown that internal audits have a significant effect on fraud prevention among Indonesian state-owned enterprises. Previous study from Handoyo and Bayunitri (2021) showed that the influence of internal audit and control in the prevention of fraud in an Indonesian courier service and logistics company was 68.8%. A study conducted by Kuncara (2022) in the same company showed that the

influence of the whistleblowing system and internal controls on fraud prevention was 66.2%. Nugraha and Bayunitri (2020) found that there was a significant effect of internal control on fraud prevention in an Indonesian banking company by 50.2%.

Furthermore, the effective internal audit management of Indonesian state-owned enterprises may reinforce trust among shareholders, customers, vendors, and other interested parties. As a result, these companies operate well and practice good corporate governance. Prior studies have shown that investors who invest in companies that practice good corporate governance can have a positive impact. Shank, Hill, and Stang (2013) confirmed that their research supports the “doing well while doing good” paradigm for investors of firms that practice good corporate governance by gaining opportunity for having financial success and a long-term value-maximizing strategy. Harahap and Novita (2022) found that the implementation of control self-assessment (CSA) can improve a company’s financial and non-financial performance. These results reflect those of Ilham et al. (2022), who also find that good corporate governance positively impacts shareholders by having a significant effect on stock returns. Moreover, there are some benefits of internal controls, including the segregation of duties, independent audits, and risk management to the financial performance of cooperatives in Uganda (Patience, Moses, Bosco, & David, 2022).

In regards to the quality measurement of internal audit function, the internal audit unit of J Corp, an Indonesian state-owned company, conducted self-assessment of its internal audit capability in December 2021. The results were evaluated using quality assurance by the Finance and Development Supervisory Agency. The independent evaluator revealed that the internal audit unit could not explain the preparation of the risk-based internal audit and business documentation process.

The international standard practice of internal audits states that internal audit units should assess the organization’s risks to prioritize its audit activity, aligned with the organization’s goals (IIA, 2017). Thus, there is a gap between the company’s actual internal audit plan and the standard. By focusing on the business process of internal audit plans, this study aims to understand the root cause of the problems using the fishbone diagram, also known as a cause-and-effect diagram. As prior research studies have used fishbone diagrams to analyze the root causes of problems in internal audit planning, this study intends to fill this gap by using this tool to identify the sources of problems that cause poor internal audit planning. After identifying the problems of the workflow of the internal audit plan, the outcomes will be analyzed, and solutions to these problems will be proposed.

2. Literature review

2.1. Internal Audit

The history of auditing began with the need for the principal, who provided the capital, to verify the fair presentation of reports prepared by the agents who used this capital. Ajao et al. (2016) explained that the sole purpose of auditing is to verify and obtain an expert opinion. However, the auditing function is evolving to respond to changes in the environment, and its objectives are continuously being modified. Internal auditing, as a particular type of auditing, not only provides assurance services but also offers consulting activities designed to add value and improve a company’s operations (Anderson et al., 2017). Assurance services involve an internal auditor’s objective assessment of evidence to provide opinions regarding an organization, operation, function, process, system, or other important subjects. Consulting services are advisory in nature and are generally performed at the specific request of an engagement client (IIA 2017).

To ensure the quality of the internal auditing activity, the internal audit function should essentially conform to the standards. The International Standards for the Professional Practice of Internal Auditing, or Standards, is a standard set by the Institute of Internal Auditors, a worldwide professional association for internal auditors. This standard provides guidance for internal auditors to meet the mandatory requirements to perform and promote various internal auditing activities. Furthermore, it establishes a basis for evaluating internal audit performance. In response to the diverse purpose, size, complexity, and structure of organizations, this standard is principle-focused, which means that the internal audit

unit could modify the mandatory requirements corresponding to the nature of the business and environment.

According to the performance standard, internal audit activity adds value to the organization and its stakeholders when considering strategies, objectives, and risks. Furthermore, internal audit planning is a critical stage for auditors to establish a risk-based internal audit by determining the priorities of internal audit activity in alignment with the company's goals. The process of establishing internal audit planning is customized by the internal audit function in the company, as mentioned earlier, relying on the company's nature of business and environment, and will be documented on the standard operating procedure of internal auditing activities.

