

FACTORS AFFECTING THE VALIDITY OF INTERNAL AUDIT RESEARCH AT COMMERCIAL BANKS IN VIETNAM

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Abstract

This study was conducted to assess the influence of factors on the validity of internal audit in commercial banks in Vietnam. Data collected from the questionnaire was sent to 215 subjects, including internal auditors, managers of commercial banks and audited entities. By quantitative research method, the results indicate that there are 3 main factors that affect the validity of internal audit in descending order, including: The capacity of internal auditors; The relationship between internal auditors and independent auditors; The independence of internal audit. Based on the research results, a number of recommendations are made to stakeholders to improve the effectiveness of internal audit in commercial banks in Vietnam.

Keywords: Internal Audit, auditor, commercial bank, validity, Vietnam.

I. INTRODUCTION

Internal audit is an important and effective tool in controlling and managing business operations (Wallace and Guandaru, 2012). Internal audit can protect the business from the occurrence of risks and ensure effective operation (Al-Twaijy et al., 2003) Over the past years, the change of the business environment has significantly affected the basic functions and operations of the business (Burnaby and Hass, 2011). In this respect, the increase of business risks, economic instability and the successive occurrence of scandals and financial fraud have forced enterprises to attach increasing importance to internal audit (Bekiaris et al., 2013; Vinary and Skaerbaek; 2014; Gbadago, 2015).

The commercial banking system is like the lifeblood of the economy, when the system operates smoothly, healthily and efficiently, which is the prerequisite for financial resources

to rotate, allocate and use efficiently, stimulating economic growth and development. With a large scale, a widespread network of operations, a huge number of transactions and many complex financial operations, and very high operational risks, internal audit activities in commercial banks become extremely important and it is considered as the third line of defense in the risk management model of the three lines of defense of banks (Basel, 2002). Therefore, research on internal audit in general and the validity of internal audit in particular has been receiving much attention from academics, especially the identification of factors and quantification of their influence on the validity of internal audit in commercial banks.

Through the literature review, the author found that, although there have been some published works in both the world and Vietnam highlighting the impacts of factors on the validity of internal audit in commercial banks,

such as: the study of Deribe and Regasa (2014) looking at the factors determining the validity of internal audit in 15 commercial banks in Ethiopia, the results of the study indicate that, internal auditors in Ethiopian commercial banks believe that, Operational efficiency; The capacity and use of information technology of internal auditors are important factors affecting the validity of internal audit. In addition, the study of Dellai and Omri (2016) on 148 organizations (banks, credit financial institutions, insurance enterprises) have established internal audit department in Tunisia, the results of the study show that, Capacity; Independence; The objectivity of internal auditors; The support of senior managers; Whether or not to outsource the internal audit department; The Director of internal audit participated in internal training and the business line of the enterprise has a significant influence on the validity of internal audit. Similarly, the study by Nguyen Thi Hai Ha (2021) using the expert interview method, the results also show that, capacity; independence of internal audit; support of managers for internal audit; activities of internal audit and the relationship between internal audit and independent audit are factors that affect the validity of internal audit in commercial banks.

The above studies have used different approaches to investigate and measure factors affecting the validity of internal audits (Arena and Azzone, 2009). However, so far, there is no consensus on a most appropriate framework for the effectiveness of internal audit activities (Endaya and Hanefah, 2013). On the other hand, in Vietnam, in the context of the transition economy, the international integration in banking, finance, accounting and auditing is increasingly extensive. Recognizing the importance of internal audit, the State Bank of Vietnam issued Circular No. 13/2018/TT-NHNN regulating the internal control system of commercial banks, foreign bank branches. The issues set forth in Circular 13 aim to promote a sound corporate governance that minimizes conflicts of interest, which requires internal audit to make fundamental changes to meet the requirements of bank governance in general

and risk management in particular. Although, the importance of internal audit has been confirmed, however, studies on factors affecting the validity of internal audit in commercial banks in Vietnam, from the perspective of internal auditors, managers and audited units seem to be very limited.

Therefore, this study was carried out to provide empirical evidence in Vietnam on this issue. The research results contribute to increasing the understanding of the factors and the level of influence of each factor on the validity of internal audit in commercial banks. From there, make a number of recommendations to stakeholders to improve the effectiveness of internal audit in commercial banks.

2. Theoretical background and literature review

2.2. Theoretical basis

2.1.1. Internal audit

There are different views on internal audit, such as, according to Tunggal (2015), internal audit is a tool to manage, evaluate and monitor the effectiveness of the internal control system in order to prevent risks to the detriment of the company and identify opportunities to increase efficiency and effectiveness. This is a fairly complete concept when referring to the role, position and function of internal audit at that time.

However, in view of the volatility of the world economy, the complex business environment and the potential risks, the Institute of Internal Auditors (IIA) has introduced a new approach to internal audit, which is a widely accepted concept and IIA officially announces the concept of internal audit in the International Professional Practice Framework on Internal Audit, as follows: Internal audit is an objective, independent assurance and consulting activity designed to add value and improve an organization's operations. It helps the organization accomplish its goals by providing a systematic, disciplined approach to assessing and enhancing the effectiveness of risk

management, control, and governance processes (IIa, 2018).

Accordingly, IIA (2018) emphasizes that the function of internal audit is to ensure and advise objectively and independently; the subject of the audit may be the internal auditors of the organization or outsourced; The mission of internal audit is to add more value and improve the organization's operations, help the organization achieve its objectives, internal audit will operate for the benefit of the organization, instead of the individual objectives of each department, adding value is top priority and this will promote the entire audit process; the object of internal audit is emphasized that is the process of risk management, internal control and corporate governance; In order to carry out the audit, internal audit uses an approach based on the systematic, disciplined standards.

