# IMPACT OF INTERNAL CONTROL ON THE QUALITY OF ACCOUNTING INFORMATION AT ENTERPRISES LISTED ON THE STOCK MARKET IN VIETNAM

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| ARTICLE INFO | ABSTRACT |
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| | **Purpose:** This study is intended to show the impact of internal control on the quality of accounting information at companies listed on the stock market in Vietnam.<br><br>**Theoretical framework:** We using the multivariate linear regression model between the five independent variables according to five components of internal control in the framework of the COSO 2013 and the dependent variable - accounting information quality according with four attributes namely: appropriateness, reliability, consistency and comparability, completeness and ease of understanding which was presented Susanto in 2016.<br><br>**Design/methodology/approach:** Quantitative research methods are used through questionnaires sent to directors and chief accountants of enterprises. The sample size is 193 valid questionnaires for the period from 2021-2022. Statistical analysis tools, testing the reliability of the scale, exploratory factor analysis, and multiple linear regression are used to evaluate the impact of internal control on the quality of accounting information.<br><br>**Findings:** The research results have proved that all hypotheses are accepted and internal control factors have a positive impact on the usefulness of accounting information. In which, the control environment variable has the strongest impact with the coefficient $\beta5 = 0.276$, followed by the monitoring activity variable with the coefficient $\beta5 = 0.258$. The risk assessment variable has the impact level of $\beta2 = 0.201$; the information, communication and control variables have the lowest impact with the coefficients of $\beta4 = 0.175$ and $\beta3 = 0.141$, respectively.<br><br>**Research, Practical & Social implications:** The study has provided a basis to confirm the relationship and direction of impact of internal control on the quality of accounting information at companies listed on the stock market in Vietnam. Thereby, this research gives some recommendations for improving the internal control of enterprises in order to improve the quality of accounting information.<br><br>**Originality/value:** The findings reveal that the quality of internal control plays an important role in increasing the quality of accounting information, ensuring the safety of enterprises' assets, reducing financial fraud, and improving risk prevention.<br><br>Doi: https://doi.org/10.26668/businessreview/2023.v8i5.1010 |

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## IMPACTO DO CONTROLE INTERNO NA QUALIDADE DAS INFORMAÇÕES CONTÁBEIS NAS EMPRESAS COTADAS NA BOLSA DO VIETNÃ

**RESUMO**

**Objetivo:** Este estudo tem como objetivo mostrar o impacto do controle interno na qualidade da informação contábil em empresas listadas na bolsa de valores do Vietnã.

**Referencial teórico:** Utilizamos o modelo de regressão linear multivariado entre as cinco variáveis independentes de acordo com os cinco componentes do controle interno na estrutura do COSO 2013 e a variável dependente - qualidade da informação contábil de acordo com quatro atributos a saber: adequação, confiabilidade, consistência e comparabilidade , completude e facilidade de compreensão que foi apresentado Susanto em 2016.

**Desenho/metodologia/abordagem:** Métodos de pesquisa quantitativos são utilizados por meio de questionários enviados aos diretores e contadores principais das empresas. O tamanho da amostra é de 193 questionários válidos para o período de 2021-2022. Ferramentas de análise estatística, testando a confiabilidade da escala, análise fatorial exploratória e regressão linear múltipla são utilizadas para avaliar o impacto do controle interno na qualidade da informação contábil.

**Resultados:** Os resultados da pesquisa comprovaram que todas as hipóteses são aceitas e os fatores de controle interno têm um impacto positivo na utilidade da informação contábil. Na qual, a variável de ambiente de controle tem o impacto mais forte com o coeficiente $\beta5 = 0,276$, seguida pela variável de atividade de monitoramento com o coeficiente $\beta5 = 0,258$. A variável de avaliação de risco tem o nível de impacto de $\beta2 = 0,201$; as variáveis de informação, comunicação e controle têm o menor impacto com os coeficientes de $\beta4 = 0,175$ e $\beta3 = 0,141$, respectivamente.

**Pesquisa, implicações práticas e sociais:** O estudo forneceu uma base para confirmar a relação e a direção do impacto do controle interno na qualidade da informação contábil em empresas listadas na bolsa de valores do Vietnã. Dessa forma, esta pesquisa traz algumas recomendações para melhoria do controle interno das empresas, a fim de melhorar a qualidade da informação contábil.

**Originalidade/valor:** Os achados revelam que a qualidade do controle interno desempenha um papel importante no aumento da qualidade da informação contábil, garantindo a segurança dos ativos das empresas, reduzindo fraudes financeiras e melhorando a prevenção de riscos.

