



# Study The Factors Affecting The Application Of Continuous Auditing At Vietnamese Commercial Banks

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## ARTICLE INFO

## ABSTRACT

This study was conducted to assess the influence of factors on the application of continuous auditing in Vietnamese commercial banks from the perspective of internal auditors and commercial bank managers. Data was collected from questionnaires sent to 182 managers and internal auditors working at 31 Vietnamese commercial banks. Based on quantitative research with quantitative techniques, the results indicate that there are 5 main factors affecting the application of continuous auditing in descending order, including: Technology infrastructure; Organizational culture; Support and commitment of managers; Legal environment; and External factors. Based on the research results, a number of recommendations are made to strengthen the application of continuous auditing at Vietnamese commercial banks.

## 1. Introduction

The audit sector has seen significant progress in recent years, with a particular focus on continuous auditing. Continuous auditing is a proactive and real-time method of auditing that allows the auditor to monitor transactions and financial controls on a continuous basis. This approach uses technology-based tools and techniques to provide auditors with timely and reliable information, improving the efficiency and effectiveness of the audit process. Continuous auditing is widely applied and studied in developed countries, especially in commercial banks, which has helped to detect errors in time, strengthen risk management, improve the quality of internal controls and strengthen the trust of stakeholders (Huy & Hung, 2022). Due to the complex nature and level of risk of the banking industry, the implementation of ongoing audits is essential to ensure the accuracy of financial statements, compliance with regulatory requirements, and the overall integrity of the banking system.

The banking sector in Vietnam has experienced rapid growth in recent years thanks to economic development and foreign investment growth. However, the increasing complexity and scale of commercial banks' operations in Vietnam pose particular challenges for auditors, requiring innovative approaches such as continuous auditing (Hung & Que, 2024).

Although the benefits of continuous auditing are great, the current situation of continuous auditing in Vietnamese commercial banks is relatively limited. Traditional audit methods, characterized by periodic audits and manual procedures, remain popular. This may be because some banks lack the necessary technology, such as data management systems and analytical tools, to support ongoing audits. In addition, financial and manpower constraints may hinder the application of ongoing audit activities. Moreover, the legal framework in Vietnam may not promote or require the implementation of continuous audits strictly, making banks prioritize compliance with current regulations over seeking innovative audit methods (Hung, 2022).

While continuous auditing in Vietnam is a new field of research, there have also been a number of studies conducted in recent years. These studies mainly focus on understanding the nature and processes, the benefits and challenges associated with the implementation of ongoing audit activities (Pham Huy Hung, 2024). Some other studies explore a number of different aspects, including the impact of continuous auditing on audit quality (Pham, 2022), the role of technology in supporting continuous auditing (Tran et al., 2021), and solutions to promote continuous auditing in enterprises in Vietnam (Le et al., 2020). Although existing studies have provided valuable insights into several aspects of continuous auditing, there is a lack of research focused on identifying specific factors affecting the successful adoption and implementation of continuous auditing at Vietnamese commercial banks. Therefore, this study aims to fill the research gap, by conducting a quantitative study to identify and measure the impact of these factors, thereby contributing to the existing theoretical basis and making practical recommendations for the banking industry in Vietnam.

## 2. Theoretical basis and literature review

### 2.1. Theoretical basis

#### 2.1.1. Continuous audit

According to Doe (2018), continuous auditing is a methodical and technology-based approach that enables auditors to assess the reliability, accuracy, and integrity of financial information in real-time or near real-time, providing timely insights to management and stakeholders.

In addition, Smith (2019) argues that continuous auditing is an audit method that leverages technology to monitor financial transactions, control and risk indicators on a continuous basis. It aims to provide auditors with a proactive and timely assessment of an organization's financial processes, enabling rapid detection of errors, fraud, and control of failures.

In addition, according to Johnson (2020), continuous auditing refers to the use of automated tools and techniques to perform ongoing financial data audits, allowing auditors to obtain reliable information in real time. It includes continuous monitoring of financial transactions, identification of anomalies or exceptions, and prompt corrective action to mitigate risks and improve the effectiveness of internal controls.

Thus, it can be seen that the above studies have emphasized the basic characteristics of continuous auditing. The first is the use of technology in the audit process, leveraging automated tools and techniques to monitor transactions and control finances. Second, studies highlight the proactive nature of continuous auditing, which provides timely assessments of financial processes and enables the rapid detection of errors, including those in internal control. Third, they all emphasize the importance of real-time or near real-time information, allowing auditors to obtain reliable data and insights as quickly as possible. Finally, the foregoing studies address the ongoing monitoring of financial transactions, the identification of anomalies or exceptions, and the need for prompt corrective action to mitigate risks and improve internal controls.

#### 2.1.2. Application of continuous auditing in organizations

According to Charlton & Thompson (2021), applying continuous auditing in organizations involves the use of advanced technology tools and techniques to conduct continuous and automated audits, allowing auditors to obtain timely and reliable information about the organization's financial activities.

