

Personal characteristics and quality of audit work: study on regional internal audit bodies in Indonesia

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Abstract

Purpose - The purpose of this study is to examine the relationship among knowledge, experience and ability of internal auditors to the quality of audit work. It also aims to explore the mediating role of ability to the relationship between knowledge and audit quality and between experience and quality of audit work.

Design/Methodology/ approach – A survey is conducted on 10 Regional Internal Audit Bodies of Bengkulu Province, Indonesia. A total of 160 questionnaires are distributed to the internal auditors.

Finding - The results show that there is a significant and positive correlation between knowledge and experience of internal auditors to quality of audit work. Ability does exhibit mediating effects on the relationship between knowledge and experience to quality of audit work.

Research limitations/implication – The paper is subject to general limitations of the survey questionnaire method. A further limitation is that quality of audit work was assessed by using perceptions of preparers (internal auditors) rather than by users of audit reports.

Practical implications – This research has implication to government internal audit body. Since knowledge can be added through trainings and continuing study and experience can be broader through audit tasks, government internal audit body need to develop various programs to enhance the knowledge and experience of their internal auditors. With knowledge, experience and ability, the internal auditors will strengthening the internal controls of government agencies.

Originality/value – This paper can enhance knowledge and understanding of how knowledge, experience and ability influence the quality of audit work of internal auditor, especially government internal auditor. This paper extent the previous study by positioning ability as a mediating variable.

Keywords Personal characteristics (knowledge, ability, experience), audit quality, internal auditor, PLS (Partial Least Square), Indonesia.

Paper type Research paper



Introduction

In recent years, the importance of good government governance has received significant public and regulatory attention. Internal audit is an important part of an organization's government governance structure. In Indonesia, Regional Internal Audit Body (or its also called Inspectorate) is one of the Government Bodies. Based on government regulations, inspectorate has the task of controlling and supervising of government affairs at the provincial, district and city (Government Regulation No.41 Tahun 2007, Article 5 paragraph 1). The Inspectorate supervise and control the government through the audit process, review, evaluation, monitoring and other surveillance activities. The controlling and supervising activities conducted by inspectotate are done in order to provide reasonable assurance that the activities conducted by government agencies has been implemented in accordance with the requirements specified and have been run efficiently and effectively and in accordance with the purpose to realize good governance (Minister for Administrative Reform Regulation No. PER/05/M.PAN/03/2008). In carrying out their tasks and functions the agency reports to the Governor/District/City Head through the Province/District/City Secretary.

As government internal audit body, the Inspectorate should be able to provide assurance on quality of audit work. Quality assurance is a process to ensure that audit activities or process have been running as it should. The qualified audit work provides evidence that the control functions in the local government has been managed effectively and being able to provide added value to the local people.

Quality of audit work is an important performance measure for the inspectorate. Audit quality is useful to support the development and success of local governments and to achieve

objectives and targets. For that, a good understanding of what factors can affect and improve quality of audit work needs to be known.

Audit quality is the ultimate goal of the auditing process. Audit quality can be seen from the level of compliance from the auditors in carrying out various steps that should be implemented in an auditing process (De Angelo, 1981). In addition, quality of audit work can also be seen from the level of compliance of auditors in applying auditing standards at the time of the audit process. According to Audit Standards for Government's Internal Auditors, the quality of audit work is also measure based on the material findings and recommendations that can be followed up by the auditee and the response and feedback that given by auditee (Minister for Administrative Reform Regulation No. PER/05/M.PAN/03/2008).

In terms of profession, quality of audit work can be achieved if auditors comply with audit standards that have been determined. While personally, the quality of auditors' work can be affected by knowledge and ability possessed by the auditor (such as Bonner and Lewis, 1990; Anugerah, 2005; Primadona, 2009; Cheng et al., 2009). According to Audit Standards for Government's internal auditors (Minister for Administrative Reform Regulation No. PER/05/M.PAN/03/2008) knowledge and ability are requirements to auditor competency. In addition to the knowledge and ability, quality of audit work can also be affected by the experience of auditors. More experienced auditors detect a greater number of plausible errors and fewer implausible ones than less experienced auditors do (Libby and Frederick, 1990).