**Palavras-chave:** Informação Contábil, Controle Interno, Companhias Abertas, Qualidade, Vietnã.

## IMPACTO DEL CONTROL INTERNO SOBRE LA CALIDAD DE LA INFORMACIÓN CONTABLE EN LAS EMPRESAS QUE COTIZAN EN LA BOLSA DE VALORES DE VIETNAM

**RESUMEN**

**Objetivo:** Este estudio tiene como objetivo mostrar el impacto del control interno en la calidad de la información contable en las empresas que cotizan en la bolsa de valores de Vietnam.

**Marco teórico:** Se utilizó el modelo de regresión lineal multivariante entre las cinco variables independientes según los cinco componentes del control interno en la estructura COSO 2013 y la variable dependiente - calidad de la información jurídica según cuatro atributos a saber: dependencia, confianza, consistencia y comparabilidad , exhaustividad y facilidad de comprensión que presentó Susanto en 2016.

**Diseño/metodología/enfoque:** Los métodos de investigación cuantitativa se utilizan a través de experimentos enviados a directores y contadores jefes de empresas. El tamaño de la muestra es de 193 seguimientos válidos para el periodo 2021-2022. Se utilizan herramientas de análisis estadístico, pruebas de confiabilidad de la escala, análisis factorial exploratorio y regresión lineal múltiple para evaluar el impacto del control interno en la calidad de la información contable.

**Resultados:** Los resultados de la investigación comprueban que todas las hipótesis son aceptadas y que los factores de control interno inciden positivamente en la utilidad de la información jurídica. En la cual, la variable ambiente de control es la de mayor impacto con coeficiente $\beta5 = 0.276$, seguida de la variable actividad de monitoreo con coeficiente $\beta5 = 0.258$. La variable evaluación de riesgos tiene un nivel de impacto de $\beta2 = 0.201$; Las variables de información, comunicación y control son las de menor impacto con coeficientes de $\beta4 = 0.175$ y $\beta3 = 0.141$, respectivamente.

**Investigación, prácticas prácticas y sociales:** el estudio proporcionó una base para confirmar la relación y la dirección del impacto del control interno en la calidad de la información legal en las empresas que cotizan en la bolsa de valores de Vietnam. Así, esta investigación trae algunas recomendaciones para mejorar el control interno de las empresas, con el fin de mejorar la calidad de la información jurídica.

**Originalidad/Valor:** Los hallazgos prueban que la calidad del control interno juega un papel importante en el aumento de la calidad de la información legal, garantizando la seguridad de los activos de las empresas, las frustraciones financieras y la emocionante prevención de riesgos.

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**INTRODUCTION**

Along with the development of the stock market, accounting information becomes more and more important for domestic and foreign investors. Accounting information provides a picture that represents all financial aspects of an entity from its financial position, results of operations, cash flows and details of each specific accounting object. This information, on the one hand, serves users outside the enterprise such as investors, the State, tax authorities, banks, but on the other hand, serves the administrators in the entity. Accounting information plays a key role in decision making for users. Therefore, the quality of accounting information is important to individuals and organizations inside and outside the entity. In Vietnam, in the current context of extensive international economic integration, with the goal of bringing the accounting and auditing field of Vietnam to the closest approach to international practices and standards, more and more attention is being paid to the quality of accounting information. However, reality has shown that, the wave of scandals about the quality of accounting information at home and abroad made people question the quality of accounting information. Some of the world's typical cases of accounting fraud led to the collapse of large companies such as Enron, WorldCom, Marconi, Parmalat, Toshiba... this has reduced investors' confidence in information accounting of listed companies and large corporations. In Vietnam, in the early 20th century, there were many scandals of famous enterprises such as Bach Tuyet Cotton Joint Stock Company (in 2008) and Vinashin Group (in 2010), Viglacera Tu Son Joint Stock Company, Bibica Joint Stock Company have caused distrust in accounting and auditing, reducing public confidence, leading to the bankruptcy of businesses. The main causes of these scandals all come from corporate fraud, collusion between accountants and managers, and internal audits to amplify figures for different purposes. Thus, the quality of accounting information has attracted the attention of owners and investors. The consequences of fraud in accounting disclosure have affected investors in particular and the national economy in general, leading to the urgent requirement of quality control of accounting information of listed companies. Alan (2005) affirmed that the disclosure of dishonest accounting information has posed the need to strengthen control of information quality through internal control. The quality of internal control plays an important role in increasing the quality of accounting information, ensuring the safety of enterprises' assets, reducing financial fraud, and improving risk prevention.

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Internal control is the policies, processes, and procedures implemented and maintained by management, directors, and other individuals in the design unit to provide reasonable assurance about the entity's ability to achieve its objectives. Internal control is a regular function of units and organizations on the basis of identifying possible risks in each stage of work, in order to find measures to prevent and minimize risks in order to implement all set goals effectively. Thus, internal control is established to provide reasonable assurance to achieve the following objectives: Effectiveness and performance of operations, Reliability of financial statements, Compliance with laws and regulations.