Georgi & Johnson (2019) argue that the application of continuous auditing in organizations refers to the systematic integration of automated technology and processes to monitor financial transactions, internal controls, and risk indicators on a real-time or near real-time basis.

According to Eulerich & Lopez (2020), the application of continuous auditing in organizations is the proactive and continuous use of technology-based audit techniques to evaluate the effectiveness of internal control, identify potential risks, and detect irregularities or deviations in financial processes.

According to Schmidt & Smith (2018), the application of continuous auditing in organizations refers to the systematic application of technology-enabled audit methods that allow real-time monitoring and evaluation of financial transactions, controls, and processes.

The above studies have highlighted consistent aspects of technology integration, real-time monitoring, proactive assessment and aim to improve the quality of auditing, risk management and internal control through the application of continuous auditing in organizations.

### 2.2. Factors affecting the application of continuous auditing in commercial banks

#### Legal environment

The effect of legal requirements on the application of continuous auditing in commercial banks has been extensively studied in various countries. In the comparative analysis of Anderson et al. (2017), legal requirements play an important role in shaping the application of ongoing audit activities. Countries with stricter regulatory frameworks tend to adopt continuous audits in higher commercial banks, as these regulations encourage and are sometimes required to perform continuous audits. Research by Lee et al. (2018) conducted in Korea has provided further insights into the legal drivers for the adoption of continuous auditing. They have identified specific provisions within the legal framework, such as real-time monitoring and reporting requirements, that significantly influence the application of continuous auditing. In addition, the empirical investigation of Zhang et al. (2019) shows a positive correlation between legal requirements and the application of ongoing audit activities in commercial banks of 12 Asian countries. Banks operating in countries with more comprehensive and rigorous regulatory frameworks are more likely to adopt ongoing audits to meet regulatory compliance and enhance risk management practices, the study said. These research findings collectively underscore the important role of legal requirements in promoting the adoption of continuous auditing, leading to improved audit efficiency, enhanced risk management, and strengthened internal controls in commercial banks worldwide.

#### Organizational culture

In research by Davis et al. (2016) conducted in the UK, banks with a culture that values innovation and continuous technological improvement are more likely to adopt continuous audit activities. Cultural factors create an environment conducive to change and facilitate the application of technology-based audit methods. Based on these findings, Wilson et al. (2018) explored the relationship between organizational readiness for

change and the adoption of continuous auditing. The researchers found that banking institutions that take a proactive approach to risk management and are open to new technologies are more likely to adopt continuous auditing. They emphasize the importance of leadership support, employee engagement, and effective change management strategies in fostering a receptive organizational environment for ongoing auditing. In addition, the study by Taylor & Thompson (2019) explored the role of organizational culture in the application of continuous auditing. The research results show that banks with a culture that values innovation and promotes a proactive approach to risk management are more likely to adopt ongoing audit activities. The study emphasizes the importance of aligning organizational values, attitudes, and behaviors with the application of continuous auditing to drive successful implementation.

### **Technology infrastructure**

Mokhitli & Kyobe (2019) conducted a study to examine the role of technology infrastructure in the application of continuous auditing. The research results show that banks equipped with complete and modern information technology systems, rich data storage and processing capabilities as well as advanced analytical tools are more likely to apply continuous audit activities. The study highlights the importance of technology infrastructure in facilitating the effective implementation and use of technology-based audit methods. Besides, Aboa (2014) conducted an empirical analysis, investigating the influence of the ability to analyze data on the application of continuous auditing in Egyptian commercial banks. The study shows a positive relationship between the possession of advanced data analysis tools and techniques and banks' tendency to adopt ongoing audit activities. These capabilities are believed to improve audit efficiency, improve risk assessment, and enhance fraud detection capabilities. In addition, Amin & Mohamed (2016) explored the importance of integrating various banking systems and databases to perform a successful ongoing audit. Research has revealed the challenges and benefits associated with integrating various systems, including core banking systems, customer relationship management databases, and transaction databases. The researchers emphasize the importance of seamless integration to enable comprehensive data analysis, real-time monitoring, and effective risk management.

### **Manager support and commitment**

Soedarsono et al. (2019) conducted a study to examine the role of support from senior management in the application of continuous auditing in Japanese economic corporations (Toyota Motor; Sumitomo Mitsui Financial and Hitachi). Findings from the study show that strong support from senior management, especially the Chief Financial Officer (CFO) and Chief Audit Executive (CAE), has significantly facilitated the adoption of ongoing audit activities. By recognizing the potential benefits from ongoing auditing and actively promoting the implementation of this activity, corporations have created an enabling environment for its adoption. This finding underscores the importance of senior leadership commitment and endorsement in driving organizational change and fostering a culture of continuous improvement. Besides, Yanas (2020) explored the influence of CAE's role in the application of continuous auditing in public listed companies including commercial banks in Korea. The findings highlight that CAE's active support and promotion of ongoing audits have had a positive impact on adoption rates. By highlighting the benefits of ongoing audits, building awareness, and ensuring organizational commitment, CAE has played a key role in driving successful implementation. This study highlights the importance of leadership and the ability to navigate organizational dynamics to ensure successful integration of ongoing audit activities.