Past studies have conducted the study on knowledge, experience and ability to investigate the impact of these variables on quality of audit work. Mostly past studies examine the audit quality of external auditors. To date, little is known about quality of audit work related to internal auditor. This study attempts to address the question of how personal characteristic such as

knowledge and experience enhance the quality of audit work through ability of internal auditors. The study contributes to the literature on audit quality in three ways. Firstly, this study attempts to demonstrate empirically how ability, may be induced by knowledge and experience to improve audit quality. Knowledge and experience of internal auditors are expected to increase their ability to improve their audit quality. Secondly, much of the research on audit quality has been conducted in the western country and mostly investigates the audit quality (in terms of audit judgment) of external auditors. This study sought to expand such research in a different cultural setting, specifically in the emerging country like Indonesia in attempt to gain much insights and contribution to knowledge of quality of audit work especially for internal auditor of government. Thirdly, this study uses a partial least square (PLS) as an approach to analyze the proposed relationships between variables simultaneously. This technique has not been applied in other studies in this area. Hence, this study examines concurrently both knowledge and experience to explain the effect on audit quality.

Literature review and hypothesis development

Audit quality

Many researchers have studied the factors affecting audit quality (DeAngelo, 1981; GAO, 1986; Deis and Giroux, 1992; Colbert and Murray, 1998; Lennox, 1999; Francis, 2004). DeAngelo (1981) defines audit quality as the probability that an auditor will both discover and report an error in a client's accounting system. In the public sector, GAO (1986) defines audit quality as "compliance with professional standards and contractual terms" for the audit under consideration.

Researchers have used proxies for audit quality, such as auditor size (Francis and Wilson, 1988; DeFond, 1992; Mansi et al., 2004), auditors' investment in firm reputation (Beatty, 1989),

premium fees (Copley, 1991), or extent of litigation (Palmrose, 1988). Others utilize a more direct means of studying audit quality through analysis of regulatory agencies' quality reviews; such work has been done by O'Keefe et al. (1994), Deis and Giroux (1992) and Lowensohn and Reck (2004). A third approach has been to identify certain audit-related attributes associated with perceived audit quality (Schroeder et al., 1986; Carcello et al., 1992). In this study the concept of audit quality is built by combining definition of audit quality proposed by DeAngelo (1981), GAO (1986) and regulation from by Ministry of Administrative Reform of Republic of Indonesia.

Knowledge and quality of audit work

In the field of psychology, knowledge has been widely studied by researchers, especially in relation to the performance of an expert (Bouwman and Bradley, 1997). Research in psychology has emphasized the importance of knowledge to obtain the best performance of an expert (Einhorn, 1974).

Research on knowledge has also been studied by researchers in the field of auditing. For example, Bonner and Lewis (1990) have conducted a study to examine the relationship between knowledge and audit performance. Specifically, they measure and examine the extent to which differences in performance of external auditors in the variety of tasks can be explained by differences in knowledge. The study found that knowledge is a factor that can give a good explanation of the difference in the performance of external auditors.

In other studies, Bonner et al. (1992) conducted research to identify the type of knowledge used in the task of identifying tax and correlates with performance. The findings revealed that declarative knowledge is related to identify issues relating to taxation and it's

associated with better performance. Anugerah (2005) in her research found evidence that knowledge influence the judgments made by the audit committees, especially if there is a difference of opinion between the external auditor and management.

Expert auditors have more domain knowledge and cluster more than novice auditors (Weber, 1980; Kerseys, 1990; Libby dan Frederick 1990; Choo dan Trotman, 1991; Frederick, 1991; Rennie, 1991 in Bedard and Chi, 1993). These knowledge differences result in dissimilar problem solving behaviors between experts and novices. Differences have been found in problem representation, problem solving strategies, information search, and quality of decision (Bedard and Chi, 1993).

Previous research (e.g. Bonner et al., 1992; Anugerah, 2005) have emphasized certain types of knowledge as the primary determinant for achieving good performance. For the internal auditors of government the knowledge that must be possessed is the knowledge of auditing standards, audit methodology, audit procedures, audit techniques, auditing, accounting, and law / legislation (Minister for Administrative Reform Regulation No. PER/05/M.PAN/03/2008). The above discussions lead to the first hypothesis:

H1: Knowledge is positively related to quality of audit work

Experience and the quality of audit work

According to Cognitive Psychology, the quality of judgments and decisions are increased in line with increasing experience (Colbert, 1989). This fact indicates that experience is related to and play an important role in making judgments and decisions.

