



## Knowledge Mapping to Improve Organization Capability in Internal Audit of Indonesia Stock Exchange

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**ABSTRACT:** In the recent years, the Indonesian Capital Market saw a significant increase in terms of number of investors, daily transaction turnover, transaction frequency, and number of listed companies. This tremendous growth directly affects Indonesia Stock Exchange's (IDX) to reconsider their knowledge management process to generate optimum results from carry out their responsibilities. As the sole capital market trading infrastructure provider in Indonesia, some of the stock exchange function can only be operated by using knowledge of IDX employee which acquired by years of working experience in IDX.

The objectives in this study were to determine identify the essential knowledge and to define the essential knowledge that needs to be improved in IDX's internal audit, and then propose an implementation plan to improve knowledge in IDX's internal audit. The research method used is qualitative methodology through document analysis and key persons interviews interview which was conducted in April 2023. This study uses a variety of knowledge management approaches to address knowledge mapping, knowledge gaps, and knowledge loss. According to the study's results, the author identifies knowledge gap and offers several recommendations regarding Knowledge Development Program to close the knowledge gap and Knowledge Retention Program to build on the knowledge that Internal Audit already possesses.

**KEYWORDS:** Internal Audit, Knowledge Management, Knowledge Mapping, Knowledge Gap, Knowledge Lost, Stock Exchange.

### INTRODUCTION

Despite the COVID-19 pandemic, which has had a detrimental influence on the world economy, the Indonesian Capital Market saw a significant increase of local retail investors in 2020. This favorable environment persisted through 2021-2023. The number of capital market investors is growing tremendously from 281 thousand investors in 2012 to 1,1 million investors (299%) in 2018 and 10.3 million investors (818%) in 2022. Listed companies, which are the most contributing to IDX daily turnover from equity transactions, also growing significantly from 459 companies in 2012 to 566 companies (23%) in 2018 and 825 companies (46%) in 2022.

Considering Indonesia Stock Exchange's (IDX) high growth and IDX's key responsibilities in creating a trusted and credible financial market infrastructure to deliver a fair, orderly, and efficient market, the need of developing a more robust knowledge management system to support the stock exchange operations is getting more critical. This condition is also corroborated by IDX current position as the sole capital market trading infrastructure provider in Indonesia, which makes some of the knowledge needed to operate the stock exchange function can only be obtained by years of working experience as IDX employee. To overcome this challenge, IDX started to establish IDX competency dictionaries in 2017 which comprise of behavioural and technical competencies that apply to all divisions in IDX.

As the internal audit role grows to not only as a watchdog but also as a trusted advisor dan strategic partner to the management, internal audit also needs to identify its knowledge needs and establish the method to obtain and retain that knowledge to keep up with the organization's development.

### BUSINESS ISSUE

Internal Audit, as the management's strategic business partner in carrying out its advisory and assurance role in order to support the company's strategic initiatives, is expected to add value in all of its operations. Internal Audit also serves as a catalyst for innovation in achieving the company's objectives. Internal auditing must be dynamic and constantly adapted to changes in organizations and businesses. Therefore, in order to deliver high-caliber performance to stakeholders, the internal audit organization must likewise



stay current on these advances. Internal audit should expand its position as consulting and assurance services as a result of the rising stakeholder expectations, and this may be done by having the necessary expertise. The establishment of knowledge workers is necessary for the organization's knowledge to grow.

As required by IPPF, internal audit must have a Quality Assessment and Improvement Program (QAIP) established by the Chief Audit Executive (CAE). The internal QAIP will be performed by internal audit personnel every year, while the external QAIP will be performed every four years. According to the most recent internal QAIP, some audit employees are still having dependence issues in performing engagement. There is also issue of limited personnel that skills and knowledge match with the engagement requirements. These conditions have an impact on longer engagement duration. Additionally, there have been numerous Quality Assurance (QA) discoveries about auditors' inadequate documentation of audit results.

The Audit Management System (AMS), which is utilized in the internal audit implementation process from the planning stage through the reporting and monitoring stage, is currently a combination of several Microsoft 365 applications. However, according to observation, AMS has not been applied consistently. Additionally, Internal Audit lacks a sufficient knowledge repository at this time. Although it is currently a shared folder, the knowledge store has not been utilized to its full potential. The organization may lose knowledge if these two items are not managed.

The CAE has also been the subject of a preliminary interview by the QAIP team. The CAE claimed that there are currently less auditors who are familiar with information technology than those who are not. Therefore, raising awareness is necessary so that auditors are motivated to keep learning, particularly in regard to information technology.