Based on these studies, organizations that want to adopt continuous auditing should prioritize ensuring the support and commitment of senior leadership. The CFO and CAE play an important role in driving adoption efforts, as their belief in the benefits of ongoing auditing and their active promotion of audit execution will create an environment conducive to change.

### **External factors**

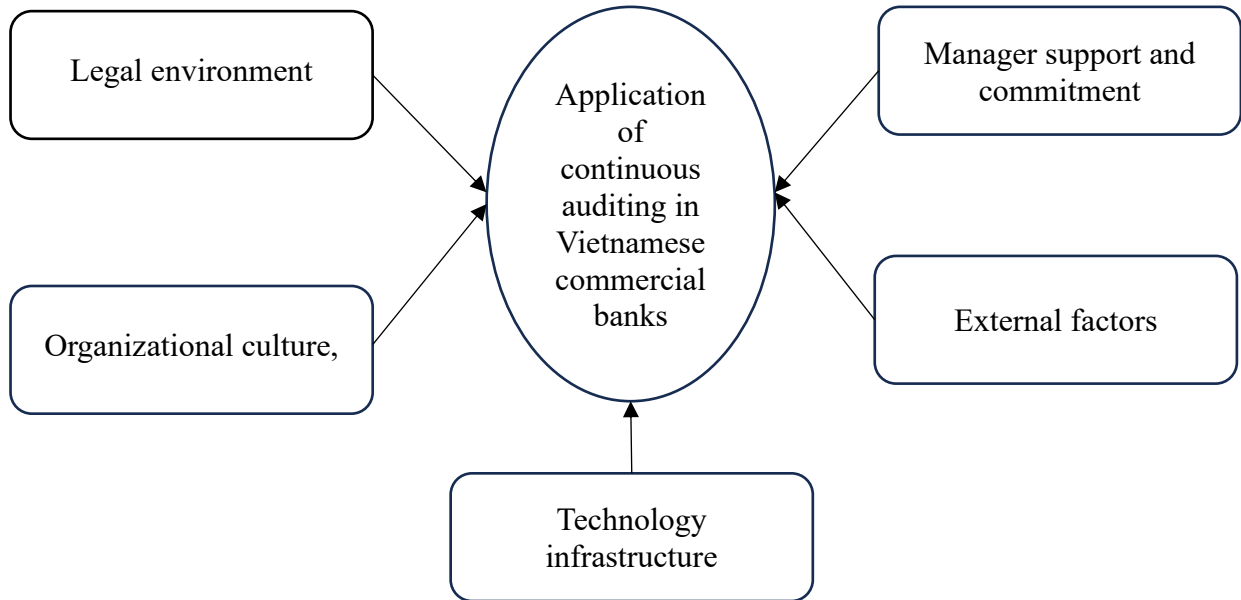
The study by Chen et al. (2019) explores the influence of competitive markets on the adoption of continuous auditing in the banking industry in China. The researchers found that banks operating in highly competitive markets were more likely to adopt ongoing auditing practices. The study highlights the need for banks to enhance their reputation and improve risk management practices in a competitive environment that will drive the adoption of continuous auditing. These findings underscore the importance of external market competition as a factor influencing the adoption of ongoing audits by banks. Besides, Li et al. (2018) conducted a comparative analysis focusing on the influence of stakeholder pressure on the adoption of continuous auditing among listed companies in Taiwan. Companies facing increased scrutiny from the Financial Supervisory Commission (FSC), the Financial Ombudsman Institute (FOI), and the Taiwan Stock Exchange (TWSE) tend to adopt more ongoing audit measures, the researchers found. The study highlights that pressure to improve reliability and transparency to meet stakeholder needs drives the adoption of continuous auditing. These findings highlight the importance of pressure from external stakeholders as an important factor in the application of ongoing auditing. In addition, Garcia et al. (2017) examined the influence of the economic environment on the application of continuous auditing in 16 African countries. The results of the study show that the overall economic environment plays an important role in the application of ongoing audit activities. In countries with less stable economic environments, organizations are more motivated to adopt ongoing audits

to improve risk management practices and enhance reputation. The study highlights the impact of the economic environment as an external factor driving the adoption of continuous auditing in these countries.