As such, internal audit is an activity that provides assurance and independent advice aimed at adding value and improving the operating activities of the business, which can help the business achieve its objectives by providing a systematic and disciplined approach to assessing and improving the effectiveness of risk management, control and governance.

2.1.2. Validity of internal audit

So far, the validity of internal audit has been studied by many scholars, but it is still a multifaceted and complex concept (Dellai and Omri, 2016). Previous literature addresses the validity of internal audits and often focuses on the ability to plan, execute and communicate results (Spraaakman, 1997; Dittenhofer, 2001).

However, recent studies indicate that the validity of internal audit is achieved when it meets the desired objective (Mihret and Yismaw, 2007; Arena and Azzone, 2009; Mihret et al., 2010). According to the International Professional Practice Framework on Internal Audit issued by the IIA in December 2010, validity is "the degree to which the established objectives are achieved".

Meanwhile, the study of Ussahawanitchakit and Intakhan (2011) emphasizes, the validity achieved when auditors complete their tasks and responsibilities in accordance with auditing standards, policies, procedures and objectives of the organization. Some other studies argue that internal audit is actually effective when it contributes to the organization's added value by helping management and unit managers assess and improve risk management effectiveness, internal control, and governance processes (Gramling et al., 2004; Yee et al., 2008; Gros et al., 2016).

From the above points of view, within the scope of this study, the validity of internal audit is understood as the degree to which the established objectives are achieved, including the creation of added value and the improvement of the performance of organizations.

2.2. Literature review

Domestic and foreign researches have confirmed the direct or indirect influence of factors on the validity of internal audit, especially the documents of (IIa, 2016a) have provided a theoretical framework to explain the validity attributes of internal audit in the enterprise, such as: the size of internal audit; the independence of internal audit; the capacity of internal auditors; the support of managers for the operation of internal audit and the relationship between internal auditors and independent auditors, as follows:

2.2.1. The size of the internal audit

The scale of internal audit is reflected in the number of internal auditors, which is the personnel assigned tasks and actually involved in activities to perform the functions of internal audit in the enterprise (Arena and Azzone, 2009; Ismael, 2013). Depending on the business with different specific conditions, internal audit personnel may or may not be dedicated. In addition, according to Chang et al., (2019), the scale of internal audit can be determined through the budget that enterprises invest in internal audit activities.

References in the International Standards for the professional practice of internal audit (IIA) published by the IIA in 2016, the internal audit department should have adequate and appropriate resources to implement the planned activities and achieve the highest efficiency (ISPPPIA, Standard 2230). One of the responsibilities of the audit committee is to determine the appropriate resources to accomplish the work objective and report to senior management, the structure of the number of internal auditors is determined on the basis of the object, scope, content and complexity of the audit (ISPPPIA, Standard 2230). Research by Ahmed et al., (2009), Salehi (2016) also shows that internal audit is more effective when there are enough auditors, if the internal audit department has a significant shortage of human resources, it will limit the ability of internal audit when performing tasks. In the study by Mihret and Woldeyohannis (2008) conducted in some Ethiopian public sector entities, the results of the study also showed that there is a relationship between the adequacy of internal audit personnel and the quality and effectiveness of internal audit. From the above analysis, the author considers that:

H1: The scale of internal audit has a favorable influence on the validity of internal audit in commercial banks.

2.2.2. Independence of internal auditors

For internal auditors, maintaining independence is more difficult than independent auditors because they are also employees of the organization they audit (Ali et al 2007). However, independence in auditing is an important practice principle and core foundation of internal audit, the validity of internal audit cannot be achieved without independence (Abu-Azza, 2012).

The independence of the internal auditor is understood as the issues of performing actions and the auditor's views are not subject to any influence or control when the internal auditor is not governed by material and spiritual interests, they will be objective in performing audit tasks (IIa, 2016a; Prawitt et al., 2009).

In essence, two factors can affect the independence of internal audit. Firstly, being independent in organization, internal audit function and secondly, being independent in each individual internal auditor. Organizational independence can be understood as the relationship between internal audit activities and other departments, with the Supervisory Board, internal audit activities must be autonomous in determining the scope of audit, in the implementation and notification of audit results, so that the level of independence necessary for the effective implementation of responsibilities can be achieved, the head of internal audit department has access to the senior management and the board of directors directly and without restrictions (ISPPPIA, standard 1100). Meanwhile, personal independence is the fact that employees in the internal audit department are independent and objective in using internal audit as the foundation for high-level management activities, through fairness and objectivity when performing work, without bias, bias and avoiding conflicts of interest (ISPPPIA, standard 1100; Salehi, 2016).

Research by Mutchler (2003); Zhang et al., (2007); Al-Akra et al., (2016) showed that independence is an important factor affecting the validity of internal audit activities. In addition, Al-Twaijry et al., (2003) have asserted that unrestricted access to documents and unrestricted access are important aspects of the independence and validity of internal audits. In addition, Mihret and Yismaw (2007) also point out that, in order to achieve effective audit work, auditors have full and unlimited access to all activities, records, assets and information provided with the cooperation of audit clients. Therefore, the internal auditor must be independent enough from the auditor to be able to conduct his/her work objectively and fairly. Studies highlighting the independence of internal audit have a positive influence on the validity of internal audit, such as: the study of Khalid et al., (2017) at Islamic financial institutions (IFIs) in Bahrain, data collected from 76 internal auditors of Shariah, 23 Shariah supervisory boards and 16 audit and governance committees from 52 IFIs in

Bahrain to consider the relationship between the characteristics and validity of internal audit, the results show that independence is one of 6 factors that have an important influence on the validity of internal audit. In addition, the study by Alzeban and Gwilliam (2014) provided a model including 5 factors

affecting the effectiveness of internal audit, data collected from sending survey questionnaires to managers of audited departments in 79 Saudi public sector organizations and up to 396 internal auditors in the same organizations subject to GAB audit, this study highlights the independent role of auditors to effective internal audit function.

