



## FACTORS AFFECTING THE EFFECTIVENESS OF INTERNAL AUDIT AT PUBLIC NON-BUSINESS UNITS IN VIETNAM

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ARTICLE INFO	ABSTRACT
<p>DOI: 10.52932/jfm.v15i8.596</p> <p><i>Received:</i> August 13, 2024</p> <p><i>Accepted:</i> August 27, 2024</p> <p><i>Published:</i> November 25, 2024</p> <p><b>Keywords:</b> Effectiveness of internal audit; Internal audit; Public non-business units; Vietnam.</p> <p><b>JEL codes:</b> H83; M42; M49</p>	<p>The objective of this study is to determine the influence of factors on the effectiveness of internal audit at public non-business units in Vietnam. Using qualitative and quantitative research methods, the research sample includes 215 businesses, and data processing using SmartPLS software. Content of research on factors such as senior management support, internal audit independence, motivation of internal auditors, level of application of information technology, and Internal audit capacity to the effectiveness of internal audit at public non-business units in Vietnam. Research results show that senior management support, internal audit independence, motivation of internal auditors, level of information technology application, and Internal audit capacity has a positive impact on the effectiveness of internal auditing at public non-business units in Vietnam. Finally, the study concludes and suggests implications for improving the effectiveness of internal at public non-business units in Vietnam and overcoming weaknesses in the process of implementing internal audit by fully equipping auditors with professional knowledge, maintaining the independence of the audit department, and motivating them to work.</p>

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## 1. Introduction

In recent years, the role of internal audit has become increasingly important. Internal audit is an effective management tool that helps to monitor, evaluate, and analyze the operating conditions of an enterprise, ensuring compliance with the organization's regulations and national laws. This is especially crucial in the current context, where the world is experiencing a significant *digital* transformation. Analyzing and evaluating technology infrastructure to identify issues related to risk management and data management has become a key requirement for businesses and organizations, placing new demands on internal audit departments.

Due to the growing importance of internal audit in the management process, businesses are increasingly focused on organizing and implementing internal audit activities effectively and efficiently. According to Cohen and Sayag (2010), internal audit plays a critical role in controlling and identifying risks, thereby enhancing the effectiveness of an organization's risk management. The primary goal of internal audit is to improve an organization's effectiveness and efficiency through constructive feedback.

Internal audit encompasses four main elements: (i) verification of written records; (ii) policy analysis; (iii) evaluation of the reasonableness and adequacy of internal procedures, practices, and personnel to ensure they operate effectively and in accordance with the entity's policies; and (iv) reporting recommendations for improved management.

In Vietnam, there are few legal documents and guidelines from authorities to help businesses establish and operate effective internal audit departments. These are often not specific, not synchronized, and particularly lacking in the public sector. Furthermore, there have been few in-depth empirical studies on

this topic. Therefore, studying the factors that affect the effectiveness of internal audit in non-business units in Vietnam is essential.

## 2. Review of literature and hypothesis development

### 2.1. Review of literature

Quantitative research on the effectiveness of internal audit in both public and private sectors has yielded significant findings. Cohen and Sayag (2010) identified several factors that positively impact internal audit effectiveness: (i) the level of top management support; (ii) the quality of audit activities; and (iii) the independence of the internal audit department. The authors also suggest that the sector in which a unit operates—whether public or private—can have a moderating effect on the influence of these factors. Alzeban and Gwilliam (2014) conducted a survey involving 203 managers and 239 internal auditors from 79 organizations in Saudi Arabia's public sector. Their study concluded that (i) the capacity of the internal audit department; (ii) the size of the internal audit department; (iii) the relationship between internal and independent auditors; (iv) the independence of internal audit; and (v) the level of management support all have a positive impact on internal audit effectiveness. Similarly, Alqudah et al (2019) surveyed 117 financial managers and internal auditors (IA) from Jordanian public sector organizations. Using partial least squares structural equation modeling (PLS-SEM) to analyze the data, they found that (i) cooperation with independent auditors; (ii) empowerment from top management; and (iii) the independence of internal *auditors* are factors that significantly and positively influence internal audit effectiveness. Based on resource theory, Almahuzi (2020) evaluated the impact of internal and external factors on internal audit effectiveness in Saudi Arabia's public