Currently, studies on the impact of internal control on the quality of accounting information such as: Alawaqleh (2021), Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Nyakundi et al. (2014), Kinyua (2016), Al -Thuneibat et al. (2015), Zipporah (2015), Samuel & Wagoki (2014), Samuel & Wagoki (2014), Njeri (2013), Magara (2013), Mwakimasinde et al. (2014), Muraleetharan (2011), Angella & Eno (2009) were conducted in different countries. Typically, research by Luo (2017) shows a positive relationship between the internal control system for the truthfulness and reliability of accounting information. The quality of accounting information data depends on the existence and quality of internal control procedures established by the enterprise (Zipporah, 2015). The research also measured the positive impact of the internal control environment on the quality of accounting information and found that monitoring has a negative effect on firms in Kenya. The research model of Afiah & Rahmatika (2014) shows the significant positive impact of organizational capacity and internal control system on the quality of information in financial statements and the impact on business management in enterprises in Indonesia. The study uses a questionnaire survey with 70 samples selected as regional management boards in several provinces in Indonesia. The results of regression analysis have shown that the capacity of the organization and the internal control system has a statistically significant impact on the quality of accounting information. Scholars are all of the opinion that in order to improve the quality of accounting information, internal control should be strengthened. To a large extent, the efficiency and integrity of internal control determines the quality of accounting information.

However, the research results are quite scattered in in-depth research on the factors of internal control that affect the quality of accounting information. This comes from the diversity in quality assessment, as it is considered from many perspectives by subjects with different interests. Therefore, this study was conducted to evaluate the quality of accounting information of listed companies, to point out the impact of internal control factors on the quality of

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accounting information. Besides, enterprises listed on the stock exchange have distinct characteristics of operation and management requirements. These characteristics also greatly influence the establishment and proper operation/operation of internal control to ensure the quality of accounting information.  So, this study was conducted to determine the extent of influence of the components of internal control on the quality of accounting information of non-financial enterprises listed on the Vietnam Stock Exchange; through which the author gives recommendations on internal control to improve the quality of accounting information.

The study organizes into six sections. Section 1 is of introduction, Sections 2 prescribes literature reviews. Section 3 is the research methodology. Section 4 and 5 discusse the empirical results and findings, respectively, and Section 6 is the conclusion

## LITERATURE REVIEW

### Internal Control

Arens et al. (1988) were the first ones to mention the components of internal control in an enterprise, including three factors: control environment, accounting system and control procedures. Dinapoli (2007) has inherited and developed the views of Arens into 5 elements in the belief that the basic principles of internal control stem from good organization of techniques and practices. Internal control therefore is comprised of 5 components: control environment, risk assessment, information and communication, control and monitoring activities, and support for strategic planning and assessment activities to meet the objectives set by the organization. Internal control is an extremely important function of governance; thus to improve governance efficiency, it is necessary to promote the effectiveness of internal control. Effectively maintaining internal control will help entities achieve not only reporting and compliance goals, but also operational objectives (COSO, 2013). Within the scope of this study, we use internal control according to COSO because it ensures the generality, popularity, guidance and coherence between internal control, risk management and corporate governance. According to COSO 2013, internal control is understood as the process designed and controlled by managers and employees in an organization to provide reasonable assurance about the achievement of objectives related to reliability of financial statements, operational efficiency, and regulatory performance and compliance. The elements of internal control according to COSO include:

Control environment: is the cultural foundation of the organization, is the organizational consciousness established and maintained by the management and employees in the organization (COSO 2013). The control environment consists of actions, regimes and

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procedures that reflect the general attitudes of an organization's top management, directors and owners about the process of control and its importance to the organization (Alvin & James, 2000). According to Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017) and Mire (2016), control environment is an important component of establishing a solid basis for the design and operation of internal control within an entity, the effectiveness of which has a pervasive effect across all internal control. This is a fundamental element for effective internal control.

Risk assessment, risk is the potential variability of outcomes. Risks can occur in almost every human activity. When there is a risk, one cannot accurately predict the outcome. The presence of risk is uncertain. Risk arises whenever an action leads to an unpredictable possibility of gain or loss. In other words, when a risk occurs, the entity is likely not to fulfill the set target (Ahmed & Muhammed, 2018, Ramadhan & Herwiyanti, 2017). Risk management is a process designed to minimize or prevent risk (Doyle et al, 2007). Risk assessment helps businesses achieve their goals on the basis of risk identification, analysis, assessment and management. Afiah và Rahmatika (2014) and Mawanda (2011) showed risk assessment helps the entity have the best risk management measures. As such, the development and implementation of risk assessment measures will affect the entity's control efficiency.