The above view is also reinforced by the studies of Arianto (2010); Cohen and Sayag (2010); George et al., (2015); Anto (2016); Marfo et al., (2016), these studies argue and argue that the auditor's independence has a significant influence on the validity of internal audit. Based on the results of the previous study mentioned above, the author proposes the second hypothesis as follows:

H2: The independence of internal auditors has a favorable influence on the validity of internal audit in commercial banks.

2.2.3. Competencies of internal auditors

The competence of an internal auditor is the ability of the individual to perform the job or task properly, which is the set of knowledge and skills required and is measured by experience, professional certificates, professional backgrounds trained and continuously trained (Arena and Azzone, 2009; Sarens, 2009; Ismael, 2013). To achieve competence, many programs and types of training are offered to internal auditors (Van and Steyn 2009). The capacity of internal audit is key, the key to effective internal audit (Al-Twajry et al., 2003; Cohen and Sayag, 2010; Alzeban & Gwilliam, 2014; Ila, 2016).

ISPPIA has consistently emphasized the importance of the knowledge, skills, experience and other competencies required of internal auditors who need to have or attempt to have the competencies required to perform the task

(ISPPIA, Standard 1210). One of the important knowledge and skills that internal auditors need to have is to be able to identify the manifestations of fraud, knowledge of the basic risks and control procedures related to information technology and audit techniques based on the existing information technology to perform the assigned work (ISPPIA, Standard 1210). In addition, throughout the career development process, internal auditors must continuously improve their knowledge, skills and capabilities (ISPPIA, Standard 1230).

In his study, Ahmed et al., (2009) examined the importance of internal audit in Malaysian enterprises and found that the lack of qualified staff, not focusing on training, experience and knowledge of internal audit has negatively affected the validity of internal audit and the authors proposed training as an important requirement in improving the validity of internal audit in this country. In addition, the study of Khalid et al., (2017) focused on the only relationship between the capacity of internal auditors and the effectiveness of internal audit in Shariah. As a result, the lack of qualified personnel is a cause of deterioration in the quality of internal audit activities. Al Matarneh's (2011) study, looking at the relationship between the capacity, objectivity and performance of internal auditors and the quality of internal audit, pointed out that internal auditors at Jordanian commercial banks consider their competence as the second most important factor affecting the quality of internal audit. In agreement with the above studies, Kaplan & Schultz (2007); Prawitt et al., (2012); Baharud-din et al., (2014); Ege (2015); Gros et al., (2017) agreed that the professional competence of internal auditors is the most important attribute of internal audit quality. Some other studies also came to the conclusion that the professional competence of internal auditors has a similar influence on the validity of internal audits (Moeller, 2004; Van and Steyn, 2009; Messier et al., 2011; George et al., 2015). From the above analysis, the third hypothesis is proposed:

H3: The professional capacity of internal auditors has a favorable influence on the validity of internal audit in commercial banks.

2.2.4. The support of managers for the operation of internal audit

Internal audit has a strong relationship with the management levels of the organization in all activities. They need support and understanding from their superiors to work more effectively and achieve audit objectives. ISPPIA has emphasized the importance of support from managers, whereby the head of internal audit should communicate the work plan of his department and the necessary resources (including important mid-term adjustments) to senior managers and the board for review and approval. The head of the internal audit department must also inform about the effects of being limited resources for senior managers (ISPPIA, 2020 standard). In addition, according to ISPPIA, senior managers should participate in the internal audit plan; review and recommend audit subjects (ISPPIA, 2010 standard) and the internal audit department is required to provide senior managers with a complete and reliable report on the work performed, results achieved against the plan and recommendations required (ISPPIA, 2060 standard).

Many studies have demonstrated that support from managers has a far-reaching influence on the functioning of internal audit, such as: Sarens and DeBeelde (2006) found that being accepted and valued for internal audit depends primarily on the support received from management. The study by Abu-Azza (2012) explains that the support from administrators is the encouragement of the Board of Directors for internal audit, these encouragement may be the organization of education and training programs for the internal audit team; the provision of appropriate budget for the internal control department, bonuses and support for the internal audit team; the acceptance and implementation of recommendations of internal audit. In addition, according to Al-Twajjry et al., (2003), the attention and support of managers makes internal auditors feel that they have the power to influence decisions in the business, so that they are motivated to maintain their independence and objectivity. In addition, some other studies also support the view that the support from managers will help internal

auditors get the best resources in terms of the number of employees and budget to meet their work most effectively, thereby increasing the validity of internal audits (Mihret and Yismaw, 2007; Baharud-din, 2014; George et al., 2015). Based on the above insights, the following hypotheses are put forward:

H4: The support of managers for the operation of internal audit has a favorable influence on the validity of internal audit in commercial banks.

2.2.5. Relationship between internal auditors and independent auditors

The relationship between internal auditors and independent auditors manifests itself in coordination and cooperation, which may include: audit planning, exchange of information, opinions and reports to avoid unnecessary duplication of work and facilitate the validity of audits (Ali et al., 2007; Alzeban and Gwilliam, 2014). Therefore, this relationship has long been considered important for the audit interests of the organization and its stakeholders. Effective collaboration between internal auditors and independent auditors leads to higher audit quality (Munro and Stewart, 2011), as well as this collaboration creates opportunities for internal auditors to add value to the organization (Wood, 2004).