sector. The research confirmed that (i) external factors such as top management support, organizational culture, and internal audit independence; and (ii) internal factors such as the motivation of internal auditors, the size of the internal audit department, the application of information technology, and the capacity of internal auditors, all affect internal audit effectiveness. In studying the factors affecting the effectiveness of internal control in private sector enterprises in Türkiye, Onay (2021) surveyed 187 internal auditors, all members of the Turkish Institute of Internal Auditors, working in private sector organizations. The results indicated a relationship between internal audit effectiveness and factors such as management support, auditor capacity, independence, participation in risk management activities, and cooperation with independent auditors. Similarly, in the context of listed companies in Iran, Abdelrahim and Al-Malkawi (2022) found that (i) the capacity of internal auditors; (ii) the size of the internal audit department; (iii) cooperation with independent auditors; and (iv) the independence of internal audit all have a positive impact on internal audit effectiveness.

In Vietnam, research on the factors affecting the existence and effectiveness of internal audit in the steel industry enterprises has provided valuable insights. Nguyen Thi Tuan (2020) observed that: (i) the existence of internal audit is influenced by the characteristics of the business; and (ii) the effectiveness of internal audit is positively influenced by specific internal audit characteristics within the enterprise, such as the number of auditors, auditor capacity, audit scope, independence, and the foundations and methods of internal audit. Nguyen Bao Huyen (2021) argued that internal audit plays a crucial role in the management process and operations of an organization. When effectively managed and operated, internal audit becomes a key factor in helping an organization achieve its goals. Internal audit typically focuses first

on operational audits, followed by compliance audits, and finally financial statement audits. The effectiveness of internal audit is most significantly impacted by the independence and capacity of the internal auditor. Researching the current state of internal audit organization at Vietnam Tobacco Corporation, Dang Van Quang (2021) noted that, despite some achievements, there are still limitations in the internal audit organization at the Corporation. These limitations include: (i) perspectives and awareness of internal audit; (ii) the organization of the internal audit apparatus; and (iii) the organization of internal audit activities. The causes of these limitations mainly stem from: (i) perceived perspectives on the role of internal audit at the Corporation; (ii) the professional ethics and qualifications of internal auditors; and (iii) the short-term nature of the internal audit strategy. Nguyen Thi Huyen and Nguyen Ngan Giang (2021) studied the current state of internal audit organization and processes in Vietnamese enterprises. They concluded that internal auditing in businesses still faces several limitations and shortcomings, primarily due to: (i) the lack of mandatory legal regulations on internal audit organization; and (ii) the absence of regulations or guidance on appropriate organizational patterns and forms for internal audit within enterprises. Nguyen Thi Hai Ha (2022) noted that since the corporate scandals of the 2000s, internal audit has undergone significant changes, evolving into a source of value creation that enhances the effectiveness of management, control, and risk management systems. With these changes, the effectiveness of internal audit has garnered special attention. A model of factors affecting the effectiveness of internal audit in Vietnamese commercial banks has been developed and tested. In these banks, the effectiveness of internal audit can be measured by: (i) the extent to which internal audit achieves its main objectives and tasks; (ii) the ability of internal audit to provide accurate

consulting opinions that improve management, control, and risk management processes; and (iii) the extent to which internal audit quality meets the expectations of managers and senior management. Applying theories such as (i) Agency Theory; (ii) Resource-Based Theory; (iii) Institutional Theory; and (iv) Contingency Theory, Nguyen Thi Hai Ha (2022) developed a model and affirmed that factors like internal audit resources, independence, internal audit activities, management support, the use of internal audit in human resource training, and the relationship between internal and independent audits affect the effectiveness of internal audit. Vu and Nguyen (2023), through a survey of 116 businesses in Vietnam, found that the factors (i) internal audit independence; (ii) management board support for internal audit activities; (iii) the relationship between internal audit and independent auditors; and (iv) the capacity and number of independent auditors positively impact the effectiveness of internal audit activities.