The aforementioned circumstances show that Internal Audit's existing performance has not yet assisted in the accomplishment of the organization's initiatives. The Auditor's expertise is currently insufficient to support the organization's efforts, and knowledge management inside the company has not been successful. It may ultimately result in the knowledge gap problem. Since knowledge management is regarded as a process where the company may close the gap (Zack, 1999), it will be utilized as a reference in the analysis. This will allow internal audit to identify and assess the knowledge that is most important to auditors. In the end, the knowledge gap identified as one of the business issues would be resolved by the knowledge management concept.

**RESEARCH METHODOLOGY**

The technique used in this thesis is based on action research, a type of self-reflective investigation done by participants in social situations to enhance the fairness and rationalism of their own actions, their comprehension of these practices, and the contexts in which they are carried out (Carr & Kemmis,1986). The author wants to make a systematic process of data collection by breaking down the acquiring process into three parts; Data Needed (Input), Acquire Method (Process), Data Result (Output). Data collection process is described in table below:

**Table 1.** Data Collection

Research Question	Data Needed	Acquire Method	Data Result
What is the essential knowledge in IDX's Internal Audit and and which essential knowledge needs to be improved?	Knowledge requirement personnel self-assessment	Document review Interview	Knowledge requirement Essential knowledge Essential knowledge that needs to be improved
What is the appropriate implementation plan to improve knowledge management in IDX's Internal Audit?	Insights on how to improve knowledge	Interview	Improvement plan

From the table above, it is known that to be able to answer the research question, several data are needed that acquired through analysis of document review and interview. Interview is conducted in-depth interviews to help explore the knowledge held by the auditors and to review the adequacy of this knowledge in carrying out its function as Internal Audit.

As the triangulation is used to gain multiple perspectives, the interview will also involve CAE to gain multiple perspectives and to reduce bias regarding the knowledge possessed by the Internal Audit division. Some questions might be elaborated during the interview session, and it will also be different from one respondent to another, but the main structure of the question is the same.



The following table explains the list of questions asked during the interview:

**Table 2.** List of Interview Questions (Source: Author, 2023)

No	Interview Question	Research Question	Purpose of Question
1	How do you rate yourself in fulfilment each of the knowledge requirements?	What is the essential knowledge, and which essential knowledge needs to be improved in IDX's Internal Audit?	To assess interviewee's understanding about their knowledge requirement in doing their assignment
2	Is your current fulfilment level of knowledge requirements is enough to support you in doing the audit assignment?		To assess the knowledge adequacy that interviewees used in carry out their audit engagement
3	In your previous company or positions, what assignments did you do most often?		to acquire a general understanding of the interviewee's prior experience
4	Where did you learn about each of the knowledge requirements?	What is the appropriate implementation plan to improve knowledge in IDX's Internal Audit?	To determine the knowledge form (tacit/explicit) and source used in acquiring the knowledge.
5	Which competencies in the knowledge requirements that you think should be improved?	What is the appropriate implementation plan to improve knowledge in IDX's Internal Audit? What is the appropriate implementation plan to improve knowledge in IDX's Internal Audit?	To understand the interviewee's view about competencies in the knowledge requirements that could be improved.
6	What technical competencies or knowledge that currently not in the knowledge requirements but you think should be included as knowledge requirements?	What is the appropriate implementation plan to improve knowledge in IDX's Internal Audit?	To understand the interviewee's view about potential knowledge that could be added to the knowledge requirement

**Sample selection**

The sample selection uses a purposive sampling method with criteria for auditors who are at the level of Auditor, Senior Auditor and Unit Head who have experience in the field of Internal Audit for more than 4 years. The author utilizes data triangulation to check the accuracy of the data or information they have acquired from a range of various perspectives while minimizing bias that may occur during data collecting and analysis. A document review is one of the methods used in this study to collect data. The documents utilized are internal audit-related documentation that describe roles, responsibilities, and the skills and knowledge required to carry out such duties and responsibilities, specifically: Internal Audit Competency Framework, Internal Audit Charter, Internal Audit Job Description, Competency Fit Index, Internal Audit Plan, Internal and Audit Head Direction.

**PROPOSED BUSINESS SOLUTION**

According to the knowledge mapping assessment that was done to map the knowledge assets in the Internal Audit, there is a gap between the knowledge requirements and the current knowledge possessed by the Internal Audit. Additionally, because everyone who took part in the poll had the same expectations for these areas, it has been concluded that four essential knowledge areas linked to financial accounting, information system audit, basic information technology, and data analytics need to be addressed.