Experience is a process of learning and development of potentials behavior, through both formal and non formal education. Experience possessed by the auditors in terms of duration and

number of audit tasks can be associated with number and types of audit findings. The more experience the auditor, the more explanations can be given by the auditor to the audit findings (Libby and Frederick, 1990).

Libby and Frederick (1990) found that experienced auditors can produce more number of errors that makes sense to explain, can explain more appropriate judgment of audit findings and can develop knowledge about the structure of the transaction cycle. While the research conducted by Herliansyah et al. (2006) concluded that the experience reduces the impact of irrelevant information on auditor's judgment. Experienced auditors are not affected by the presence of irrelevant information in making a going-concern judgments. Latest study done by Cheng et al. (2009) also prove that work experience is associated with auditor quality.

Abdolmohammadi and Wright (1987) conducted a study to examine the effect of experience on audit judgment and decision making based on task complexity. Task complexity is divided in to three types: structured, semi structured and unstructured task. This study concluded that an experienced auditor would give a different opinion with novice auditor for unstructured tasks. In their research Abdolmohammadi and Wright (1987) defined unstructured task as an unique, have no definite clues to be used as reference, tends to be predictive and requires intuition to make decisions, meanwhile structured task is routine and common task without opinion giving. Latest study done by Cheng et al.(2009) also prove that work experience associated with auditor quality.

Based on the discussion above, the second hypothesis is proposed:

H2: Experience is positively related to quality of audit work.

Knowledge, experience, ability and quality of audit work

Previous studies have found evidence of a direct relationship between knowledge and performance of auditors. Several studies such as research conducted by Anugerah (2005) and Primadona (2009) found a positive and significant relationship between knowledge and performance of auditors.

Chase and Simon (1973) and Chi et al. (1982) emphasized the importance of the various types of knowledge as a key determinant of expert performance. However, other researchers found that in addition to knowledge, general problem solving abilities are also an important factor for the performance of the experts. This is consistent with Simon (1979) which states that in addition to knowledge, ability to solve problems is also a factor that may affect the performance of the experts. Past studies have found that ability (especially ability to solve problem) has a direct relationship with auditors performance (Bonner and Lewis, 1990; Libby and Luft, 1993; Liby and Tan, 1994; Anugerah, 2005, Primadona, 2009).

It is argue that knowledge possessed by individuals can be linked with the ability to solve problems. The more knowledge possessed by individuals, the higher the ability of the individual to solve the problem . Experience in conducting the audit tasks may build the ability of auditors, especially ability to solve problems. With the increased ability, the auditors will result in quality audit.

Based on the above discussion, the third, fourth and five hypotheses are proposed:

H3: Knowledge is positively related to ability to solve problem.

H4: Experience is positively related to ability to solve problem

H5: Ability to solve problem is positively related to quality of audit work.

Research Method

Subjects

Subjects were internal auditors from 10 Regional Internal Audit Bodies of Bengkulu Province, Indonesia. A total of 160 questionnaire are distributed to internal auditors and 95 auditors participated in the study. However, due to incomplete data and outlier cases some data were dropped. The final sample consisted of 83 auditors of which 55 are male and 28 are female. The average age of participants is 36 years old, ranging from 26 to 55 years. Fifty five per cent of the sample had an undergraduate degree and seven percent of them are holding master degree and the rest are holding diploma degree. On average, subjects had 4.5 years of total work experience (min 6 month, max 25 years).

Measurements

Knowledge. Knowledge is defined as the level of understanding of an internal auditor on audit standard, audit techniques, auditing, governmental accounting and law and regulation. To suit to the Indonesia Internal Audit Body's work environment and responsibility, the instrument for measuring the knowledge was developed for this study. 20 multiple choice questions consists of 10 questions related to audit standard, audit procedure and audit technique, 7 questions related to governmental accounting and 3 questions related to law and regulation then used to measure this variable. The lowest score for the variable is zero and the highest score is 100 (one hundred). High/low scores represent high/low degree of auditor's audit knowledge.