The IIA (2020) shows the internal audit plan development cycle to provide a general view for internal auditors to plan their services. Figure 1 depicts the process by which internal audit functions plan their activities during a fiscal year. This involves the following eight steps.

1. Understand organization

The planning process starts with understanding the organization. This means that the internal auditor should have an understanding of the organization's business process, how its business processes are structured to achieve the organization's objectives, and related business risks that could impede the accomplishment of goals (Anderson et al., 2017). Potential source documents could be gathered to capture that information; for example, the internal auditor could determine the organization's key business process from annual reports, minutes of meetings between senior management and the board, and the organization's strategic plan. Meanwhile, potential risks and controls in each process can be found in risk inventories or risk registers, including risk and its control matrix that has been conducted by the leaders of each business process area.

2. Identify, assess, prioritize risk

Internal auditors should identify, assess, and prioritize the risk that should be examined during their engagement in a year. It should be aligned with the company's objectives and goals, current issues, and any business strategy made by the boards; thus, their engagement during a year is relevant to the needs of the company. In this step, the assigned internal auditors assess the risk maturity of the risk register gathered previously. This assessment provides an indication of the reliability of the risk register for internal audit planning purposes. In an organization where there is a separation of duties between risk management and internal audit functions, this assessment is used to test the risk maturity of risk registers from the risk management function. This step is required to decide whether any adjustment is needed in the risk ranking and related mitigations.

3. Coordinate with other providers

The chief audit executives (CAEs) shall make coordination and communication with other providers in the process of internal audit planning. This process is required to accommodate requests from boards in assurance and consulting services. These requests may not appear among the highest rankings in the risk assessment but are considered important activities that should be done. Thus, the CAE and assigned internal auditors reserve a percentage of their audit plans to perform the requested engagements. This assessment should be documented in internal audit resource management.

4. Estimate resource

The internal auditing standard requires the CAE to ensure that the internal audit resources are appropriate, sufficient, and effectively deployed to achieve an approved plan. To achieve this objective, internal auditors should have documentation to estimate their resources and how they manage those resources in their internal audit planning. These resources are not limited to people, including working hours and skills, but also include technology to support audits and funding. With regard to internal audit resource hours, the CAE may consider several non-assurance and consulting activities, including paid time off, training and personal development, meeting with the boards, time spent assisting external auditors, and productive hours to be spent on monitoring the progress of audit and data analysis. This number of hours should be calculated and documented to fulfill the risk-based internal audit plan.

5. Propose plan and solicit feedback

Once a tentative risk-based plan was developed, the CAE discussed it with the supervisory board and senior management. In this step, the CAE should communicate the results of the risk assessment process, how significant risks could affect the organization's objectives, and the assigned resources that will provide assurance and consulting activities based on the plan. During the meetings, the CAE can address any concerns from those parties regarding whether there is any altered plan to meet their risk appetite and the additional scope of assurance coverage.

6. Finalize and communicate plan

In this step, the CAE presents a risk-based internal audit to the board of directors and the supervisory board, especially the audit committee. In this presentation session, the CAE may deliver highlighted topics, including a summary of the engagements, results of risk assessment, and the value of the independent and objective assurance and advice provided by the internal audit activity. The meeting also gives the CAE a chance to explain the available resources and their relationship to assurance and non-assurance activities coverage. Once the board approves the plan, all affected business areas in the organization receive a copy of the internal audit plan.

7. Assess risks continuously

The internal audit plan potentially changes as the organization changes, which affects the risk register or profile in the organization. It may come from several events, including changes to regulations or industry standards that may introduce new compliance risks, implementation of new systems and technology, change in board membership or leadership that may have an effect on risk appetite, and discovery of unforeseen risk during internal or external assurance engagements. Any adjustments in the internal audit plan may affect the scheduled engagements and available resources; thus, the CAE is advised to review its internal audit plan monthly by considering those changes. The documentation of organizational changes can be gathered from the minutes of meetings with boards, as there are potentially new and updated issues related to the organization.