## 2.2. Hypothesis development

**Senior management support:** Support from administrators is a crucial factor in the effectiveness of internal audit (Mihret & Woldeyohannis, 2008). Because internal audit activities are conducted in a dynamic and supportive environment, internal auditors rely on support from management. According to SPPIA 1110 on organizational independence, to perform their duties effectively, internal auditors should receive support from senior management, including administrators and coordination from the supervisory board (IIA, 2017). Abu-Azza (2012) describes management support as encouragement from the Board of Directors for internal audit. This support, according to Abu-Azza (2012), includes organizing educational and training programs for the internal audit team, providing an appropriate budget for the internal control department, offering bonuses, and backing the

internal audit team, as well as accepting and implementing internal audit recommendations. Therefore, support from administrators is critically linked to the effectiveness of internal audit. Based on this analysis, the following research hypothesis is proposed:

*Hypothesis H1: Support from top management has a positive influence effectiveness of internal audit at public non-business units in Vietnam.*

**Internal audit independence:** Independence is an essential requirement for the internal audit profession. Internal auditors should not hold positions within their organization where their independence could be questioned, as this would compromise their ability to carry out their activities with objective professional judgment (Vanasco, 1994). Previous studies have explored participants' opinions on whether internal audit departments can be effective in private sector organizations that lack conditions ensuring the independence of the internal audit function (Abu-Azza, 2012; Drogalas et al., 2015). However, these studies have not reached a complete consensus on whether independence is the most critical factor in the effectiveness of internal audit. Drogalas et al. (2015) found in their study in Greece that the independence of the internal audit function is the most prominent factor influencing the effectiveness of internal audit. Based on the above analysis, the following research hypothesis is proposed:

*Hypothesis H2: Internal audit independence has a positive effect on the effectiveness of internal audit at public non-business units in Vietnam.*

**Motivation of internal auditors:** According to Drogalas et al., (2015), motivation is a key factor that drives and sustains the efforts of internal auditors in performing their work. It is a psychological state that reflects an auditor's readiness and desire to complete assigned tasks, overcome challenges, and achieve both personal and organizational goals. The

motivation of internal auditors encompasses two main aspects: intrinsic motivation and extrinsic motivation. Intrinsic motivation refers to the personal satisfaction derived from the joy and fulfillment of performing audit tasks. Examples include the satisfaction of completing a complex audit, discovering significant misstatements, or contributing to the improvement of an organization's internal control system. Intrinsically motivated auditors are also likely to seek out opportunities for professional development, proactively learning and acquiring new skills and knowledge, which boosts their confidence and enhances work efficiency. Extrinsic motivation, on the other hand, involves financial and non-financial rewards such as salary, benefits, career advancement opportunities, or recognition from management and colleagues. External pressures, such as demands from management, deadlines, or expectations from clients or regulators, can also serve as extrinsic motivators. The motivation of internal auditors is a determining factor in their level of commitment, work ethic, and performance in carrying out internal audit functions. When motivation is sustained at a high level, auditors tend to perform their duties proactively, efficiently, and with a greater sense of responsibility, thereby contributing to the overall quality of the internal audit process. Based on the analysis above, the following research hypothesis is proposed:

*Hypothesis H3: Motivation of internal auditors has a positive influence on the effectiveness of internal auditing at public non-business units in Vietnam.*

**Level of information technology application:** The use of information technology in auditing can enhance the effectiveness of audit work. According to Shaikh (2005) and Hall (2015), various software tools allow auditors to access accounts and data stored in different formats and locations, such as hard

drives or online storage services. This capability enables auditors to efficiently access their clients' electronic data files, demonstrating that the advent of information technology significantly aids the audit process. Computer-aided auditing refers to any use of technology to assist in completing audit tasks, including automated working papers and traditional word processing applications (Braun & Davis, 2003). Auditing standards also encourage auditors to employ computer-aided auditing methods to test the accuracy of electronic files and re-perform selected procedures, such as accounts receivable collection. Mustapha and Lai (2017) also argue that applying information technology in internal audit helps shorten the audit process time and enables auditors to complete their work more effectively. Based on the above analysis, the proposed research hypothesis is as follows::