### 3. Research Method

#### 3.1. Research models and hypotheses

Based on the theoretical basis and the above analysis, the theoretical model is proposed as follows:



**Figure 1: Research model on the application of continuous audit in Vietnamese commercial banks**

Source: Proposed Author

With the multiple regression model as follows:

$$KTLT = \beta_0 + \beta_1 * MTPL + \beta_2 * VHTC + \beta_3 * CNTT + \beta_4 * HTQL + \beta_5 * YTBN + \epsilon$$

Where:

$\beta_1, \beta_2, \dots$  is the regression coefficient,  $\beta_0$  is the intercept coefficient,  $\epsilon$  is the residual

Dependent variable

Application of continuous audit in Vietnamese commercial banks: *KTLT*

Independent variables

Legal environment: *MTPL*

Organizational culture: *VHTC*

Technology infrastructure: *CNTT*

Managerial support and commitment: *HTQL*

External factors: *YTBN*

Restated hypotheses:

*H1: The legal environment is positively correlated with the level of continuous audit application at Vietnamese commercial banks.*

*H2: Organizational culture is positively correlated with the level of continuous audit application at Vietnamese commercial banks.*

*H3: Technology infrastructure is positively correlated with the level of continuous audit application in Vietnamese commercial banks.*

*H4: The support and commitment of managers are positively correlated with the level of application of continuous auditing at Vietnamese commercial banks.*

*H5: External factors are positively correlated with the level of continuous audit application at Vietnamese commercial banks.*

#### 3.2. Data collection and processing

The author collects data through the use of questionnaires to collect the opinions of internal auditors and managers (Branch Directors) of commercial banks on the influence of factors on the application of continuous auditing in their own organizations.

The questionnaire is checked and adjusted by sending to 02 experts (one is CPA, senior lecturer of Accounting - Auditing Faculty, Academy of Finance; the other is the director of Sacombank branch) to assess the suitability of research objectives. To assess the level of application of continuous auditing in Vietnamese commercial

banks (dependent variable), the author uses a 5-level Likert scale of agreement, from: (1) Strongly disagree to (5) Strongly agree. Evaluating independent variable factors, the author uses the Likert scale of 5 levels of influence, from: (1). Very low to (5). Very high The number of scales measuring variables is summarized in the **Appendix**.

In addition, to ensure the study sample size, based on the minimum sample size requirement for EFA analysis and regression. According to Bollen (1989), the sample size is calculated according to the formula  $n = 5 * i$  (i is the number of observed variables in the model), corresponding to this study, the sample size will be  $26 * 5 = 130$ . According to Tabachnick & Fidell (2007), the sample size in the multiple linear regression analysis is calculated according to the formula  $n = 50 + 8q$  (q is the number of independent variables in the model), whereby the sample size of the study will be  $50 + 8 * 5 = 90$ . In order to improve the reliability of the survey information, the study selects the largest sampling for the model according to one of the above principles.

The author uses a convenient sampling method and 182 valid votes are obtained out of a total of 250 submitted through the distribution of direct questionnaires, sending and receiving questionnaires through the Google form tool to managers and internal auditors of 31 Vietnamese commercial banks. Implementation period is from January 2024 to April 2024. 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.22 software to summarize and present the basic results of the study.

#### 4. Results and discussion

Out of 182 valid answer sheets of managers and internal auditors of commercial banks, the descriptive statistical results show that:

Regarding job positions: 154 internal auditors, accounting for 84.61%; The remaining 28 directors of branches of commercial banks, accounting for 15.39%.

Regarding education level: 86 people have postgraduate degrees, accounting for 47.25%; the remaining 96 people have university degrees, accounting for 52.75%. In particular, of the 182 survey respondents, 26 had a notarized internal auditor (CIA) certificate, issued by the American Internal Auditing Association (IIA).

In terms of work experience: all internal auditors and branch managers have experience in employment positions of 3 years or more.

The surveyed sample belongs to many different subjects in terms of job position, education, work experience. As such, it is possible to ensure the answers are reliable and quality.

The statistical results describing the scale show that most of the observed variables have a mean value around the expected average value (3.0) and there is no significant difference between the observed variables in the same group. This proves that the survey subjects have quite similar opinions and agree with the scale of variables.

##### 4.1. Quality control results of the scale

The results of Cronbach's Alpha test show that: independent variables *Legal environment; Organizational culture; Technology infrastructure; Managers' support and commitment; External factors* and dependent variables *Application of continuous audit in Vietnamese commercial banks* is measured by 26 observed variables. The reliability analysis results of the scale all have a Cronbach's Alpha coefficient greater than 0.6. At the same time, the observed variables are correlated with total variables > 0.3 and Cronbach's Alpha coefficient if the type of variables of the observed variables is less than Cronbach's Alpha. Therefore, the independent and dependent variables above meet the reliability. The results of testing the scale of factors affecting the application of continuous audit in Vietnamese commercial banks with 26 observed variables, are shown in Table 1 below:

**Table 1: Reliability test results of the scale of factors in the model**

No.	Factor	Cronbach's Alpha	N
1	Legal environment	0.741	4
2	Organizational culture,	0.833	4
3	Technology infrastructure	0.897	5
4	Manager support and commitment	0.710	4
5	External factors	0.806	4
6	<i>Application of continuous auditing in Vietnamese commercial banks</i>	0.815	5

Source: Results from SPSS 22

Thus, the model retains the same 6 factors to ensure good quality, with 26 variables characteristic of Cronbach's Alpha coefficient of the overall is greater than 0.6; Variable correlation coefficient - the sum of the observed variables is greater than 0.3.

#### 4.2. Explore factor analysis EFA

The EFA exploratory factor analysis was performed separately for two groups of independent and dependent variables, the results of which are presented in Table 2.