8. Update plan and communicate updates

These changes and implications for the internal audit plan should be communicated to the board to obtain approval. As there is a requirement for the internal audit function with the board to report on their activity in a timely manner, the CAE could present several topics of discussion, including the progress of engagements' activities, monitoring the progress of external audits' results, and on-going assisting activity to external auditors. In this meeting, the CAE should present an internal audit function assessment of the changes in the internal audit plan. This meeting should be recapitulated in a minute of meeting for documentation to show that this step has been done by the internal audit function in the organization.

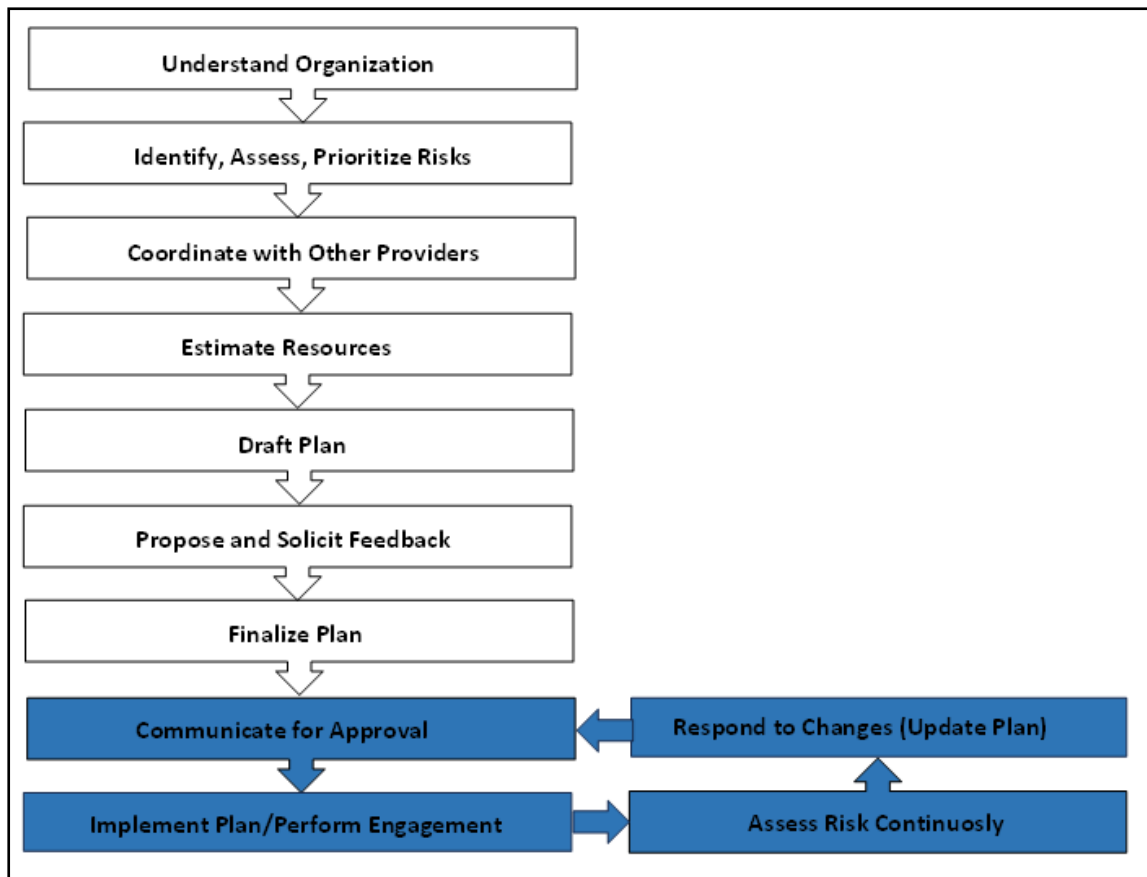


Figure 1: Internal Audit Plan Development Cycle
Source: IIA (2020)

As the standard requires an internal audit function to develop a risk-based internal audit plan, special attention is paid to the process of identifying, assessing, and prioritizing risks. IIA (2020) provides guidance for the CAE to customize its approach for identifying, documenting, and assessing risk using the “specific-risk approach,” “risk-by process approach,” or “risk factor approach.” These three risk assessment approaches can be explained as follows.