ISPPIA recommends that both parties, internal auditors and independent auditors should establish a professional working relationship, share information and coordinate in auditing activities, thereby helping internal auditors in achieving their objectives and helping independent auditors provide better services to the company (ISPPIA, 2050 standard). Consensus with the above views, the studies of Badara and Saidin (2014), Salehi (2016), Shohihah et al., (2018) all confirmed that the cooperation between internal auditors and independent auditors contributes to the effectiveness of internal audit and this harmonious relationship can benefit both parties (Felix et al., 2001). From the above insights, the fifth hypothesis is set out as follows:

H5: The relationship between internal auditors and independent auditors has a favorable influence on the validity of internal audit in commercial banks.

3. Research Method

3.1. Research models and hypotheses

Based on the theoretical basis and the research overview, on the basis of succession of predecessor research models, the theoretical model is proposed as follows:

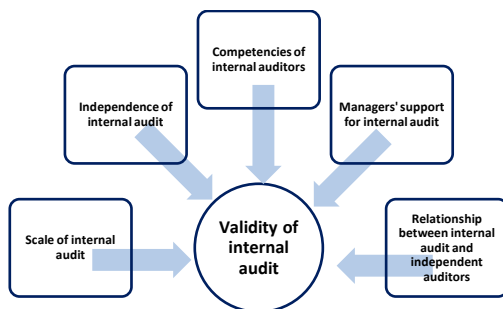


Figure 1. *Research model on factors affecting the validity of internal audit in commercial banks.*

(Source: Author's suggestions)

With multiple regression model as follows:

$$HL = \beta_0 + \beta_1 * QM + \beta_2 * \Delta L + \beta_3 * NL + \beta_4 * HT + \beta_5 * MQH + \varepsilon$$

Where: β_1, β_2, \dots is the regression coefficient, β_0 is the blocking coefficient, ε is the residual

HL: Validity of internal audit in commercial banks.

QM: The size of the internal audit.

ΔL : The independence of internal audit.

NL: Competencies of internal auditors.

HT: The support of managers for internal audit.

MQH: Relationship between internal auditors and independent auditors.

3.2. Data collection and processing

The author collects data through the questionnaire to collect the evaluation opinions of internal auditors, audited units, managers in

commercial banks in Hanoi and Ho Chi Minh City on the influence of factors on the validity of internal audit in commercial banks.

Through the review of previous studies, to assess the validity of internal audit in commercial banks (dependent variable), the author uses the Likert scale of 5 levels of agreement, from: (1) Strongly disagree to (5) Strongly agree. Evaluating independent variable factors, the author uses the Likert scale with 5 levels of influence, from: (1). Very low to high (5). For the factor "Scale of internal audit", the author uses the nominal scale. The number of scales for measuring variables is presented in Appendix 1 and Appendix 2.

The questionnaire was checked and calibrated by sending to 02 people (01 person is a senior lecturer, Institute of Accounting - Auditing, National Economics University; 01 person is the director of the commercial bank branch) to assess the relevance to the research objectives. In addition, to ensure the study sample size, based on the minimum sample size requirements for EFA analysis and regression, in Bollen's view (1989), the sample size is calculated according to the formula $n = 5 * i$ (i is the number of variables observed in the model).

The author uses a convenient sampling method and 215 valid samples obtained through sending and receiving questionnaires through the Google form tool and Email to internal auditors, managers, accountants in commercial banks in Hanoi and Ho Chi Minh City, from November 2021 to March 2022. Based on the collected data, the author uses quantitative techniques such as testing the reliability of the scale, exploratory factor analysis... with the use of SPSS software.22 to summarize and present the basic results of the study.

4. Results and discussion

Of the 215 valid replies, 79 were from internal auditors, accounting for 36.74%; 41 were from middle and senior managers of commercial banks, accounting for 19.07%; 95 were from accountants, accounting for 44.19%.

Regarding the level of education: 202 people with higher education, accounting for 94%; 13 people with college and intermediate education, accounting for 6%.

About the size of the internal audit department: from 1-5 people, 39 votes, accounting for 10.23%; from 6-10 people, 55 votes, accounting for 25.58%; from 11-16 people, 53 votes, accounting for 24.65%; from 17-20 people, 46 votes, accounting for 21.40%; from over 20 people, 39 votes, accounting for 18.40%.

The sample surveyed belongs to many different subjects, education level, scale, and fairly even distribution. Thus, it is possible to ensure that the answers are reliable and of quality.

Statistical results describing the scale showed that most of the variables observed had mean values around the expected mean (3.0) and there was no significant difference between the variables observed in the same group. This shows that the surveyed subjects have similar opinions and all agree with the scale of variables.

4.1. Results of testing the quality of the scale

The results of the first Cronbachs Alpha test showed that: The observation variable of the internal audit's independence scale has a low total variable correlation coefficient (less than 0.3), which is variable DL1 (variable correlation - total = 0.210) and variable DL2 (variable correlation - total = 0.264), NL1 (variable correlation - total = 0.037) and the internal audit's validity scale has variable HL6 (variable correlation - total = 0.297), so these variables are eliminated.