**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	1168.266
	df	210
	Sig.	0.000

Source: Results of data analysis, 2022

The EFA analysis results for the independent variable in Table 2 show that the KMO value is 0.861 and the Bartlett test has a value of 1168.266 with a Sig significance level. = 0.000 < 0.05 proves that the data used in the analysis is suitable. There are 5 factors extracted at Eigenvalues = 1.719 > 1, so it can be confirmed that the number of factors extracted is appropriate. The total explanatory variance of factor analysis is 75.215 % > 50%. This means that 75.215% of the change of factors is explained by the observed variables. Next, the factor matrix table after rotation will be considered, the analysis results show that the observed variables have been gathered into 05 groups of variables with the order of the observed variables being kept the same compared to the original independent variables, the factor load factors are greater than 0.5, so these 05 groups of independent variables are of practical significance.

The results of the EFA analysis for the dependent variable show that the KMO coefficient = 0.774, so the exploratory factor analysis is appropriate for the actual data. quantity Satisfy the condition  $\leq 0.05$  should be statistically significant and the observed variables are correlated with each other in the whole, proving that the data used in the analysis is appropriate. Analysis of the total variance extracted for the dependent variable shows that the percentage value of the entire variance Percentage of variance = 83.783% > 50%, the Eigenvalue = 2.064 > 1, so the model is eligible for exploratory factor analysis and the load factor of the observed variables is greater than 0.5, so the observed variables are of practical significance. So the dependent variable is kept the same as the original independent variable and there are 05 observed variables.

#### 4.3. Regression analysis

##### Pearson Correlation Analysis

This step is performed before the regression analysis to check the correlation between the independent variable and the dependent variable.

**Table 3: Pearson correlation analysis results**

		KTLT	MTPL	VHTC	CNTT	HTQL	YTBN
KTLT	Pearson Correlation	1					
	Sig. (2-tailed)						
MTPL	Pearson Correlation	0.217**	1				
	Sig. (2-tailed)	0.000					
VHTC	Pearson Correlation	0.321**	0.261**	1			
	Sig. (2-tailed)	0.000	0.002				
CNTT	Pearson Correlation	0.114**	0.149**	0.118	1		
	Sig. (2-tailed)	0.000	0.001	0.118			
HTQL	Pearson Correlation	0.400**	0.271**	0.331**	0.096	1	
	Sig. (2-tailed)	0.000	0.012	0.000	0.205		
YTBN	Pearson Correlation	0.368**	0.159*	0.135**	0.031	0.223**	1
	Sig. (2-tailed)	0.000	0.014	0.002	0.087	0.002	

\*\* . 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, 2022

From Table 3, the Sig. value correlates Pearson independent variables with dependent variables less than 0.05, so they are linearly correlated with each other. In addition, the Pearson coefficient of independent variables with dependent variables has a positive value, so these independent variables are directly correlated with the dependent variable, meaning that the more the factors under consideration are increased, the higher the level of application of continuous auditing in Vietnamese commercial banks.

##### Regression analysis

Based on the results of the EFA analysis, we have the multiple regression model as follows:

**Table 4: Model summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	.811 <sup>a</sup>	.669	.608	1.794

a. Predictors: (Constant), MTPL, VHTC, CNTT, HTQL, YTBN.

b. Dependent Variable: KTLT

R<sup>2</sup> = 0.608 > 0.5 proves the suitability of the model is acceptable. This means that independent variables explain 60.80% of the change in the dependent variable "Application of continuous audit in Vietnamese commercial banks", while 39.2% is due to random errors or other factors outside the model.

*Test the relevance of the model*

The assessment of the relevance of the model is based on the Analysis of Variance (ANOVA). ANOVA test results with Sig significance level. = 0.000 shows that the constructed multiple linear regression model is consistent with the dataset.

**Table 5: Coefficients<sup>a</sup> linear regression results**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1		0.122	0.153		.794	<b>0.431</b>		
	YTBN	0.036	0.032	<b>0.042</b>	1.153	<b>0.001</b>	0.926	<b>1.079</b>
	CNTT	0.504	0.031	<b>0.618</b>	16.946	<b>0.000</b>	0.893	<b>1.119</b>
	VHTC	0.300	0.029	<b>0.397</b>	10.683	<b>0.000</b>	0.863	<b>1.158</b>
	MTPL	0.072	0.023	<b>0.120</b>	3.144	<b>0.002</b>	0.827	<b>1.209</b>
	HTQL	0.056	0.021	<b>0.287</b>	3.956	<b>0.000</b>	0.917	<b>1.090</b>

a. Dependent Variable: KTLT

Based on the above results, we see:

Testing of multicollinearity: The variance magnification factor (VIF) of all independent variables is less than 5, so multicollinearity in the model is assessed as not serious.

The Durbin-Watson coefficient used to test the correlation of the residues shows that the model does not violate when using the multiple regression method, because the Durbin-Watson value is 1,794. In other words, the model has no correlation of residues.