1. The specific risk approach is considered a bottom-up method, as it involves an auditable unit to identify risks in the audit universe. This approach is frequently used for risk assessments related to individual audit engagements but may become cumbersome for a large number of auditable units and risks.
2. A risk-by-process approach is similar to a specific-risk approach, but the internal auditors and management start by considering business processes throughout the organization as auditable units, followed by internal auditors to determine which processes play key roles in achieving objectives and how risks to those processes are effectively managed. Processes with the highest degree of residual risk are prioritized for posting in an internal audit plan.
3. The risk factor approach is considered top-down because it considers high-level conditions that are common across most auditable units. This approach may use advice from senior management and boards regarding the risk factors that they believe are the most relevant to the company’s objectives.

Previous studies have reported that risk-based internal audits are an important phase for both auditors and organizations. Heldifanny and Tobing (2019) argued that the internal audit unit of an Indonesian public university should prioritize some risks correlating to the rapid changes in technology. The university should adjust its teaching and learning approaches so that the skills of graduates are relevant to the current environment and condition. Erlina, Nasution, Yahy, and Atmanegara (2020) stated that the application of risk-based internal audit has a significant effect on the quality of internal audit in the government of North Sumatra Province, Indonesia. Another research from Nyarombe, Musau, and

Kavai (2015) also indicated that the implementation of risk-based internal audit positively affect the improvement of internal control systems in government departments in Uasin Gishu County, Kenya.

2.2. Fishbone Diagram

A fishbone diagram is a tool used to identify possible inputs for a given output, either variations or outcomes. This diagram is also known as a cause-and-effect diagram or an Ishikawa diagram. It was named after Kaoru Ishikawa, a Japanese quality control specialist, who pioneered the use of this diagram in the early 1960s. The basic structure of the diagram is constructed from the skeleton of a fish to represent the root cause of problems and the head of the fish to display its effect or output. The categories of causes start with the letter M (machines, manpower, materials, methods, maintenance, mother nature, and measurement) (Botezatu et al., 2019; Liliana, 2016). However, the categories of the causes in this diagram are not limited. Users could explore other points of view regarding their needs.

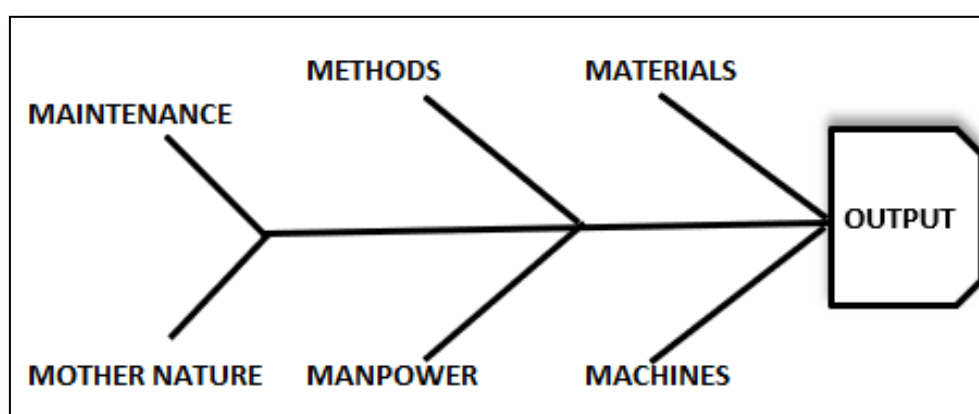


Figure 2: Fishbone diagram: basic structure with six Ms

The fishbone diagram is used to encourage employee participation and increase the understanding of the process. Therefore, it can be used to identify the root causes of problems and to list many possible opportunities for improvement. Ishikawa insisted that open-group discussion is important for the proper construction of a diagram, as there are inputs from people with expertise and understanding at various levels of the organization, process, and task (Best & Neuhauser, 2008). Therefore, this diagram is a common tool used in diverse works, including conducting research and development of new products, developing business strategies, and learning and studying new subjects that require discussion among members of the organization.