The author wishes to have a profound comprehension of these matters and has divided them into three levels of knowledge understanding based on information about the knowledge gaps and knowledges that need to be enhanced. These levels are used to determine the auditor's level of comprehension of this knowledge gap. There are two levels: General Level (or with an indicator that the auditor has a general understanding of the knowledge and has only received sharing related to this knowledge), and Intermediate Level (with an indicator that the auditor has received sharing and training related to this knowledge and that this knowledge is used as part of their audit assignment). Advance Level (with an indicator indicating the auditor has received sharing and training relating to this information and that the auditor has thoroughly applied this knowledge in performing an audit assignment. Including the fact that the Auditor has revealed relevant information).

The author classifies knowledge gap based on the key information of interview results that there are four critical knowledges that must be improved related to financial accounting, information system audit, basic information technology, and data analytics. Auditors have different levels with the range level from General to Intermediate. The level of knowledge gap is summarized in the following table:

**Table 1.** Level of Knowledge Gap

Knowledge Requirement	Level		
	Auditor	Senior Auditor	Unit Head
Financial Accounting	General	Intermediate	Intermediate
Information System Audit	General	Intermediate	Intermediate
Basic Information Technology	General	Intermediate	Intermediate
Data Analytic	Intermediate	Intermediate	Intermediate

**Table 2.** Follow-Up and Recommendation (Source: Author, 2023)

Level of Knowledge	Follow Up Action	Recommendation
General	Reduce the gap	Knowledge Development Program
Intermediate	Reduce the gap Improve understanding	Knowledge Development Program Knowledge Retention Program

The proposed recommendations will combine the interview result and theories related to Knowledge Management from Asian Productivity Organization (APO), David W. DeLong and Jay Liebowitz.

**Table 3.** Proposed KM Improvement Recommendation

No	Related Issues	Recommendation	Reference
<b>Knowledge Development Program</b>			
1	Lack of competency related to IT. Gap level of knowledge related to IT.	IT for Non-IT Sharing	Interview Result, 2023 Quotation: "There are fewer auditors who understand knowledge related to Information Technology than those who do not"
2	Lack of competency related to IT. Gap level of knowledge related to IT.	Certification Program	Interview Result, 2023 Quotation: "To measure auditor's capability is through certification"
3	Lack of competency related to IT. Gap level of knowledge related to IT.	IT Audit Buddy Program	Author, 2023



No	Related Issues	Recommendation	Reference
4	Lack of competency related to Data Analytic Gap level of knowledge related to Data Analytic.	Data Analytic Workshops & Benchmarking	Interview Result, 2023 Quotation: “The ability to analyse data and read the data should be improve”
5	Lack of competency related to Financial Accounting Gap level of knowledge related to Financial Accounting.	Financial Audit Buddy Program	Author, 2023
<b>Knowledge Retention Program</b>			
1	Knowledge awareness	Collaborative Learning Development	Interview Result, 2023 Quotation: “There must be awareness of the knowledge improvement. As well as open minded and willingness to learn.” DeLong, 2004 Quotation: “As part of knowledge retention, human resource aspect should at least have system for building a retention culture”
2	Knowledge & experience is not properly documented. Audit Management System is not properly used	Knowledge Transfer Practices	
		Standard Sharing Framework	Author, 2023
		Pre-Test and Post Test	Author, 2023
		Video Sharing Method	Interview Result, 2023 Quotation: “Knowledge Management Program should include video, not only something to be read”. APO, 2020 Quotation: “Video is an incredibly powerful medium for capturing, sharing, and consuming knowledge”
		Reward and Appreciation	Interview Result, 2023 Quotation: “There must be gimmick or games to attract auditor’s attention related to a more fun knowledge”. Liebowitz, 2009 Quotation: “An incorporating way to recognize and/or reward individuals for exhibiting knowledge sharing behaviours”
3	Current knowledge storing is not adequate. Audit Management System is not properly used	Knowledge Repository Creation	DeLong, 2004 Quotation: “Knowledge storage that represents the processes and facilities used to keep knowledge and information until it is needed”. Liebowitz, 2009 Quotation: “Codification means system-oriented collection approaches by including tools like diverse knowledge repositories”
4	Prevention of knowledge loss	Knowledge Recovery Initiatives	DeLong, 2004 Quotation: “There are ways of knowledge recovery programs as programs for effectively employing retirees and outsourcing lost capabilities”. Liebowitz, 2009 Quotation: “Important retirees brought back to the company to support the knowledge retention strategy”



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