The independent variables MTPL, VHTC, CNTT, HTQL, YTBN all have a statistically significant impact (due to Sig. < 0.05) to KTLT and the coefficient β > 0 proves to have a positive effect on the KTLT dependent variable. Therefore, accepting the initial hypothesis, the independent variables are linearly related to the dependent variable and are fully consistent with the model. From there, the regression equation with the standardized beta coefficient:

$$KTLT = 0.120*MTPL + 0.397*VHTC + 0.618*CNTT + 0.287*HTQL + 0.042*YTBN$$

From the test results of the research model, there are 5 factors that have a favorable effect on "Applying continuous audit in Vietnamese commercial banks". This result is also similar to the results tested by previous studies, specifically: Legal environment, such as: Anderson et al. (2017); Lee et al. (2018); Zhang et al. (2019). Organizational culture, such as: Davis et al. (2016); Wilson et al. (2018); Taylor & Thompson (2019). Information technology, such as: Mokhitli & Kyobe (2019); Aboa (2014); Amin & Mohamed (2016). The support and commitment of managers, such as: Soedarsono et al. (2019); Yanas (2020). External factors, such as: Chen et al. (2019); Li et al. (2018); Garcia et al. (2017).

**5. Conclusion and recommendation**

The research results indicate that there are 5 factors affecting the application of continuous auditing in Vietnamese commercial banks arranged in descending order as follows: Technology infrastructure; Organizational culture; Support and commitment of managers; Legal environment; and External factors.

The findings from the empirical study are the basis for the author to make some recommendations and in this study, the author focuses on recommendations for commercial banks themselves as follows:

The study shows that the more complete the technology infrastructure factor of commercial banks, the more the application of continuous auditing increases. This implies that the completion of the technology infrastructure will increase the application of continuous auditing at Vietnamese commercial banks. Therefore, commercial banks need to take the following measures: (i) Prioritize investment in a modern and reliable information technology system that can handle the data storage, processing and analysis requirements of continuous auditing. By ensuring the availability of advanced technologies, the bank can establish a strong foundation to support ongoing audits effectively. (ii) Provide training programs to employees on data analysis techniques and equip them with state-of-the-art analytical tools. By doing so, banks can effectively analyze and interpret real-time audit data, improving the efficiency and accuracy of ongoing audit processes. (iii) Prioritize

integration of various bank systems and databases to facilitate seamless data exchange and streamline the ongoing audit process.

Based on the regression results, the positive impact of organizational culture and willingness to change on the application of continuous auditing at Vietnamese commercial banks. Therefore, in order to strengthen the application of continuous audit practices, Vietnamese commercial banks need to implement some of the following proposals: (i) Prioritize building an organizational culture that promotes innovation and continuous improvement. This can be achieved by encouraging employees to actively seek out new ideas and technologies that can enhance the audit process. (ii) actively communicate the benefits of ongoing auditing, provide training and resources to support the transition, and engage employees in the decision-making process.

The research results indicate that the support and commitment of regulators is a factor that positively affects the application of continuous auditing at Vietnamese commercial banks. Therefore, the implication here is that, for Vietnamese commercial banks to carry out ongoing audits, they need strong support and commitment from senior managers. Therefore, managers need to: (i) actively demonstrate their support for the ongoing audit by integrating it into the bank's strategic goals and vision. By exemplifying and allocating the necessary resources, managers can create a culture in which ongoing auditing is valued and prioritized. (ii) Effective communication is critical in gaining manager support and commitment to ongoing auditing. Vietnamese commercial banks need to establish open channels of communication to regularly update regulators on the progress, benefits and challenges of ongoing audits. In addition, banks should actively engage regulators in the decision-making process, seeking their input and participation. This collaborative approach will foster a sense of mastery and commitment among managers, leading to increased support for the implementation of ongoing audits.

Based on the regression results highlight the importance of the regulatory environment as an important factor that has a positive influence on the application of continuous auditing at Vietnamese commercial banks. Therefore, in order to increase the level of continuous audit application in Vietnamese commercial banks, it is necessary to implement some of the following suggestions: (i) Legal requirements should be considered as opportunities, not reluctant. It is important for banks to be aware of and comply with regulations or guidelines that encourage the application of continuous auditing. By proactively aligning their activities with the requirements of the law, banks not only improve efficiency in the audit process but also improve risk management and strengthen internal controls. Regulatory compliance promotes trust and confidence among stakeholders and demonstrates a commitment to maintaining high standards in the banking sector. (ii) It is necessary to actively cooperate with industry associations, the State Bank and the Ministry of Finance to advocate for the development of legal frameworks to support continuous auditing.