The use of fishbone diagrams in the business sector is exemplified in several cases. Silva et al. (2017) used this tool to substantially reduce waste during the production of beverage cans. Fabiś-Domagala (2017) analyzed the potential causes of coolant pump failure in the car industry. Simanová and Gejdoš (2015) used this tool to prevent quality decreases in furniture manufacturing. A study conducted by Gupta, Jain, Meena, and Dangayach (2018) also used the Ishikawa diagram for finding the root cause of problems in a tire manufacturing company. However, there are still limited studies on the application of this diagram for the improvement of internal auditing activity, particularly in the first stage of this function, which is planning.

3. Research methodology

This study used a qualitative case-study method. The object of this research is the internal audit unit of J Corp, an Indonesian state-owned enterprise. Data collection comprised focus-group discussions, observations, and documentation. Primary data were collected through focus group discussions with internal auditors at the company and the observation of internal auditors' workflow. Secondary data were obtained from the analysis of the company's documentation, including the standard operating procedures and the walkthrough of audit planning. Information from both sources was analyzed to address the issue of internal audit planning.

4. Result and discussion

This study conducted a focus group discussion with internal auditors from J Corp. A direct interview was held with a senior auditor (SA 1), who was assigned to design the company's internal audit plan for 2021. This interview session was intended to better understand his understanding of and the implementation of a risk-based internal audit in the company. Another interview with a senior auditor (SA 2), who was assigned to develop the procedure for internal auditing activities, was also conducted to compare the internal audit planning process in the procedure to that in the standard.

After conducting interviews with the internal auditors of the company, we observed the annual internal audit planning process and reviewed documents. We identified six problems, as shown in Figure 2. The figure shows a fishbone diagram of the internal audit planning problems in the company. The main causes are policies, processes, people, plants, programs, and products. These main factors are sub-factors that lead to the root cause of problems in internal audit planning.