Control activities: Control activities are a set of policies and procedures to ensure implementation of management directives to reduce risks that threaten the achievement of the entity's objectives (COSO, 2013). Control activities can be preventive in nature or intended to detect fraud at all levels within the organization (Ahmed & Muhammed, 2018), Ramadhan & Herwiyanti, 2017). They may include a range of manual and automated activities such as authorization, approval, inspection, reconciliation and assessment of business performance, which may be designed to prevent or review the implementation of management directives (Samuel & Wagoki, 2014, Njeri, 2013, Magara (2013). As such, the more effective the control activities are, the more efficient the internal control will be (Nyakundi et al., 2014, Kinyua, 2016 and Zipporah, 2015),

Information and communication: Information helps carry out the responsibility of control activities within the entity. Managers will have to collect, create and use appropriate, quality information from sources inside and outside the entity. Meanwhile, communication will help transmit information to all members, departments in the entity, as well as to external objects and receive information from outside into the entity. Research by Hevesi (2005) has shown that information and communication is an important factor influencing the efficiency of

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internal control. Information and communication systems enable all employees to understand their role in the control system, thereby helping them properly execute their duties, responsibilities and authorities (Sumaryati et al., 2020). In other words, if the information and communication system is designed appropriately, throughout to each department, section and center, it will contribute to improve the internal control's efficiency. (Afiah & Rahmatika, 2014, Mawanda, 2011).

Monitoring: When the above elements of internal control are established and operational, assessment should also be made to ensure that internal control is operating efficiently. Monitoring is the process of assessing the quality of internal control over time (COSO, 2013). Such assessment can be conducted on a regular or periodic basis and satisfies the following two principles: (i) The entity must select, deploy and perform the assessment continuously or periodically to ensure which components of internal control are present and operational and (ii) The entity must assess and report the weaknesses of internal control in a timely manner to responsible parties including management and the board of directors to take corrective actions (Ramadhan & Herwiyanti,2017, Nyakundi et al., 2014 and Kinyua, 2016),

## Quality of Accounting Information

Paul (1967) put forward the standard of information quality in A Statement of Basic Accounting Theory. The usefulness to the user is the most important attribute to evaluate the quality of accounting information. Additionally, this statement also indicates the criteria for ensuring useful accounting information, i.e. appropriateness, reliability and quantification. This study lays the theoretical foundation for published studies on the standards for assessing the quality of accounting information on financial statements. Simmons (1995) stated that the quality of accounting information is the relevance, timeliness, accuracy and verifiability. Susanto (2016) defined the quality of accounting information in the context of computerization into four levels: Syntactically (information must be presented in accordance with the intended use); Semantically (information must be accurate and complete); Applicably (information must be useful and understandable to the user); Socially (information must bring a lot of value to users). However, these background statement and studies have not yet detailed the useful properties of accounting information.

Proceeding from this initial statement, a number of professional organizations and countries around the world have later made a more detailed and specific publication of the quality characteristics of accounting information. That is the view of the American Financial

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Accounting Standards Board (1980) which developed standards of "usefulness" in assessing information quality. In which, usefulness is expressed as: Appropriateness, accounting information must satisfy the needs of users, enabling them to reassess past activities, predict and adjust timely management decisions of the present. Reliability, the presentation of accounting information must be accurate to the nature of things, not error, and not formed from the emotions of the creator of that information or transaction within the verifiable scope. Consistency and comparability, in order to quantify economic phenomena, the information provided must be expressed and measured by uniform units and with the same criteria. The Vietnamese Accounting Standards add completeness, requiring that operations be recorded and presented in full, without omission, and ease of understanding as defined is that the information must be presented clearly. Basically, these features are described in exactly the same way as the convergence views presented. In this study, the authors will approach the quality of accounting information according to the following attributes: appropriateness, reliability, consistency and comparability, completeness and ease of understanding.

**The Role of Internal Control on the Quality of Accounting Information**

Internal control allows improving transparency of accounting information: Mire (2016), Alawaqleh (2021), Doyle et al. (2007), Fardinal (2013) argued that the objective of internal control requires the efficiency and effectiveness of business activities. An effective system of internal control is one that fully controls all aspects of an individual enterprise involved in its management. A reasonable internal control system will ensure the effective operation of the enterprise, and at the same time control, coordinate and evaluate the functions of the departments to promote the departments to complete their tasks. Internal control ensures orderly and efficient production and business activities of the enterprise, thereby improving the integrity and transparency of the accounting information provided by the enterprise.

Internal control ensures the authenticity and correctness of accounting information: Alawaqleh (2021), Doyle et al. (2007), Fardinal (2013) asserted the objective of internal control requires the reliability of accounting information. Effective internal control will ensure the confirmation, measurement, recording and reporting of accounting information, accurately reflecting the reality of production and business activities, promptly detecting and timely handling of errors, ensuring the accuracy and correctness of accounting information and accounting information as it accurately and timely reflects the enterprise's financial position, operating results and cash flows.