The research results also indicate that external factors have an important and positive influence on the application of continuous auditing at Vietnamese commercial banks. Therefore, in order to promote the application of continuous auditing in commercial banks, it is necessary to take some of the following measures: (i) Consider continuous auditing as a strategic tool to achieve competitive advantage. By adopting ongoing audit measures, banks can enhance their reputation, improve operational efficiency, and demonstrate their commitment to transparency and accountability. This can help differentiate them from their competitors and attract stakeholders who value effective risk management measures. (ii) Vietnamese commercial banks are facing increasing scrutiny from stakeholders such as regulators, investors, and customers who should proactively respond to market pressures by conducting ongoing audits. (iii) Vietnamese commercial banks must adapt their risk management practices to the economic environment. In times of economic instability or recession, the application of continuous auditing becomes even more important. Banks can leverage ongoing audits to identify and mitigate emerging risks, closely monitor financial performance, and ensure resilience in their operations.

## References

1. Aboa, Y. P. J. D. (2014). Continuous Auditing: Technology Involved.
2. Amin, H. M., & Mohamed, E. K. (2016). Auditors' perceptions of the impact of continuous auditing on the quality of Internet reported financial information in Egypt. *Managerial Auditing Journal*, 31(1), 111-132.
3. Anderson, J., Chen, E., & Garcia, M. (2017). The impact of regulatory requirements on the adoption of continuous auditing in commercial banks: A comparative analysis. *International Journal of Accounting and Finance*, 18(2), 149-164.
4. Bollen, K. A. (1989). *Structural equations with latent variables* (Vol. 210). John Wiley & Sons, Inc.
5. Charlton, G., & Thompson, L. (2021). Applying Continuous Auditing in Organizations: A Framework for Implementation. *Journal of Business Research*, 25(3), 258-272.
6. Chen, Y., Liu, C., & Wang, Q. (2019). The Impact of Competitive Markets on the Adoption of Continuous Auditing: Evidence from the Banking Industry. *Journal of Accounting Research*, 27(3), 537-572.
7. Davis, E., Johnson, S., & Thompson, M. (2016). The impact of organizational culture on the adoption of continuous auditing in banks: A comparative analysis. *Journal of Organizational Studies*, 26(2), 312-331.
8. Doe, J. (2018). Advancements in Continuous Auditing: A Review of Literature. *Journal of Accounting Research*, 12(5), 125-139.
9. Eulerich, M., & Lopez, M. (2020). Continuous Auditing: A Practical Guide for Organizations. *Journal of Corporate Finance*, 9(3), 180-198.



10. Garcia, M. A., Kim, J. Y., & Park, S. (2017). The Economic Environment and Continuous Auditing Adoption: A Cross-Country Study. *Journal of International Business Studies*, 28(3), 107-129.
11. Georgi, C., & Johnson, R. (2019). Applying Continuous Auditing in Organizations: A Comprehensive Framework. *Journal of Financial Auditing*. 10(2), 243-259.
12. Hung, P. H. (2022). Factors Affecting The Application Of International Financial Reporting Standards Of Enterprises: A Literature Review. *Journal of Positive School Psychology*, 6(7), 1633-1648.
13. Hung, P. H., & Que, N. T. (2024). Factors Affecting the Ability to Detect Accounting Fraud of Internal Auditors at Vietnamese Commercial Banks. *International Journal of Research in Engineering, Science and Management*, 7(3), 72-82.
14. Huy, N. D., & Hung, P. H. (2022). Factors affecting the validity of internal audit research at commercial banks in Vietnam. *Journal of Positive School Psychology*, 115-129.
15. Johnson, D. (2020). Continuous Auditing in the Digital Era: A Conceptual Framework. *Journal of Information Systems*, 13(3), 209-226.
16. Lee, R., Martinez, S., & Thompson, J. (2018). Regulatory drivers for continuous auditing adoption in commercial banks: A cross-country study. *Journal of Banking and Finance*, 22(2), 213-234.
17. Le, H. T., Nguyen, H. T., & Pham, T. N. (2020). Solutions to promote continuous auditing activities in businesses in Vietnam. *Journal of Business and Economics*, 12(4), 112-130.
18. Li, J., Zhang, H., & Wu, S. (2018). Stakeholder Pressure and Continuous Auditing Adoption: A Comparative Analysis of Listed Companies. *Journal of Business Ethics*, 12(2), 263-282.
19. Mokhitli, M., & Kyobe, M. (2019, March). Examining factors that impede internal auditors from leveraging information technology for continuous auditing. In *2019 Conference on Information Communications Technology and Society (ICTAS)* (pp. 1-6 IEEE).
20. Phạm, H. H. (2022). Đo lường chất lượng kiểm toán báo cáo tài chính thông qua ảnh hưởng của các nhân tố= Measurement of the auditquality of financial statements through the factors' effects.
21. Pham Huy Hung. (2024) Opportunities and challenges when conducting ongoing audits in enterprises in Vietnam. *Journal of Accounting and Auditing*, 5.
22. Schmidt, A., & Smith, M. (2018). Continuous Auditing in Organizations: Best Practices and Lessons Learned. *International Journal of Accounting Information Systems*. 14(2), 147-263.
23. Smith, J. (2019). Continuous Auditing: An Integrated Approach for Enhanced Audit Quality. *International Journal of Auditing*, 14(2), 168-184.
24. Soedarsono, S., Mulyani, S., Tugiman, H., & Suhardi, D. (2019). Information Quality and Management Support as Key Factors in the Applications of Continuous Auditing and Continuous Monitoring: An Empirical Study in the Government Sector of Indonesia. *Contemporary Economics*, 13(3).
25. Tabachnick, B. G., & Fidell, L. S. (2007). *Experimental designs using ANOVA* (Vol. 724. Belmont, CA: Thomson/Brooks/Cole.
26. Taylor, L., & Thompson, E. (2019). The role of organizational culture in the adoption of continuous auditing: Evidence from the banking sector. *International Journal of Risk Management*. 15(2), 249-263.
27. Tran, M. T., Pham, H. H., & Nguyen, T. T. (2021). The role of technology in supporting continuous auditing: Evidence from Vietnam. *International Journal of Accounting and Auditing Studies*, 8(3), 78-95.
28. Yanas, G. A. (2020). *Factors affecting the intention of internal auditor of non-profit organization for using continuous auditing* (Doctoral dissertation, Universitas Gadjah Mada).
29. Zhang, L., Chen, W., & Guo, X. (2019). The influence of regulatory requirements on the adoption of continuous auditing in commercial banks: An empirical study. *Journal of Accounting and Public Policy*, 15(4), 256-270.
30. Wilson, D., Brown, R., & Smith, J.(2018). Organizational readiness for change and the adoption of continuous auditing in banking institutions. *Journal of Strategic Management*. 18(3), 178-192.