After running Cronbach Alpha for the second time, continue to remove the HL5 variable (variable-sum correlation = 0.282). It can be seen that Cronbach's Alpha test results on the scales of factors affecting the validity of the internal audit with 32 variables observed, after the Cronbach Alpha reliability test eliminated 5 variables, the remaining 27 variables were included in the EFA factor analysis, shown in Table 1:

Table 1. Results of testing the reliability of the scale of factors in the model

No.	Factor	Cronbachs Alpha	N
1	Independence of internal audit	0.702	5
2	Competencies of internal auditors	0.839	5
3	Managers' support for internal audit	0.877	5
4	Relationship between the internal auditor and the independent auditor	0.796	6
5	Validity of internal audit in commercial banks	0.745	6

(Source: Analysis results from SPSS 22.0)

Thus, the model retains 5 factors to ensure good quality, with 27 characteristic variables (Cronbachs Alpha coefficient) of the whole greater than 0.6; The coefficient of correlation of variables - the sum of the observed variables is greater than 0.3.

Explore factor analysis EFA

The EFA exploratory factor analysis was performed separately for 02 groups of independent variables and dependent variables by the full-angle rotation method (Varimax). The results obtained are as follows:

EFA analysis results for independent variables (1st):

KMO = .864 and Barlett's test with Sig.= .000 < .05) showed that EFA analysis was appropriate. At Eigenvalue = 1.314, 4 factors were extracted, no new factors were formed) and the variance was 57.591%. Thus, the extraction variance is satisfactory. However, variable MQH6 has a factor load factor < 0.3. Therefore, this variable will be eliminated to continue performing the second EFA analysis with 21 variables observed.

EFA analysis results for independent variables (2nd):

KMO = .861 and Barlett's test with Sig.= .000 < .05) showed that EFA analysis is appropriate.

Table 2. *Table of KMO and Bartlett test results for independent variables*

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.861	
Bartlett's Test of Sphericity	Approx. Chi-Square	1068.266
	df	190
	Sig.	0.000

(Source: Results of data analysis on SPSS 22)

Looking at the results of EFA analysis for independent variables, it can be seen that the results were divided into 4 groups. The criteria are evaluated as follows:

- KMO = 0.845 so EFA analysis is appropriate with the study data.

Sig. (Bartlett's Test) = 0.000 < 0.05 shows that the observed variables in the whole are correlated with each other and the data used in the EFA analysis are appropriate.

- There are 4 factors quoted at Eigenvalues = 1.309 > 1 representing the variation explained by each factor.

- Total variance explained by factor analysis is 59.172% > 50% meet the requirements. This means that these 4 factors explain 59.17% change of data.

The post-rotation factor matrix table will be reviewed to see what these 4 factor groups include, and whether the order of the observed variables is disturbed compared to the scale constructed at the beginning.

The analysis results show that the observed variables have been assembled into 04 groups of variables with the order of the observed variables kept the same compared to the original independent variables.

EFA analysis results for dependent variable (1st):

The indicators show the following coefficients:

- KMO = 0.755 satisfies the condition of $0.5 < \text{KMO} < 1$, so the analysis of discovery factors is suitable for actual data.

- The variable HL8 has a factor load factor < 0.3. So this variable will be eliminated, continue to perform EFA 2nd for validity scale.

EFA analysis results for dependent variable (2nd time):

- KMO = 0.760 and Barlett's test with Sig.= .000 < .05) showed that EFA analysis is appropriate.

- The quantity Sig. = 0.000 satisfies the condition Sig. ≤ 0.05 so this test is statistically significant and the observed variables are correlated with each other in the whole, proving that the data used in the analysis is suitable.

- The analysis of the total variance extracted for the dependent variable shows that the percentage of variance of the whole percentage of variance = 51,121% > 50%, the value of Eigenvalue = 2,556 > 1, so the model qualifies for exploratory factor analysis and the load factor of the observation variables is greater than 0.5 so the observation variables have practical significance. So the dependent variable is kept between the original independent variable and the observed variable.

4.3. Results of regression analysis

Pearson Correlation Analysis

Correlation analysis was performed prior to regression analysis to check the correlation between the independent variable and the dependent variable, when independent variables not correlated with the dependent variable would be excluded from the model (if Sig. > 0.05).

Table 3. *Pearson Correlation Analysis Results*

Correlations							
		HT	MQH	NL	ĐL	QM	HL
HT	Pearson Correlation	1	0.243**	0.538**	0.365**	-0.172*	0.321**
	Sig(2-tailed)		0.005	0.000	0.000	0.048	0.000
	N	215	215	215	215	215	215
MQH	Pearson Correlation	0.243**	1	0.367**	0.480**	0.088	0.542**
	Sig(2-tailed)	0.005		0.000	0.000	0,316	0.000
	N	215	215	215	215	215	215
NL	Pearson Correlation	0.538**	0.367**	1	0.375**	0,63	0.430**
	Sig(2-tailed)	0.000	0.000		0.000	0.471	0.000
	N	215	215	215	215	215	215
ĐL	Pearson Correlation	0.365**	0.480**	0.375**	1	-0.163	0.775**
	Sig(2-tailed)	0.000	0.000	0.000		0,062	0.000
	N	215	215	215	215	215	215
QM	Pearson Correlation	-0.172*	0.088	0.063	-0.163	1	0.165
	N	215	215	215	215	215	215
HL	Pearson Correlation	0.321**	0.542**	0.430**	0.775**	0.165	1
	Sig(2-tailed)	0.000	0.000	0.000	0.000	0.059	
	N	215	215	215	215	215	215

** . Correlation is significant at the 0.01 level (2-tailed)

*. Correlation is significant at the 0.05 level (2-tailed)

(Source: Results of data analysis on SPSS 22)

Pearson correlation analysis results in Table 3 show that there is a close correlation between dependent and independent variables in the model. In addition, the Pearson correlation coefficient of the independent variables with

the dependent variable "internal audit validity" has a positive value, so these independent variables are proportional to the dependent variable.