Ability. Ability is defined as the ability of auditor to solve problems in carrying audit work. As an internal auditor, the auditor's ability describe the ability of internal auditor in explaining the

consequence of the significant audit findings and the accuracy in providing advice and recommendation to the findings. For this study, the instrument to measure this variabel was adopted from Bonner and Lewis (1990) and suited to audit procedure, responsibility, law and regulation of Internal Audit Body in Indonesia. 2 cases was developed, one case related to procurement of goods and services and one case related to the accountability of financial reporting made by treasurer. The lowest score for the variable is zero (0) and the highest score is one hundred (100). High score represent high degree of auditor's ability and vice versa.

Experience. Experience is defined as the effects of the length of time spent by an individu as an internal auditor to the recommendation given on the findings obtained from audit tasks. The instrument to measure this variable comprising 5 items were adopted from Abdolmohammadi and Wright (1987). Respondents are required to rate their perception on their own experience such as how much material findings they found, how valuable their experinces to come up with varying finding every year and how they feel about their audit assignment. Their responses were assessed by using a 7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7). High/low scores represent high/low experience of the auditors.

Quality of audit work

The concept of audit quality is defined as the joint probability that the internal auditor detects a material finding, and then reveals it and give a recomendation to the auditee (De Angelo, 1981). Audit quality is measure by how much material findings are found and can be followed up, how well the auditee give response and feedback to the findings and recommendation, how professional the auditor in handling the audit tasks, how well auditor follow the audit plan and

whether there is supervision and evaluation on audit work. The definition of audit quality as mention above has been developed by considering audit standard for internal auditor of Indonesian Government and also taking account to the function of internal auditor. Audit quality is measured using a twelve items instrument. Respondents are required to rate their perception on their own audit quality such as how responsiveness the auditee to their recommendations, how they feel that their audit work will be reviewed by their supervisor or external auditor and how well their preparation in making audit working paper. Their responses were assessed by using a 7-point Likert scale ranging from “strongly disagree” (1) to “strongly agree” (7). High/low scores represent high/low audit quality of the auditors.

Results

Partial lease square method

The technique of PLS is used to test the hypotheses. The technique is used because the study has a small sample size and is an exploratory in nature (Wold, 1985). Furthermore, PLS has an advantage of overcoming some theoretical and estimation problems that may arise from the use of a more well known structural equation modeling approach that involve the use of covariance structure analysis such as AMOS or LISREL (Hulland, 1999). The PLS technique comprises a structural model which is able to identify the relationships between constructs. It provides a measurement model that specifies the relations between the manifested items and the constructs that they represent. PLS enables an overall assessment of the validity of constructs within the total model (Hulland, 1999).

The application of PLS model is done in two steps. Firstly, the reliability and validity of the measurement model is assessed. Secondly, the structural model itself is assessed. The sequence is used to ensure that the measurement of construct is reliable and valid before any attempt is made to draw conclusions about the nature of relationships among constructs (Hulland, 1999). The following sections describe the procedures used to assess the measurement model and the structural model. This is subsequently followed by evaluation of the measurement and structural model of the present study.

The objective of PLS is to maximize the explained variance rather than fit so as prediction oriented measures, such as R^2 , are used to evaluate PLS models (Chin 1998). R^2 for each endogenous variable, i.e., effort and audit judgment performance, is shown in Table 3. PLS produces standardized β_s for each path coefficient, which is interpreted in the same way as in OLS regression. Since PLS makes no distributional assumptions, bootstrapping is used to evaluate the statistical significance of each path coefficient (Chin, 1998).

The measurement model

Statistics from the PLS measurement models are used to examine the convergent validity of the model by examining the factor loading. All items load on their respective constructs. The factor loading from the final PLS measurement model is reported in Table 1. Factors loading of all items of the model are greater than 0.5 and are significant at $p < 0.05$ (two tail; $t > 1.96$). However, three items from audit quality scale, item 1 (“Throughout my career as an auditor, i found lot of material findings”), item 5 (“I use more skill more than experience in doing audit work”), item 7 (“I always tell my audit plan to the auditee before starting the audit”) and one item from experience scale, item 1 (“I get a lot of audit experience from completing non routine

audit task) has a low factor loading, which is below 0.5. A low item loading adds very little to the explanatory power of the model and potentially biases the estimate of parameters linking the constructs (Chin, 1998; Hulland, 1999). As such, audit quality scale item 1, 5 and 7 and item 1 from experience are removed from the scale and is not included for further analysis. The result demonstrates an acceptable convergent validity.