*Hypothesis H4: The level of information technology application has a positive influence on the effectiveness of internal audit at public non-business units in Vietnam.*

**Internal audit capacity:** Competence is a crucial factor in ensuring the effectiveness of the internal audit function (Mihret et al., 2010). Numerous academic studies confirm that competencies are a key component of internal audit. According to Al-Twaijry et al. (2004), the capacity of both employees and administrators is vital for effectively conducting internal audit activities. If they lack the necessary capacity, the effectiveness of internal audit will diminish. Furthermore, the competence of the internal audit team is one of the most significant criteria influencing the level of trust independent auditors place in internal audit activities (Al-Twaijry et al., 2004). Previous studies (Arena & Azzone, 2009; Soh & Martinov-Bennie, 2011; Drogalas et al., 2015) have highlighted the capacity of the internal audit department as a critical criterion for achieving high efficiency



in private sector organizations. Arena and Azzone (2009) found that a lack of knowledge and skills among internal auditors in private sector companies in Italy negatively impacted the effectiveness of internal auditing. Based on the analysis above, the following research hypothesis is proposed:

*Hypothesis H5: Internal audit capacity has a positive influence on the effectiveness of internal auditing at public non-business units in Vietnam.*

### 3. Methodology

#### 3.1. Context

Based on the review of the literature discussions, the framework and hypotheses were established. Next, this study developed a questionnaire for gathering the needed information for the analysis of the proposed hypotheses and to test and validate the final framework for the effectiveness of internal audit at public non-business units in Vietnam. Given this study aim, the target population of the interest for this study is consisted of Accountants, auditors, managers who are working at public non-business units in Vietnam.

#### 3.2. Instrument development

The questionnaire of this study adapts structured questions or close-ended questions and contains three sections. The five-point Likert scale (1 = strongly disagree, 3 = uncertain, 5 = strongly agree) was used to describe the respondents' view of the extent of their agreement and disagreement on each statement for senior management support, internal audit independence, motivation of internal auditors, level of application of information technology, Internal audit capacity and the effectiveness of internal audit. To ensure the survey instrument face and content validity, two experts in audit were asked to give their opinions about

consistency and comprehensive regarding the items of the questionnaire. The questionnaire was originally written in English. However, the questionnaire was translated into Vietnamese because all of the respondents were native speakers of Vietnam. Back-to-back translation (Brislin, 1970) was used to ensure that the translation was adequate and contained the same meaning (see Appendix 1 online).

#### 3.3. Data collection and sample

For empirical analysis, an appropriate research instrument was developed using survey method. The survey was carried from February 2024 to May 2024. To get accurate response and reduce ambiguity, a pilot study was also conducted with 10 respondents via the personal interviewing method to identify unclear or hard-to-understand questions. A total of 215 of the 400 questionnaires were retained and collected. Thus, 215 questionnaires were used further for analysis, indicating a response rate of 53,75%.

#### 3.4. Data analysis

The data analysis method used is the PLS-SEM approach based on the SmartPLS version of 3 following several steps. The first step is to assess the measurement model that examines the reliability and validity of the constructs. The second step assesses the structural model that examines the direct relationship between the exogenous and endogenous variables (Hair et al., 2019). All hypothesized relationships examine the reliability and validity of the constructs. The second step is to assess the structural model that is analyzed using the bootstrapping procedure with 5000 bootstrap re-sampling.

### 4. Data analysis

#### 4.1. Validity and reliability of measures

In this study, construct validity was conducted to ensure the items measured what

the study has been operationalized to measure. Construct validity can be assessed by two ways, convergent validity and discriminant validity (Hair et al., 2019). Table 1 presents the results for convergent validity on each item has the factor loadings above 0.60 and each construct's average variance extracted (AVE) is 0.50 or higher as suggested by Hair et al. (2019). Only one item of internal audit independence was deleted (TDL6) because it had a loading value of less than 0.60 (Hair et al., 2019). The testing

results indicated that all the Cronbach's alpha and Composite Reliability (CR) estimates were above the stipulated level of 0.70 as suggested by Hair et al. (2019) (*see Appendix 2 online*).