Regression analysis

Based on the results of EFA analysis, we have an unchanged multiple regression model, the independent and dependent variables remain the same as at the beginning. The following tables show the regression results, in particular:

Table 4. *Summary table of modelb*

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	.809 ^a	.654	.640	1.818

a. Predictors: (Constant), QM, ĐL, NL, HT, MQH.

b. Dependent Variable: HL

(Source: Results of data analysis on SPSS 22)

Table 5. *ANOVAa Model Analysis Sheet*

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	34.957	5	6.991	47.585	.000 ^b

	Residual	18.512	126	0.147		
	Total	53,469	131			

a. Dependent Variable: HL (Source: Results of data analysis on SPSS 22)

b. Predictors: (Constant), QM, DL, NL, HT, MQH.

Table 6. *Linear regression results*

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	STD Error	Beta			Tolerance	VIF	
1	.399	.315		1.265	.208			
	HT	-.024	.070	.022	-.344	.732	.647	1.545
	MQH	.177	.072	.141	2.129	.035	.641	1.560
	NL	.220	.083	.192	3,064	.003	.727	1.376
	DL	.581	.059	.633	9.824	.000	.663	1.509
	QM	.025	.028	.050	.913	.363	.910	1.099

a. Dependent Variable: HL

(Source: Results of data analysis on SPSS 22)

Test the relevance of the model

Multicollinearity test: The error magnification factor (VIF) of all independent variables is less than 10, so the multicollinearity in the model is assessed as not serious.

The Durbin - Watson coefficient used to test the correlation of the residuals shows that the model does not violate when using multiple regression, since the Durbin - Watson value obtained is 1.818 (range 1 to 3). In other words, the model has no correlation of the residuals.

The assessment of model suitability is based on the Analysis of Variance (ANOVA) table. The results of ANOVA test with the significance level Sig. = 0.000 show that the linear regression model has been constructed in accordance with the data set and used, or in other words, this model has meaning to deduce for the whole.

Evaluate the level of interpretation by the independent variables in the model

The correction factor $R^2 = 0.64 > 0.5$ means that the independent variables explain 64% of the change of the dependent variable "HL",

while 36% is due to random error or other factors outside the model.

The independent variables MQH, DL, NL all have a statistically significant impact (due to Sig.<0.05) on the "validity of internal audit". Only 2 independent variables QM with Sig value = 0.363 > p=5% and HT with Sig value = 0.732 > p=5% did not achieve statistical significance (Sig value of t test is less than 5%). Therefore, these 2 variables will be excluded and not included in the regression equation.

The independent variables MQH, DL, NL have a coefficient $\beta > 0$ proving to have a reversible effect with the dependent variable "HL". Therefore, accepting the initial hypothesis (H2, H3, H5), are independent variables that are linearly related to the dependent variable and perfectly fit the model. From there, we have the regression equation with normalized beta coefficient as follows:

$$HL = 0.633 * DL + 0.192 * NL + 0.141 * MQH$$

From the results of testing the research model, there are 3 factors that have a favorable influence on the validity of internal audit in commercial banks. This result is similar to the results verified by the predecessor studies, specifically: "The independence of internal

audit", such as Cohen and Sayag (2010); George et al., (2015); Anto (2016). "Competencies of internal auditors", such as: George et al., (2015); Kaplan and Schultz (2007); Prawitt et al., (2012). "Relationship between internal auditors and independent auditors", such as: Salehi (2016); Shohihah et al., (2018).

Conclusion and Recommendation

By analyzing 215 survey samples from commercial banks in Hanoi and Ho Chi Minh City. The regression results show that the factors that positively affect the "Effectiveness of internal audit" in descending order are: Competence of internal auditors; Relationship between internal auditors and independent auditors; Independence of internal audit.

The findings from the experimental study are the basis for the author to make a number of recommendations to stakeholders, specifically as follows:

Research shows that the higher the "capacity of internal auditors", the more the effectiveness of internal audit in commercial banks. This implies that improving the capacity of internal auditors in commercial banks will help improve the effectiveness of internal audit. Therefore, managers and internal auditors need to take the following measures: first, internal auditors must always cultivate the appropriate skills to meet the audit work; second, internal auditors need to be trained and updated specialized knowledge regularly through short-term courses; third, internal auditors must use computer tools and specialized audit software competently, to do this, requiring commercial banks before putting the software into use should have prior training and provide sufficient guidance materials for internal auditors.

The study also points out that, "The closer the relationship between internal auditors and independent auditors" is the basis for increasing the effectiveness of internal audit. Therefore, the implication here is that commercial banks need to improve the

relationship between internal auditors and independent auditors as well as maximize the effectiveness of mutual coordination in the work of the two parties. To achieve that, firstly, internal auditors need to have a good attitude towards independent auditors when working. Second, independent auditors and internal auditors should share working papers with each other, listen to each other's opinions at work, especially in audit planning.

The results of the study also showed that the higher the "independence of internal audit", the higher the validity of internal audit. This implies that the independence of internal audit is an important factor contributing to the effectiveness of internal audit in commercial banks. Therefore, the internal auditor must ensure independence at the necessary level, sufficient to perform the audit independently and draw objective conclusions. In order to do this, the internal auditor must have sufficient ideological independence to perform his or her duties. Second, auditors should have free access to the necessary documents, information and data about the organization when conducting the audit. Third, the internal auditor is entitled to make decisions on the scope, timing and extent of the audit procedures based on the auditing standards and policies of commercial banks.