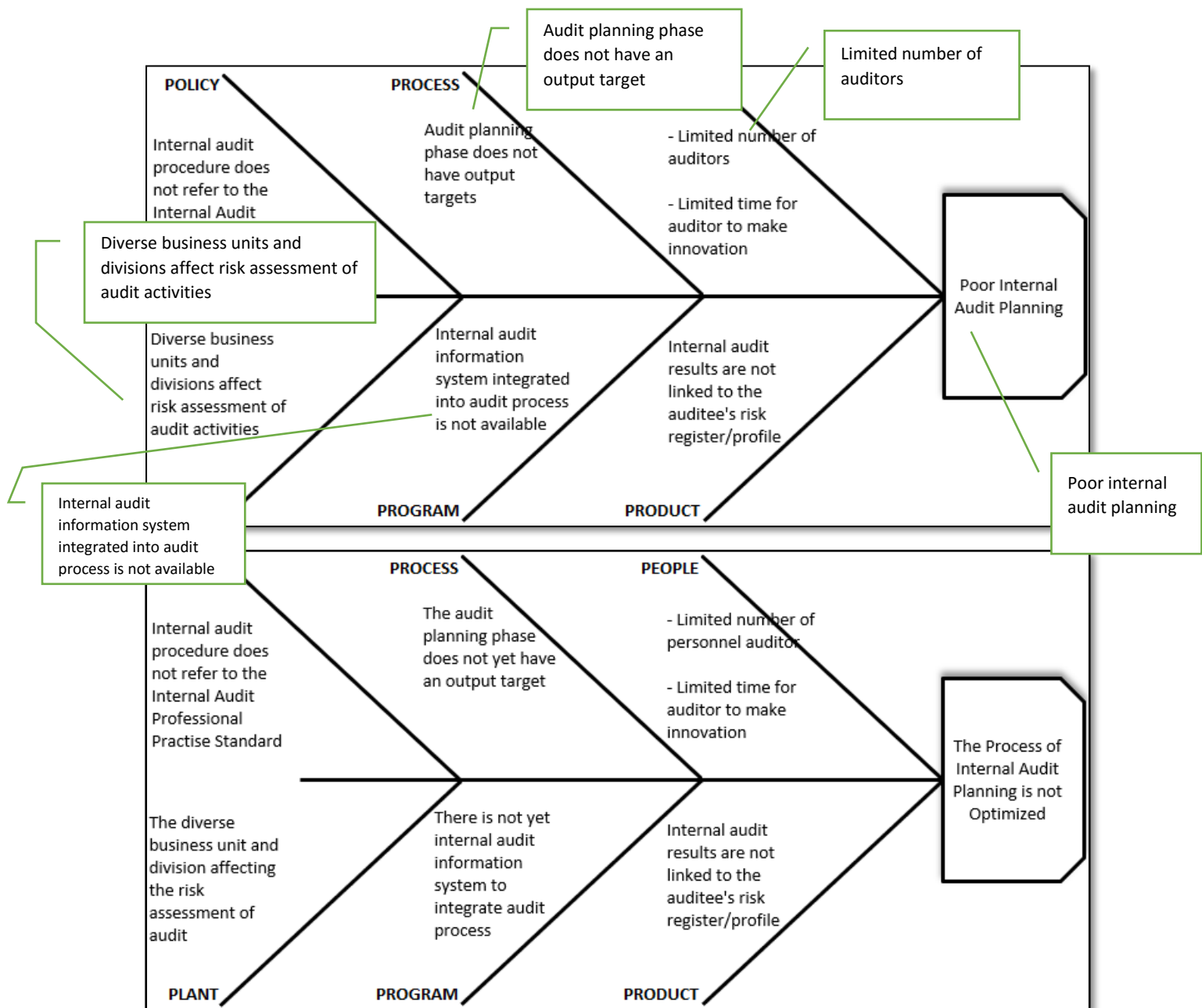


Figure 3: Fishbone diagram: root cause analysis of problems in the audit planning

4.1. Policy

Internal auditors must comply with the company's policies. J Corp has an internal audit charter that defines the internal audit's purpose, authority, and responsibility. Furthermore, the internal audit function should comply with the company's standard operating procedure or the procedure in an internal audit updated in 2021. The procedure provides guidance for internal auditors in assurance and consulting services, including the stages of planning, performing the engagement, reporting results, and monitoring progress.

During the examination by an independent assessor, the internal audit unit of J Corp was not able to provide explanation of the preparation of the risk-based internal audit plan for their annual activities in 2021 and the documentation of this process. This led the assessor to conclude that the internal audit function of J Corp needed to improve their professional practice, particularly in preparing a risk-based internal audit plan. The analysis showed that there were several gaps between the standards and procedures in the company that caused the internal audit function to fail.

First, the standard states that internal audit activity is effectively managed when considering trends and emerging issues that could impact the organization. Meanwhile, the procedure requires only an internal audit function to plan its activity to be undertaken annually. This was agreed upon by SA 2, who developed this guidance. As the procedure regulates an annual audit plan without any requirement to make adjustments throughout the year, it prevents the internal auditor from making adjustments in internal auditing activities when the company faces new challenges, particularly for J Corp, a state-owned company that should comply with government regulations that undergo rapid change. It also faced changes in economic demand and technology enhancement after the COVID-19 pandemic. As the procedure only requires internal auditors to make an annual internal audit plan, internal auditors may miss any updated risk or new business strategies regarding the company's adjustments to external issues. The final result suggests that the results of engagements in the internal audit function are not relevant to the company's current objectives. Furthermore, the boards did not seem to have high-quality information to make decisions, particularly regarding the company's risk management and good corporate governance.

Second, the standard requires the CAE to communicate its internal audit plan to senior management and boards for review and approval. Thus, they can provide inputs to consider in the risk assessment process when documenting internal audit plans. Although this step is done by the internal audit unit of the company, the procedure does not describe the action required for discussion with the supervisory board. The flowchart of the procedure represents only a one-way arrow that shows that the internal audit unit should deliver the internal audit plan to the board of directors. There is no stage that involves discussions with the supervisory board or obtaining approval. As a result, future internal auditors who are assigned to develop internal audit plans may miss this step, as the procedure does not require them to perform this stage.

Third, the standard requires CAE to estimate the resources of internal audit functions in the company. This judgment should consider a skills inventory, identification of skills needed to complete the plan, a summary of personnel hours dedicated to non-audit responsibilities and tasks, including training and assisting external auditors, calculation of budget to perform engagements in a year, and any further notes of those estimations whether there are assumptions, historical expenses from prior years, and benchmark from the best practice. However, the procedure does not provide any guidance for internal auditors to document this process when planning internal audit activities. Consequently, SA 1, the assigned internal auditors, produced an internal audit plan in 2021, which included the number of internal auditors and their educational background but did not provide any documentation of resource estimation.