Table 1
Results for Outer Loadings

	Original sample estimate	Mean of sub samples	Standard deviation	T statistic
Audit Quality:				
Item 2	0,597	0,634	0,177	3,362
Item 3	0,708	0,677	0,174	4,071
Item 4	0,605	0,634	0,178	3,405
Item 6	0,673	0,670	0,178	3,781
Item 8	0,624	0,568	0,178	3,501
Item 9	0,760	0,687	0,157	4,850
Item 10	0,682	0,648	0,175	3,897
Item 11	0,631	0,643	0,174	3,630
Item 12	0,610	0,637	0,173	3,525
Knowledge:	1.000	1.000	0.000	
Experience:				
Item 2	0.620	0,644	0,224	2,769
Item 3	0.623	0,526	0,277	2,250
Item 4	0.716	0,603	0,233	3,073
Item 5	0.732	0,743	0,132	5,537
Ability:	1.000	1.000	1.000	

The reliability of each variable is assessed based on the composite reliability as used by Fornell and Larcker (1981). As shown in column 2 Table 2, the composite reliability for each variable is above 0.70, which demonstrates that each variable has an acceptable reliability (Nunnally, 1978). The discriminant validity of the measurement model is assessed based on the square root of average variance extracted (AVE) as compared to the correlations among the latent variables (Chin, 1998). This provides a test on the extent to which a construct shares more variance with

its measure than it shares with other constructs. Table 2 shows that the square roots of the AVEs (diagonal) are all greater than the respective correlations between constructs.

Table2
Composite reliability and average variance extracted (AVE) statistics,
and correlation from PLS Model

Variable	Composite reliability	AVE	Correlation			
			Knowledge	Experience	Ability	Audit Quality
Knowledge	1.000	1.000	1.000			
Experience	0.769	0.456	0.024	0.675		
Ability	1.000	1.000	0.049	0.241	1.000	
Audit Quality	0.871	0.431	0.086	0.428	0.209	0.656

Note: Diagonal elements are the square root of the AVE statistics. Off diagonal elements are the correlations between the latent variables calculated in PLS

Results of the test discussed above demonstrate adequate discriminant validity. Overall, results from the PLS measurement model indicate that each construct exhibits satisfactory reliability and validity.

Tests of Hypotheses

The PLS structural models of the relationship among the variables being studied are shown in Table 3. Table 3 shows that knowledge is significantly associated with ability ($\beta=0.415$, $t=3.385$, $p<0.01$, H3). Result also support the hypothesis which stated that there was a positive relationship between ability and audit quality ($\beta=0.186$, $t=1.738$, $p<0.05$, H5). However, knowledge that has been found by many researchers as the variable that have a positive direct relationship with audit quality was not proven in this study (H1 is rejected). The significant relationships between knowledge and ability and between ability and audit quality indicate that knowledge has a direct effect on ability, and it influences ability which in turn affects audit

quality. The result provides evidence of the mediating influence of ability on the effect of knowledge on audit quality.

Table 3
Path coefficients, t statistics and R²

Hypothesized relationship	Expected sign	Path coefficient	R ²
Knowledge is positively related to audit quality (H1)	+	0.060 (0.424)	-
Experience is positively related to audit quality (H2)	+	0.409 (3.425)**	-
Knowledge is positively related to ability (H3)	+	0.415(3.385)**	-
Experience is positively related to ability (H4)	+	0.251 (2.039)**	-
Ability is positively related to audit quality (H5)	+	0.186 (1.738)*	-
Ability	-		0.230
Audit quality	-	-	0.198

N=83; Number in parentheses indicate t-value (one tailed tests)

**p<0.01; * p<0.05

Table 3 also shows that there is a significant direct relationship between experience and audit quality ($\beta=0.409$, $t=3.425$, $p<0.01$). Thus, H2 is supported. The table shows that experience is significantly associated with ability ($\beta=0.251$, $t=2.039$, $p<0.01$, H4) and ability has significant positive relationship with audit judgment performance ($\beta=0.189$, $t=1.738$, $p<0.05$). This indicates that experience not only has a significant relationship with audit quality, but also has significant effect on ability. In this situation the relationship between experience and audit quality is partially mediated by ability. Results are summarized in Figure 2.