Confirmations of discriminant validity of the constructs were observed with average variance extracted (AVE) values above 0.5 and that the square roots of AVE for each latent variable more than absolute correlations between these variables. The above-mentioned results are given in Tables 2 and 3.

**Table 1.** Discriminant validity results

	AVE	CNTT	DLLV	KTNB	LDCC	NLKTIV	TDL
<b>CNTT</b>	0.686	0.828					
<b>DLLV</b>	0.539	0.162	0.734				
<b>KTNB</b>	0.580	0.576	0.319	0.761			
<b>LDCC</b>	0.611	0.357	-0.106	0.506	0.781		
<b>NLKTIV</b>	0.706	0.369	0.129	0.495	0.126	0.840	
<b>TDL</b>	0.607	0.361	-0.015	0.487	0.479	-0.049	0.779

**Note:** CNTT: Level of application of information technology; DLLV: Motivation of internal auditors; KTNB: The effectiveness of internal audit; LDCC: Senior management support; NLKTIV: Internal audit capacity; TDL: Internal audit independence

#### 4.2. PLS-SEM results

The most important prerequisite for structural model assessment is the evaluation of the quality of the structural model. This can be judged on the basis of the model's ability to foretell the dependent latent variable. This can be measured with the help of coefficient of determination ( $R^2$ ), cross-validated redundancy ( $Q^2$ ), the effect size  $f^2$ , and path coefficients.

The  $R^2$  is a measure for in-sample predictive accuracy of the model. It gives the amount of variance explained by the endogenous variables. Its value ranges between 0 and 1, where higher value implies greater accuracy. However, the values of 0.75, 0.50 and 0.25 are considered substantial, moderate and weak, respectively

(Rezaei, 2015). From the structural model results, we observe that the  $R^2$  is 0.669, which may be considered as substantial. Another method for predictive relevance is  $Q^2$ , obtained through the blindfolding procedure available in smartPLS software. After estimating the parameters of the model, it predicts the omitted variables with the help of previously generated results in accordance with these parameters. The smaller is the error gap, the higher is the value of the instrument and the higher is the predictive accuracy of that endogenous latent variable in the model. As communicated by previous researchers, a value above zero is an acceptable threshold. The values can be obtained through two approaches. First approach relies on the cross-validated redundancy, whereas second depends on cross-validated communality.

However, the values based on redundancies are preferred in extant studies (Wong, 2013). Here, the endogenous variable, i.e. KTNB, has a  $Q^2$  value of 0.370. The values were obtained after running blindfolding method with the omission distance of seven.

In addition, we find the values of the effect size, i.e.  $f^2$ , which determine the effect of a predictor construct on an endogenous latent construct. In this paper, we calculated the effect size for level of application of information technology; motivation of internal auditors; senior management support; Internal audit capacity; internal audit independence which was found to be within the range of medium-small, with the outcomes numbering 0.069; 0.214; 0.160; 0.342 and 0.203, respectively. The hypothesized relationships among

the effectiveness of internal auditing at public non-business units in Vietnam and senior management support, internal audit independence, motivation of internal auditors, level of information technology application, Internal audit capacity were examined through PLS-SEM using smartPLS 3.0 software to determine the path loadings between each pair of latent variables, coefficient of determination value for the endogenous latent variable, and finally the t-value to test the significance of the assumptions. The bootstrapping technique was used to obtain the t-test values, which were greater than the threshold value of 1.96 for acceptance. The results of the hypothesis testing are shown in Table 3, and the path loadings are diagrammatically shown in Figure 1.