During discussions with the company's assigned internal auditors, both SA 1 and SA 2 realized that the procedure did not reveal a detailed step-by-step process of developing an internal audit plan. The flowchart does not provide comprehensive guidance for auditors to plan their assurance and consulting

activities. There was also a limitation in documentation from internal auditors, as seen in SA 1, during the process of internal audit planning. The old saying ‘not documented not done’ may apply to this situation, and thus, further discussion may not be possible in this study to assess their working paper of internal audit planning.

4.2. Process

The internal audit planning process relies on the procedure discussed earlier. The procedure has several stages in the process of internal audit, from planning to monitoring progress. However, it is necessary to examine the actual process of a key person or assigned internal auditor on how they perform internal audit planning. In addition to the analysis of the standard operation procedure, a detailed description of the business process can be obtained by observing their activities and documentation.

Observing the planning stage, we found that internal auditors did not seem to have a target or output to document their process in identifying significant risks for the company, making adjustments, and determining the company’s risks that should be mitigated by performing an audit. Internal auditors realized that they encountered difficulties while auditing, as they did not have a documented engagement program to guide them. This guidance could have helped them decide what activities and related risks should have been reviewed, test the adequacy and effectiveness of the internal control system and mitigation, and analyze the opportunities for making significant improvements in the control process.

This situation is reasonable, as the standard requires an internal audit function to develop and document a plan for each engagement, including objectives, timing, and resource allocations. This planning documentation is made to assist internal auditors in performing their activities according to the program; in other words, the internal audit plan is a map for them to achieve the objectives of the engagement.

The current process of internal audit planning in J Corp is depicted in the flowchart of graphical business process modeling. The flowchart presents an algorithm that shows the connections between steps in a process operation. However, this modeling technique is limited to the design and documentation of operations that do not typically represent data flow (Johansson et al., 2012).

4.3. People

A limited number of auditors means that the internal audit function of the company has limited time to innovate and improve. The demand for the internal audit function to provide services, especially from the company, capital owners (the Ministry of State-Owned Enterprises of Indonesia), and external auditors is rising gradually. Internal auditors admitted that they had limited time to improve their business processes, both for the procedure and their actual activities.

4.4. Plant

The company has diverse revenue streams, including water and nonwater service segmentation. The nature of the business, rapid changes in the environment, and government regulations affect internal auditors’ flexibility and prompt responsiveness to adjust their internal audit plans in a fiscal year. For instance, the business unit of bottled drinking water business unit faced environmental issues, notably on how to maintain their business by producing and delivering bottled drinking water that heavily relied on plastics. There was a high demand from the board to elevate its revenue, but on the other hand there was also social demand for awareness and practice of green manufacturing. Internal auditors’ knowledge of the regulations on environmental protection and sustainable development issues is required to adjust their audit engagement programs and planning. The boards should also be made aware of the risks involving environmental issues and identify whether they should be considered a significant risk. Thus, an internal audit unit can determine this in its internal audit plan.

Although the risk comes from one business unit, the internal auditor should assess other possible risks from several business units that have unique business processes and issues, including tourism, drinking water supply, environmental laboratories, land utilization, and consulting and training services.

Considering the diverse business sectors, the number of internal auditors is not sufficient to assess huge records related to business risks and examine the adequacy of the company's internal control system.

4.5. Program

A company's internal audit unit does not have a management information system. As a result, internal auditors work in a separate storage location. They find it difficult to evaluate their activities at the end of the fiscal year, including the analysis of the recurring findings, analysis of risk assessment to determine whether the risk score is reduced after the examination, and the analysis of collected data in a year. Previous studies have shown that management information systems can help companies perform specifically designed tasks. Berisha-Namani and Qehaja (2013) stated in their research that companies which know how to effectively use the information system and technology in their organizations show an improvement in their decision making. It is also supported by Laudon and Laudon (2014), who found that information systems are essential for running and managing a business today to achieve six major objectives: 1) operational excellence; 2) new products, services, and business models; 3) customer/supplier intimacy; 4) improved decision making; 5) competitive advantage; and 6) day-to-day survival.