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Internal control ensures the legality and validity of accounting information: Alawaqleh (2021), Doyle et al. (2007), Fardinal (2013), Fanta et al. (2013), Tseng (2007) demonstrated that the objectives of internal control require compliance with applicable laws and regulations. The internal control system ensures that policies and laws are complied with by the enterprise. Internal control can effectively monitor and control all parts and links circulating within the enterprise. In addition, an effective internal control system can promptly reflect and correct problems that have occurred, ensure that financial regulations are effectively applied, ensure the legitimacy of corporate financial activities and improve the legitimacy of accounting information.

**The Impact of Internal Control on the Quality of Accounting Information**

Sumaryati et al. (2020) conducted a study in enterprises in Indonesia to determine the influence of the application of accounting information system, internal control system and human resource capacity on information quality of financial statements. Compliance theory was used in the study to explain the impact of factors on the quality of accounting information. The analytical method was used to test the hypothesis is multiple linear regression analysis. Hypothesis test results have show that human resource capacity has an impact on the quality of accounting information. However, the application of accounting information system and internal control system does not affect the quality of accounting information.

Junxin (2019) studied the relationship between internal control and financial statement information quality and financial performance of 1931 joint stock companies listed in Shanghai and Shenzhen and 9655 data groups in the period 2012 - 2016. Research results have shown that internal control has a significant influence on the quality of financial statements information, thereby directly affecting financial performance. However, the degree of influence varies across industries, and the correlation between technology industries is greater than that of others.

Ahmed & Muhammed (2018) studied the relationship between internal control and the quality of accounting information of enterprises in the Iraqi Kurdistan Region. With the model in which the independent variable is the 5 components of internal control and the dependent variable is the usefulness of accounting information. By quantitative research method, the author has shown that control environment, risk assessment, control activities, information and communication have a positive relationship while monitoring has a negative relationship with the quality of financial statement information.

Ramadhan et al (2017) analyzed the influence of internal control on the quality of accounting information through quantitative research and multiple linear regression. The results have shown that the control environment, control activities, information and communication have a positive influence; the risk assessment has an impact yet not significant; monitoring activities have a negative effect on the quality of accounting information.

Mire (2016) showed that there exists a positive relationship between control environment, risk assessment and control activities on the quality of accounting information of companies in Mogadishu - Somalia.

Kinyua (2016) studies the relationship between internal control environment, internal audit function, corporate governance, risk management and internal control activities with the quality of accounting information and corporate financial efficiency. The bases for the study are agency theory, institutional theory, systems theory, management theory and stakeholder theory related to the research sample of 144 senior managers of 62 companies listed on the Nairobi Stock Exchange using qualitative and quantitative research methods. The author has shown that risk management has the greatest impact on information quality and financial performance, followed by corporate governance, operational control, internal control and internal audit.

Study by Thuneibat & Ali (2015) investigated the compliance of Saudi Arabia joint stock companies with internal control requirements according to Saudi standards on internal control and its impact on accounting information. With the model in which the independent variable is the components of internal control and the dependent variable is the usefulness of accounting information. Research results have shown that the level of compliance with all components of internal control is very high. The analysis also indicates that the impact of internal control and its components on the usefulness of accounting information is statistically significant and the level of impact is positive.

Zipporah (2015) studied the impact of 5 factors of internal control on financial statement information quality and business performance. Secondary data, i.e. the financial statements of 35 enterprises in Nairobi, Kenya for the period 2013-2014, was used to analyze accounting information and financial position. The research results have shown that the control environment factors, risk assessment, monitoring activities, information and communication have a positive, while the monitoring factor has a negative, impact on the quality characteristics of accounting information.

Samuel & Wagoki (2014) argued that the establishment of an internal control system will enable to achieve goals, prevent resource loss, prepare reliable financial statements and ensure compliance with laws and regulations. By evaluating the role of components of internal control in public universities in Kenya. The study used the framework of the internal control system according to COSO. With 138 observations, research results have shown that universities have a clear and relatively good structure of components of the internal control system.

Afiah and Rahmatika (2014) studied and found the positive impact of organizational capacity and internal control system on the quality of information in financial statements and the impact on management of businesses in Indonesia. A questionnaire survey was conducted with 70 samples selected as regional management boards in several provinces in Indonesia. The results of regression analysis have shownthat the capacity of the organization and the internal control system has a statistically significant impact on the quality of accounting information.

Mwakimasinde et al. (2014) pointed out that the internal control system enables to present information more honestly and reliably, thereby increasing the efficiency of sugar companies by over 42.8%. Nyakundi et al. (2014) studied the impact of internal control on information quality in Kenya's small and medium businesses. The results have indicated that the independent variable, as the control environment, control and monitoring activities, has a significant impact on the change of information quality (reliability and transparency of financial information).