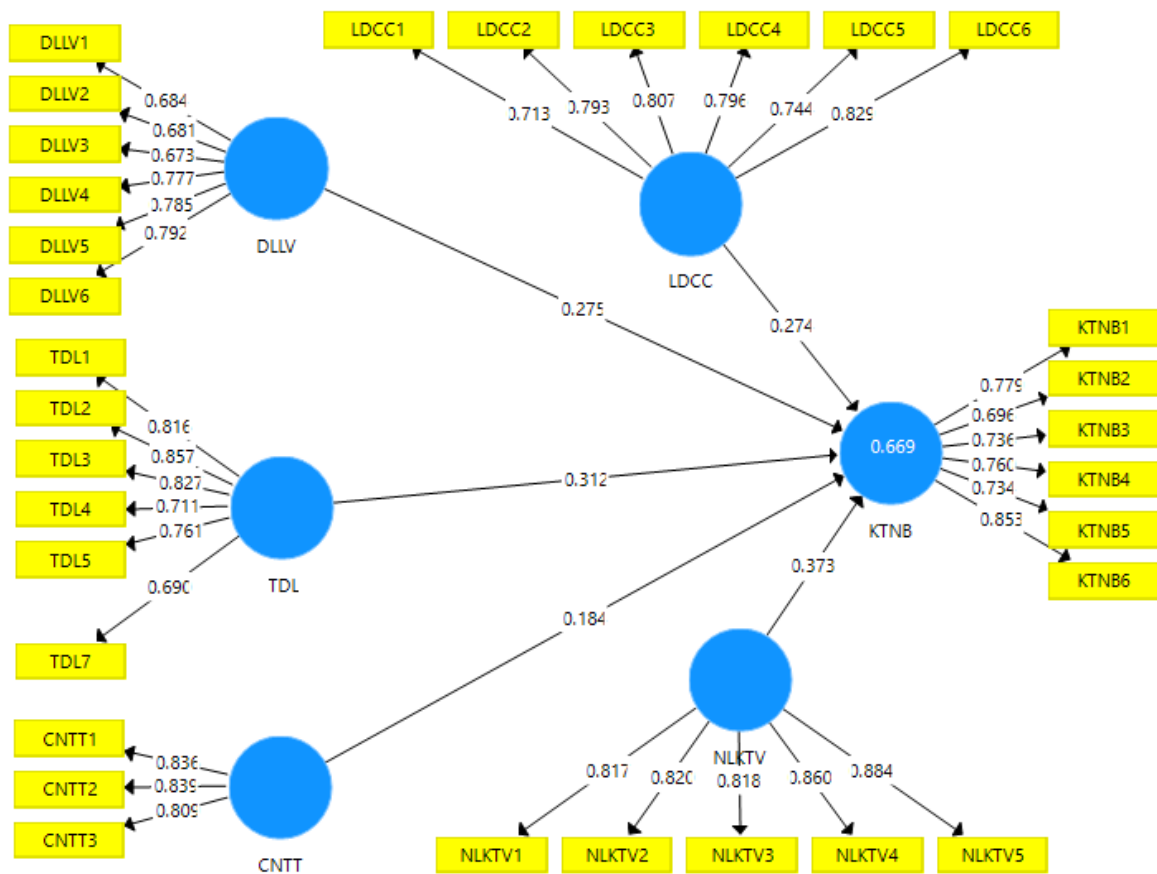
**Table 2.** Hypothesis testing results

Path	Path coefficients	T Statistics	$R^2$	$f^2$	$Q^2$	P Values	Status
CNTT -> KTNB	0.184	4.006	0.669	0.069	0.370	0.000	Supported
DLLV -> KTNB	0.275	7.715		0.214		0.000	Supported
LDCC -> KTNB	0.274	7.014		0.160		0.000	Supported
NLKTV -> KTNB	0.373	11.557		0.342		0.000	Supported
TDL -> KTNB	0.312	6.333		0.203		0.000	Supported

Internal audit capacity ( $\beta = 0.373$ ,  $p < 0.01$ ) had a highest level effect on the effectiveness of internal auditing, followed by internal audit independence ( $\beta = 0.312$ ,  $p < 0.01$ ), motivation of internal auditors ( $\beta = 0.275$ ,  $p < 0.01$ ), senior management support ( $\beta = 0.274$ ) and level of information technology application ( $\beta = 0.182$ ,  $p < 0.01$ ). All hypotheses supported and all paths showed significant at the 0.01 level. Overall, the

results as shown in Table 3 provide evidence to support all hypotheses (H1-H5). The results show that senior management support, internal audit independence, motivation of internal auditors, level of information technology application and Internal audit capacity have a positive effect on the effectiveness of internal auditing at public non-business units in Vietnam.