References

- [1] Abu-Azza, W. (2012). Perceived effectiveness of the Internal Audit function in Libya: A qualitative study using institutional and Marxist theories (Doctoral dissertation, University of Southern Queensland).
- [2] Al-Akra, M., Abdel-Qader, W., & Billah, M. (2016). Internal audit in the Middle East and North Africa: A literature review. *Journal of International Accounting, Auditing and Taxation*, 26, 13-27.
- [3] Al Matarneh, G. F. (2011). Factors determining the internal audit quality in banks: Empirical Evidence from Jordan. *International Journal of Finance and Economics*, 73(1), 99-108.
- [4] Al-Twaijry, A. A., Brierley, J. A., & Gwilliam, D. R. (2003). The development

- of internal audit in Saudi Arabia: an institutional theory perspective. *Critical Perspectives on Accounting*, 14(5), 507-531.
- [5] Ahmad, N., Othman, R., Othman, R., & Jusoff, K. (2009). The effectiveness of internal audit in Malaysian public sector. *Journal of Modern Accounting and Auditing*, 5(9), 53-62.
- [6] Ali, A. M., Gloeck, J. D., Ali, A., Ahmi, A., & Sahdan, M. H. (2007). Internal audit in the state and local governments of Malaysia. *Southern African Journal of Accountability and Audit Research*, 7(1), 25-57.
- [7] Alzeban, A., & Gwilliam, D. (2014). Factors affecting the internal audit effectiveness: A survey of the Saudi public sector. *Journal of International Accounting, Auditing and Taxation*, 23(2), 74-86.
- [8] Anto, A. T. (2016). Determinan Efektivitas Internal Audit Pemerintah di Indonesia.
- [9] Arena, M., & Azzone, G. (2009). Identifying organizational drivers of internal audit effectiveness. *International Journal of Auditing*, 13(1), 43-60.
- [10] Arianto, T. (2010). Pengaruh Kompetensi, Independensi Kemahiran, Profesional Dan Motivasi Auditor Terhadap Kualitas Audit Studi Empiris Pada Kantor Akuntan Publik Big Four Di Jakarta.
- [11] Badara, M. A. S., & Saidin, S. Z. (2014). Empirical evidence of antecedents of internal audit effectiveness from the Nigerian perspective. *Middle-East Journal of Scientific Research*, 19(4), 460-471.
- [12] Baharud-din, Z., Shokiyah, A., & Ibrahim, M. S. (2014). Factors that contribute to the effectiveness of internal audit in public sector. *International Proceedings of Economics Development and Research*, 70, 126-136.
- [13] Basel Committee on Banking Supervision (2002), Internal Audit in Banks and supervisor's relationship with auditors: A survey. *Ngân hàng thanh toán quốc tế*.
- [14] Bekiaris M, Efthymiou T, Koutoupis A (2013). Economic crisis impact on corporate governance & Internal Audit. *The case of Greece, Corporate Ownership, Control* 11(1), 55-64.
- [15] Burnaby, P. A., & Hass, S. (2011). Internal audit in the Americas. *Managerial auditing journal*, 26(8), 734-756.
- [16] Chang, Y. T., Chen, H., Cheng, R. K., & Chi, W. (2019). The impact of internal audit attributes on the effectiveness of internal control over operations and compliance. *Journal of Contemporary Accounting & Economics*, 15(1), 1-19.
- [17] Cohen, A., & Sayag, G. (2010). The effectiveness of internal auditing: an empirical examination of its determinants in Israeli organizations. *Australian Accounting Review*, 20(3), 296-307.
- [18] Dellai, H., & Omri, M. A. B. (2016). Factors affecting the internal audit effectiveness in Tunisian organizations. *Journal of Finance and Accounting*, 7(16), 208-221.
- [19] Deribe, W. J., & Regasa, D. G. (2014). Factors determining internal audit quality: Empirical evidence from Ethiopian commercial banks. *Journal of Finance and Accounting*, 5(23), 86-95.
- [20] Dittenhofer, M. (2001). Internal audit effectiveness: an expansion of present methods. *Managerial auditing journal*, 16(8), 443-450.
- [21] Ege, M. S. (2015). Does internal audit function quality deter misconduct management?. *The Accounting Review*, 90(2), 495-527.
- [22] Endaya, K. A., & Hanefah, M. M. (2013). Internal audit effectiveness: An approach proposed to develop the theoretical framework. *Journal of Finance and Accounting*, 4(10), 92-102.
- [23] Felix, Jr, W. L., Gramling, A. A., & Maletta, M. J. (2001). The contribution of internal audit as a determinant of external audit fees and factors influencing this contribution. *Journal of Accounting Research*, 39(3), 513-534.
- [24] Gbadago, F. Y. (2015). Audit expectation gap and MBA accounting students knowledge on auditor (s) responsibilities: Evidence from a public university in Kumasi Ashanti Region of Ghana. *Journal of Accounting and Taxation*, 7(4), 53-61.
- [25] George, D., Theofanis, K., & Konstantinos, A. (2015). Factors associated with internal audit effectiveness: Evidence from Greece. *Journal of Accounting and Taxation*, 7(7), 113-122.