**Appendix: Attribute coding of factors affecting the application of continuous auditing in Vietnamese commercial banks**

No.	Factor	Measurement Scale	Source
<b>Independent variable</b>			
<b>MTPL</b>	MTPL1	Our bank strictly adheres to legal guidelines for conducting ongoing audits.	Anderson et al. (2017); Lee et al. (2018); Zhang et al. (2019).
	MTPL2	Our bank receives full guidance and support from regulators on the implementation of ongoing audits.	
	MTPL3	Continuous auditing is a mandatory activity at our bank as required by regulations.	
	MTPL4	Regulators consider the practical limitations that banks face when conducting ongoing audits.	
<b>VHTC</b>	VHTC1	Our bank encourages employees to propose and implement innovative ideas in the audit process.	Davis et al. (2016); Wilson et al.

	VHTC2	Our bank invests in advanced audit technology to enhance efficiency and efficiency.	(2018); Taylor & Thompson (2019).
	VHTC3	Auditors in our bank have the necessary skills and knowledge to effectively use technology in auditing.	
	VHTC4	Auditors in our bank are ready to change and are ready to apply new audit methods.	
<b>CNTT</b>	CNTT1	Our bank has a modern and reliable IT system that can handle data processing requirements for ongoing audits.	Mokhitli & Kyobe (2019); Aboa (2014); Amin & Mohamed (2016).
	CNTT2	Our bank's IT infrastructure is regularly updated to ensure optimal performance for ongoing audits.	
	CNTT3	Our bank has sufficient data storage capacity to handle the volume of data required for continuous inspection.	
	CNTT4	Employees in our bank are trained on how to use advanced analytical tools.	
	CNTT5	Our bank has integrated various banking systems and databases to facilitate seamless data exchange for continuous auditing.	
<b>HTQL</b>	HTQL1	Senior managers in our bank actively support and promote the implementation of ongoing audits.	Soedarsono et al. (2019); Yanas (2020).
	HTQL2	Our bank allocates sufficient financial resources to invest in technology and ongoing audit training.	
	HTQL3	Senior managers in our bank regularly communicate the strategic importance of ongoing audits to employees.	
	HTQL4	Senior managers in our bank set clear expectations and hold individuals accountable for their contributions to the audit continuum.	
<b>YTBN</b>	YTBN1	The competitive nature of our industry drives our bank to adopt ongoing audits to stay ahead of the competition.	Chen et al. (2019); Li et al. (2018); Garcia et al. (2017).
	YTBN2	Our bank faces a growing demand from stakeholders for improved transparency and risk management, which drives the adoption of continuous auditing.	
	YTBN3	Changes in legal requirements or guidelines have prompted our bank to adopt continuous audits as a compliance measure.	
	YTBN4	The adoption of continuous auditing is seen as a way to maintain industry leadership and meet industry expectations.	
<b>Dependent variable</b>			
<b>KTLT</b>	KTLT1	Audit techniques are actively used throughout our bank's audit activities.	Charlton & Thompson (2021); Georgi & Johnson (2019); Eulerich & Lopez (2020); Schmidt & Smith (2018).
	KTLT2	Continuous audit methods are seamlessly integrated into our bank's existing audit framework.	
	KTLT3	Our bank uses advanced audit software and tools to support its ongoing audit activities.	
	KTLT4	Data analysis is widely used to analyze and interpret audit data for ongoing audit purposes.	
	KTLT5	Our bank has established mechanisms to monitor and evaluate the results of ongoing audit activities.	

(Source: Compiled by author)