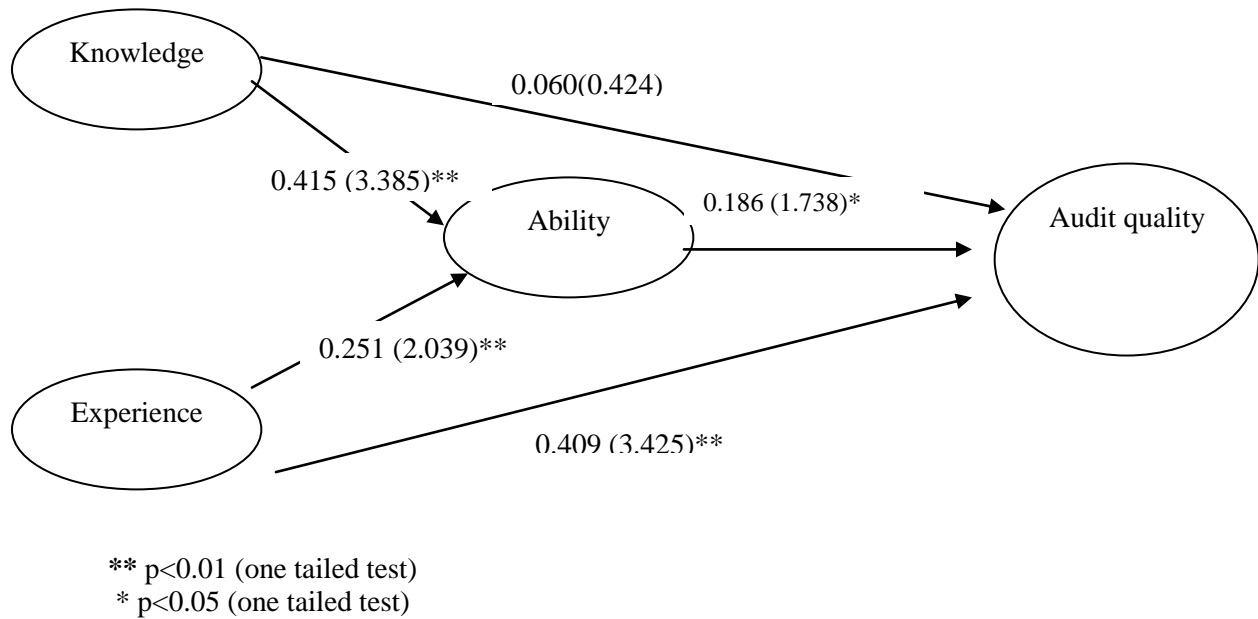


Figure 2: The Mediation of Ability in Audit Quality Model

Specifically, the results show that both knowledge and experience relate positively to audit quality through ability.

Conclusion, implication and future research

This study aims to investigate whether there is a positive association between knowledge and audit quality and between experience and audit quality. The study also aims to investigate whether ability may mediate the relationship between knowledge and audit quality and between experience and audit quality. Empirical results indicate that audit quality is positively related to knowledge. In contrast, we find no relation between knowledge and audit quality. We found that the influence of knowledge on audit quality is an indirect effect. At first, knowledge affects the ability and then ability will affect the audit quality. The explanation for this is the knowledge possessed by the internal auditor caused the auditor ability to increase. With the increasing ability of auditors, the audit quality will also increase.

We acknowledge factors that may limit our study's results and their generalizability to other samples. All respondents represent the internal auditors from Bengkulu Province, Indonesia. As a result, our findings as they may apply in other province should be interpreted cautiously. Second, use of questionnaire methodology poses potential problems such as “errors of severity/leniency”, a “halo effect”, understandability, and respondent truthfulness. Third, audit quality was measured using perceptions of internal auditors as preparers of audit service. As such, the findings might not reflect audit quality as perceived by other parties interested in local government financial reporting. Future research into audit quality in local government, could well be directed at auditee or user of internal audit reports.

Subject to the potential limitations noted, this study suggests that governments may find it advantageous to invest in continuing studies for government's internal auditors. Since knowledge can be added through trainings and continuing study and experience can be broader through audit tasks, government internal audit body need to develop various programs to enhance the knowledge and experience of their internal auditors. With knowledge, experience and ability, the internal auditors will strengthening the internal controls of government agencies.

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