- [26] Gramling, A. A., Maletta, M. J., Schneider, A., & Church, B. K. (2004). The role of the internal audit function in corporate governance: A synthesis of the internal audit literature and directions for future research. *Journal of Accounting literature*, 23, 194-224.
- [27] Gros, M., Koch, S., & Wallek, C. (2017). Internal audit function quality and financial reporting: results of a survey on German listed companies. *Journal of Management & Governance*, 21(2), 291-329.
- [28] Institute of Internal Auditors, IPPF-Practice Guide: Measuring Internal Audit Effectiveness and Efficiency, Florida: Altamonte Springs, 2010.
- [29] Institute of Internal Auditors (2016a). International Professional Practice Framework (IPPF), http://www.theiia.org/bookstore/download/s/freetomembers/0_2032.dl_pas.pdf.
- [30] Institute of Internal Auditors, North America, 2018, https://na.theiia.org/Pages/IIA_Home.aspx
- [31] Ismael, H. R. H. (2013). Internal Auditing in the UK: factors affecting its use and its effectiveness (Doctoral dissertation, University of Aberdeen).
- [32] Kaplan, SE, & Schultz, JJ (2007). Intention to report problematic behaviors: Check the effect of anonymous reporting channels, internal audit quality, and settings. *Journal of Business Ethics*, 71 (2), 109-124.
- [33] Khalid, A. A., Haron, H. H., & Masron, T. A. (2017). Relationship between internal Shariah audit characteristics and its effectiveness. *Humanomics*. 33(2),221–238.
- [34] Marfo-Yiadom, E., Tackie, G., & Achina, S. O. (2016). Determinants of internal audit effectiveness in decentralized local government administrative systems. 11(11), 184-195.
- [35] Messier Jr., W. F., Reynolds, J. K., Simon, C. A., & Wood, D. A. (2011). The effect of using the internal audit function as a management training ground on the external auditor's reliance decision. *The accounting review*, 86(6), 2131-2154.
- [36] Mihret, D. G., & Yismaw, A. W. (2007). Internal audit effectiveness: an Ethiopian public sector case study. *Managerial auditing journal*, 22(5), 470–484.
- [37] Mihret, D. G., James, K., & Mula, J. M. (2010). Antecedents and organisational performance implications of internal audit effectiveness: some proposals and research agenda. *Pacific Accounting Review*, 22(3), 224-252.
- [38] Mihret, D. G., & Woldeyohannis, G. Z. (2008). Value-added role of internal audit: an Ethiopian case study. *Managerial Auditing Journal*, 23(6), 567-595.
- [39] Moeller, R. R. (2004). Sarbanes-Oxley and the new internal audit rules. *John Wiley & Sons*.
- [40] Munro, L., & Stewart, J. (2011). External auditors' reliance on internal auditing: more evidence. *Managerial Auditing Journal*. 26(26), 464-481.
- [41] Mutchler, J. F. (2003). Independence and objectivity: a framework for research opportunities in internal auditing. *Research opportunities in internal auditing*, 231, 268.
- [42] The State Bank of Vietnam (2018), Circular 13/2018/TT-NHNN Regulations on the internal control system of commercial banks, foreign bank branches.
- [43] Nguyen Thi Hai Ha (2021). Awareness of factors affecting the validity of internal audit at commercial banks in Vietnam. *VNU Journal of Economics and Business*, 1(1), 62-71.
- [44] Ramachandran, J., Subramanian, R., & Kisoka, I. J. (2012). Effectiveness of internal audit in Tanzanian commercial banks. *British journal of Arts and social sciences*, 8(1), 32-44.
- [45] Prawitt, D. F., Smith, J. L., & Wood, D. A. (2009). Internal audit quality and earnings management. *The accounting review*, 84(4), 1255-1280.
- [46] Salehi, T. (2016). Investigation factors affecting the effectiveness of internal auditors in the company: Case study Iran. *Rev. Eur. Stud.*, 8, 224-235.
- [47] Sarens, G. (2009). Internal audit research: Where are we going? Editorial. *International Journal of Auditing*, 13(1), 1-7.
- [48] Sarens, G., & De Beelde, I. (2006). Building a research model for internal auditing: insights from literature and theory specification cases. *International Journal of Accounting, Auditing and Performance Evaluation*, 3(4), 452-470.

- [49] Shohihah, I., Djamhuri, A., & Purwanti, L. (2018). Determinants of internal audit effectiveness and implication on corruption prevention in the religious ministry. *Wacana Journal of Social and Humanity Studies*, 21(1).
- [50] Spraakman, G. (1997). Transaction cost economics: a theory for internal audit?. *Managerial auditing journal*, 12(7), 323–330.
- [51] The international organization for internal audit (2016), the international standards for the
- [52] Professional Practice of Internal Auditing (ISPPIA).
- [53] Tunggal, A. W., Ak, C. A., & CPA, M. (2015). Memahami Internal Dan Operational Auditing. Cetakatan, Husarindo, Halaman (21-56.2015).
- [54] Ussahawanitchakit, A., & Intakhan, A. (2011). Audit professionalism, audit independence and audit effectiveness of CPAs in Thailand. *International Journal of Business Research*, 11(2), 1-11.
- [55] Van Staden, M., & Steyn, B. (2009). The profile of the chief audit executive as a driver of internal audit quality. *African Journal of Business Management*, 3(13), 918-925.
- [56] Vinary E, Skaerbaek P (2014). The uncertainties of risk management, Accounting, Audit. *Accountability J*, 27(3):489-526.
- [57] Yee, C. S., Sujan, A., James, K., & Leung, J. K. (2008). Perceptions of Singaporean internal audit customers regarding the role and effectiveness of internal audit. *Asian Journal of Business and Accounting*, 1(2), 147-174.
- [58] Wallace, O.B., & Guandaru, K.C., (2012), A study to explore internal auditors' compliance with Quality Assurance Standards: A case of state-owned corporations in Kenya. *International Journal of Research Studies in Management*, 1(1), 109-126.
- [59] Zhang, Y., Zhou, J., & Zhou, N. (2007). Audit committee quality, auditor independence, and internal control weaknesses. *Journal of accounting and public policy*, 26(3), 300-327.
- [60] Wood, D. A. (2004). Increasing value through internal and external auditor coordination. The Institute of Internal Auditors Research Foundation, 1-14.