Njeri (2013) based on agency theory, uncertainty theory and enterprise theory to conduct research to measure the relationship between factors of internal control system and information quality of manufacturing enterprises in Kenya. 20 manufacturing companies from 64 manufacturing companies were selected by multivariate regression method on SPSS software, and the author has pointed out that control environment, control activities, risk assessment, information and communication have a positive impact on information quality, while monitoring has a negative effect on the timeliness factor of information quality. Magara (2013), based on agency theory and context theory, has studied the influence of internal control on information quality in organizations in Kenya. The results have show that control activities and supervision activities have the strongest and positive influence on the transparency and reliability of information. Based on the agency theory, Fanta et al. (2013) evaluated the relationship between the mechanism of the internal control system and the external management tools of banks influencing the performance (measured by variables ROE and

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ROA) and the quality of financial reporting information (measured by reliability, timeliness, and truthfulness). The research results have shown that the number of managers and the existence of the audit committee in the board of directors has a negative effect on the financial performance of the entity but has a positive impact on the quality of accounting information.

Muraleetharan (2011), studied the relationship between the components of internal control and the quality of accounting information. He used a random sample from 65 public and 18 private institutions in the district of Jaffna in Sri Lanka, to test the designed model. The research results have shown that the control, information and communication environment has a negative influence, whereas risk assessment, control and supervision activities have a positive influence, on the quality of accounting information. Based on representative theory, Mawanda (2011) investigated and sought to establish the relationship between internal control, financial performance of higher education institutions in Uganda. With a research model in which independent variables involving control environment, internal audit, control activities; dependent variables as information quality and control variables, the study, though qualitative and quantitative approaches, used survey, correlation and case studies as research designs. Data were collected by questionnaire and interview guide. Research results have shown that there is a positive relationship between the internal control system and the quality of accounting information.

Angella & Eno (2009) pointed out a positive relationship between the internal control system for the truthfulness and reliability of accounting information. The quality of accounting information data depends on the existence and quality of internal control procedures established by the enterprise. The research also evaluated the internal control of 3 manufacturing companies in Estonia. The study was based on 5 components of internal control of COSO and posed interview questions for each factor. The research results have shown that each component of internal control plays a different important role in the internal control system, in which the control and supervisory environment plays the most important role in the preparation and presentation of accounting information on financial reports.

In Vietnam, Nguyen (2019) among the elements of the internal control system, the control environment has the strongest and positive impact on increasing the quality of accounting information in 215 businesses of Vietnam. Nguyen (2017) surveyed the financial statements and annual reports of 195 companies listed on the Vietnamese stock market to measure the quality of accounting information and pointed out that the control environment has a positive relationship with the quality of accounting information. Nguyen (2015) built a linear

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regression equation to determine the factors influencing the quality of accounting information on financial statements and control information, thereby creating a good mechanism and environment of effective internal control, which will ensure quality standards of accounting information for listed companies in Vietnam.

Theoretical and experimental studies by Alan (2005), Arens et al. (1988), Alvin & James (2000), Hevesi (2005), Paul (1967), Simmons (1995), Susanto (2016), Sumaryati et al. (2020), Afiah & Rahmatika (2014), Mawanda (2011), Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Nyakundi et al. (2014), Zipporah (2015), Samuel & Wagoki (2014), Njeri (2013), Muraleetharan (2011) all demonstrate the role of internal control in the business in general and the accounting system in particular. The more effective the internal control system of enterprises, the more efficient it will be to increase the quality of accounting information in terms of completeness, timeliness, truthfulness, reliability... On the whole, these studies have pointed out 5 factors belonging to the accounting system. Internal control that has a positive impact on the quality of information is the control environment, risk assessment, control activities, communication and monitoring activities. Afiah & Rahmatika (2014), Mawanda (2011) pointed out that the control environment is the factor having the strongest impact on the reliability and timeliness of accounting information. Research by Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Nyakundi et al. (2014) confirmed that if an enterprise has control and monitoring activities at stages (before, during, after) the process occurs, the quality of information is most assured. However, in some studies, it has been shown that monitoring activities with cumbersome procedures will reduce the timeliness of accounting information (Zipporah, 2015, Njeri, 2013). Muraleetharan (2011) showed that the control, information and communication environment has a negative effect on the quality of accounting information.