4.6. Product

The result of the assurance activity sometimes does not relate to the auditee's risk profile. This is because the Department of Risk Management has updated the company's risk profile throughout the fiscal year after a discussion with senior management and boards, while the internal audit unit does not have a mandatory procedure to adapt to it. The difference between the result of the assurance activities and the risk profile has a potential bias in the information given to the boards, which is whether the organization properly mitigates the company's risks.

5. Conclusion

5.1. Conclusion

Using a fishbone diagram, it is easy to find the root cause of problems in the internal audit planning of the company. Six sources of the problems were identified. Considering the problems faced by a company's internal audit unit, the following points are suggested:

1. The standard operating procedure of internal auditing activities in the company and the standard should converge, as there are still gaps in them. By referring to the standard set by internal audit professional associations, the processes and operations of internal auditing activities can be improved.
2. Internal auditors should define the targeted output in each activity, from planning to monitoring progress. The output should be stated on the procedure and documented during their activity engagement, for both assurance and consulting services. The documentation will be beneficial for junior internal auditors to understand how they should perform and potentially improve audit engagement by reflecting on audits from prior years. It is also suggested that internal auditors develop their business process notations. Thus, it can accurately reflect the actual activities they perform. Several studies have reported that Business Process Modeling and Notation are suitable for modelling business processes as they provide communicative tools for analysts, decision-makers, and software system developers better than other languages for modeling business processes, such as flowchart, Event-Driven Process Chain (EPC), and Unified Modeling Language (UML) (Birkmeier, Klöckner, & Overhage, 2010; Johansson et al., 2012; Wohed, van der Aalst, Dumas, ter Hofstede, & Russell, 2006).
3. Because there are a limited number of internal auditors, the CAE must be careful in allocating its resources when preparing an annual audit plan. The CAE should calculate the working hours required to complete engagements in the future in the internal audit plan. They must also prioritize and rank risks. The audit program should examine them and relate them to the resources they have, both internal auditors and the information system, which is any audit system and technology used to help complete the internal audit plan. Another strategy is to add the number of auditors approved by the Department of Human Resources by submitting a workload analysis document. The CAE may attach this document with the minute of meeting with the boards, which states that they have

- approved recruiting additional employees who have related educational background and experience in auditing.
4. Internal auditors should communicate and coordinate with the department of risk management to evaluate the company's risk profile so that they can periodically adjust their activities in assurance and consulting services. By controlling for the risk profile, internal auditing activities are expected to be relevant to the company's objectives and strategic goals. In addition, internal auditors need this process to identify the high risks that should be prioritized in their internal audit plans. Considering the diverse business lines and processes, potential high risks to be audited, and requests from the board of directors and supervisory board, the internal audit function could prioritize which area or business process must be included in their internal audit plan.
 5. Integrating management information systems into internal auditing activities is necessary to allow internal auditors to evaluate the progress of their activities quarterly or at the end of the fiscal year, as there is an obligation to report their activities to the boards. The management information system also helps internal auditors document their activities in an integrated process and in a single location. Babayeva and Manousaridis (2020) explain that digitalization in auditing is beneficial for improving audit quality, flexibility, and efficiency. Computer-assisted audit tools and techniques also effectively support audits of the entity (Mahzan & Lymer, 2014; Samagaio & Diogo, 2022; Smidt et al., 2014).
 6. Throughout the fiscal year of internal auditing activities, internal auditors are suggested to revisit their annual auditing activity planning to check whether it is still relevant to the current condition of the company's internal and external environment. Internal auditors should adjust their plans when needed and document them for review and approval by the board.

5.2. Limitation

This study is limited by the nature of the business and environment of J Corp, which may affect the problems arising in the process of internal audit planning; hence, there is a need to understand the entity to replicate this method for future research.

5.3. Suggestion

In future research, researchers and internal auditors of an organization could collaborate to conduct the same study in a different location. It is strongly recommended that internal auditors have an in-depth understanding of the company, while researchers, as consultants, could bring the best practice and standard implementation from industry.

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