**Figure 1.** Model with path loadings

#### 4.3. Discussion

The research results show that Internal audit capacity; internal audit independence; motivation of internal auditor; senior management support and level of information technology application effect on the effectiveness of internal auditing. Internal audit capacity had a highest level effect on the effectiveness of internal auditing with an impact level of  $\beta = 0.373$ . This research result is consistent with the research of authors such as Alzeban and Gwilliam (2014); Almahuzi (2020); Onay (2021); Malkawi (2022). Consistent with the research results of Cohen and Sayag (2010); Alzeban and Gwilliam (2014); Almahuzi (2020); Malkawi (2022), this study also found empirical evidence on the

impact of Internal audit independence with an impact level of  $\beta = 0.312$ ,  $p < 0.01$ . Regarding the motivation of internal auditors, the results found that the impact level of this factor on the dependent variable was  $\beta = 0.275$ , this result is consistent with the research of Drogalas et al., (2015), Almahuzi (2020). Senior management support has an impact level on the dependent variable of  $\beta = 0.274$ , this result is consistent with the research of Cohen and Sayag (2010); Almahuzi (2020); Onay (2021). Finally, the level of information technology application has the weakest impact on the dependent variable with an impact level of  $\beta = 0.182$ , this result is consistent with the research of Mustapha and Lai (2017), Almahuzi (2020).

## 5. Conclusion and recommendations

Based on the research results, factors such as senior management support, internal audit independence, motivation of internal auditors, level of information technology application and Internal audit capacity all have a positive impact on the effectiveness of internal auditing at public non-business units in Vietnam. Based on the research results, some recommendations are made to improve the effectiveness of internal audit as follows:

Regarding the Internal audit capacity: internal auditors must be fully equipped with professional knowledge and always be in a state of professional activity to maintain and improve techniques and accumulate experience. Besides, as an internal auditor of the unit, you must certainly have an understanding of the legal system as well as the operating characteristics and internal control of the unit.

Regarding the internal audit independence: To ensure the necessary level of independence to effectively carry out the responsibilities of internal audit activities, the internal audit department must have sufficient access directly and without restriction with senior management, with free access to necessary documents of all departments and employees in the unit. Equally important in ensuring the independence and objectivity of internal audit is that the approval for the appointment and replacement of the head of the internal audit department should be made by the state management agency. superior.

For internal auditors' work motivation: To improve internal auditors' motivation, organizations can apply some of the following measures: Recognition and rewards, Creating opportunities for career development such as training and having a promotion path,

Improving the working environment, Increasing participation and responsibility such as Giving autonomy and participating in important projects, creating challenges and responsibilities, diversifying work and build good relationships with leaders.

For the factor of senior management support: To improve management support for internal audit in the unit, administrators need to have a correct awareness of the benefits, positions, and roles. of internal audit. There needs to be a change in perception from dealing with State regulations to proactively setting up to take advantage of the benefits of this defense barrier.

Regarding the information technology application factor: Units should invest and update advanced technology equipment and the latest software so that auditors can apply technology in auditing. Implement training and encourage internal auditors to use information technology to analyze the correctness and reliability of audit data processing, simplify the audit process and improve improve audit efficiency.

Some limitations of the study are as follows: The study chose the convenience sampling method for the survey, this method helps to easily access the survey subjects but limits the representativeness of the sample. Therefore, future studies can change the sampling method to increase the representativeness of the sample and the generality of the topic. In addition, through a review of previous studies, it can be seen that there are still many other factors affecting the dependent variable that have not been studied in this topic, therefore, future studies can add more independent variables to increase the level of explanation for the effectiveness of internal auditing at public non-business units in Vietnam.

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