**DATA AND METHODOLOGY**

**Research Hypotheses**

In this study, we build a scale of the dependent variable (accounting information quality) according to 4 attributes: appropriateness, reliability, consistency and comparability, completeness and ease of understanding. For the independent variable, we inherit the views of scholars Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Mire (2016), Kinyua (2016), Zipporah (2015). We also build 5 independent variables according to 5 components of internal control in the framework of the COSO report in 1992, which was updated in detail into

17 internal control principles in 2013, i.e. control environment, risk assessment risk, information and communication, control and monitoring activities. Details of the scales are summarized in Table 1 below:

Table 1. Measurement scales.

| Factor | Variables/Items | Sources |
|---|---|---|
| Accounting information quality (IQ) | IQ1: Appropriateness<br>IQ2: Reliability<br>IQ3: Consistency and comparability<br>IQ4: Completeness and ease of understanding | Paul (1967), Simmons (1995), Susanto (2016), FASB 1980, VAS 01 |
| Control environment (CE) | CE1: Commitment to integrity and adherence to ethical values<br>CE2: Management philosophy and operating style of managers<br>CE3: Establishing an appropriate structure of authority and responsibility for all levels of the organization<br>CE4: There is a clear separation between control and management<br>CE5: Employing qualified employees and having human resource development policies | Alvin & James (2000), Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Mire (2016), Kinyua (2016), Zipporah (2015), COSO (2013) |
| Risk assessment (RA) | RA1: Accurately identifying risks<br>RA2: Defining clear goals<br>RA3: Estimating the level of risk<br>RA4: Analyzing and assessing risks in the business<br>RA5: Taking measures to handle and deal with risks in the enterprise | Afiah và Rahmatika (2014), Doyle et al, (2007), Mawanda (2011), Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), COSO (2013) |
| Control activities (CA) | CA1: The control functions in the business process can predict whenever unexpected events occur.<br>CA2: Enterprises establish responsibility for managers, promptly implement them, take corrective actions, and control employee activities.<br>CA3: Considering the assignment of responsibilities according to the principle of irresponsibility<br>CA4: Enterprises establish technology infrastructure related to control activities | Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Nyakundi et al. (2014), Kinyua (2016), Zipporah (2015), Samuel & Wagoki (2014), Njeri (2013), Magara (2013), COSO (2013) |
| Information and communication (IC) | IC1: Members should have no trouble gathering relevant information for their work<br>IC2: Information is provided in a clear and timely manner for management purposes<br>IC3: Information channels in the enterprise are fully and smoothly built<br>IC4: Setting up a hotline, a special information channel to support the feedback of relevant parties<br>IC5: Information exchanged between departments is carried out quickly, timely, fully, continuously and smoothly to ensure the activities in the enterprise take place. | Hevesi (2005), Sumaryati et al. (2020), Afiah and Rahmatika (2014), Mawanda (2011), COSO (2013) |
| Monitoring (M) | M1: Having procedures for independent review and evaluation of controls on an ongoing basis<br>M2: Carrying out periodic inspection and evaluation activities | Ramadhan & Herwiyanti (2017), Nyakundi et al. 2014), Kinyua (2016), |

| | | |
|---|---|---|
| | M3: Monitoring measures to correct deficiencies of internal control.<br><br>M4: Conducting internal audit assessment of independent auditors<br><br>M5: Monitoring has helped to assess the quality of the organization's performance over time | Zipporah (2015), Samuel & Wagoki (2014), COSO (2013) |

<div align="center">Source: Authors' complication</div>

**Hypotheses**

Based on the result Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Mire (2016), Kinyua (2016), Zipporah (2015), the research hypotheses are proposed as follows:

Hypothesis H1: Control environment has positive impacts on quality of accounting information

Hypothesis H2: Risk assessment has positive impacts on quality of accounting information

Hypothesis H3: Control activities has positive impacts on quality of accounting information

Hypothesis H4: Information and communication has positive impacts on quality of accounting information

Hypothesis H5: Monitoring has positive impacts on quality of accounting information

**Regression Equation**

Based on the above hypotheses, regression equations reflecting the correlation between influential factors and quality of accounting information as follows:

$$AI_i = \beta_0 + \beta_1 * CE_i + \beta_2 * RA_i + \beta_3 * CA_i + \beta_4 * IC_i + \beta_5 * M_i + \varepsilon \quad (1)$$

In which:
- $\beta_0$: constant term
- $\beta_i$: Coefficient of each variable
- $\varepsilon_i$: Residual error

Dependent variables: AI: quality of accounting information

Independent variables:
- CE: Control environment
- RA: Risk assessment
- CA: Control activities
- IC: Information and communication
- M: Monitoring

**Research Process**

The research process of the thesis can be divided into five basic stages: overview and theory, hypothesis building, research model, research on status of internal control of Vietnam's listed firms, and qualitative research and quantitative research. Research process in Figure 1:

Figure 1: Research process
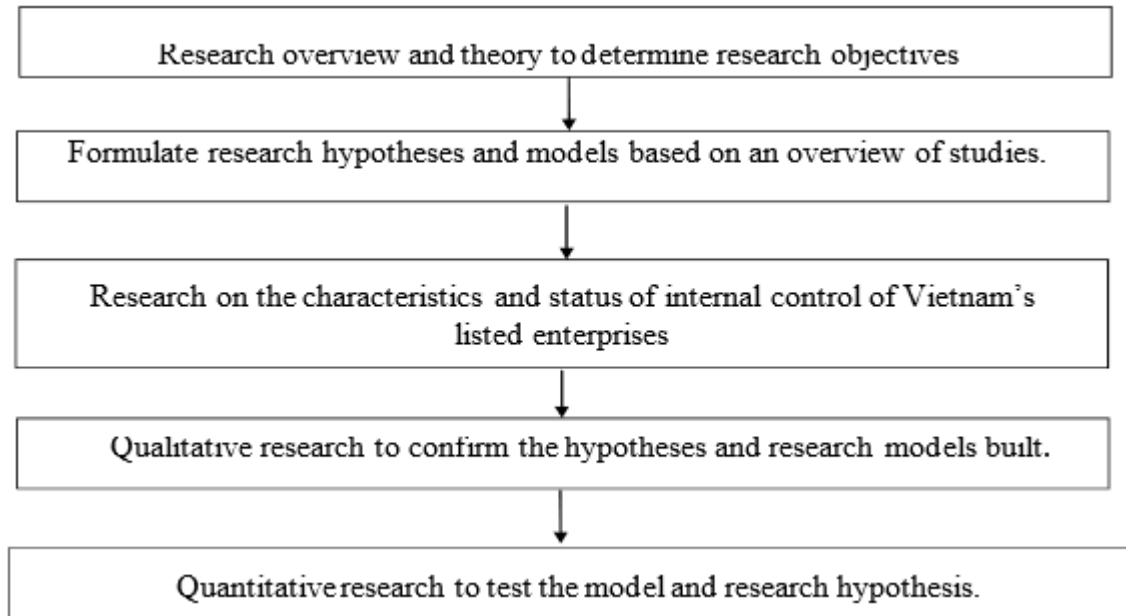


Source: Authors' complication

**Research Method**

This study applied both qualitative and quantitative research methods using two stages (Creswell, 2009). First, the qualitative method was conducted using the expert interview tool to assess impacts of internal control on quality of accounting information in listed companies. The interview subjects are directors, chief accountants and university lecturers. The content of the interview aimed to: Determine the factors and scales of internal control and business performance in the model; Determine if scales need to be added or removed; Hear comments from experts on the specific content of the scales, the words used and the form of the text in the survey form. The purpose of the interviews is to complete the gathered scales through the literature review. In this study, a total of 15 in-depth interviews were conducted.

Next, the study was conducted by quantitative methods: through the technique of collecting primary data sources from questionnaires sent to respondents at sample businesses via the internet from Google Driver, mailed or interviewed by phone, face-to-face interviews. The survey questionnaire consists of the following parts:

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Part A: General information: This part includes questions to collect general information about respondents such as: working position, years of experience, gender of respondents.

Part B: Internal control: includes questions about 5 elements constituting internal control according to COSO 2013 point of view, specifically:

The control environment consists 05 observed variables.

Risk assessment includes 05 observed variables.

Control activities include 04 observed variables.

Information and communication includes 05 observed variables.

Monitoring includes 05 observed variables.

Part C: Quality of accounting information includes 04 observed variables Thus, the total number of all observed variables in the topic is 24.

The level of impact is assessed through 5 levels according to the Likert scale.

After receiving the questionnaire, the answer sheet will be processed prior to updating the SPSS 22 data analysis software and tests the sample as these four steps: (1): testing the reliability of the scale; (2): analyze exploratory factors (EFA); (3): test correlation coefficient; (4): using the multivariate linear regression model.


**Research Sample**

The formula determines the minimum number of samples in factor analysis and regression analysis: $n \geq 50 + 8k$, (Hair *et al*, 2010) where k is the number of independent variables of the model. In this study, the number of independent variables included in the analysis is 24 observed variables, so the sample size needs to be higher than 242 observations. We distributed 310 questionnaires and collected 253 responses. After cleaning the data, the number of valid responses for analysis is 253, which meets factor and regression analysis requirements.

Regarding human resources, we surveyed CFOs, CEOs or heads of departments, Chief Accountants, accountants. An enterprise can only survey up to 3 votes for 2 different departments. We surveyed 140 non-financial companies listed on the Hanoi Stock Exchange (HNX) and Ho Chi Minh Stock Exchange (HOSE) in the fields of production, trade, and service, with a total of 310 votes. The sampling method was convenient. The official survey was conducted from December 2021 to March 2022.

## RESEARCH RESULTS

## Reliability Test (Cronbach's Alpha)

Hair *et al*. (2010) suggested that Cronbach's alpha coefficient helped test the uniformity of observed variables on the same scale. This measure was calculated before the exploratory factor analysis to eliminate unsuitable variables. Therefore, it improves the reliability of the measured research concept. With Cronbach's alpha of 0.6 or more, the scale is usable. Besides, for observed variables to be satisfactory, the total variable correlation coefficient must be ≥ 0.3. The variables with the total variable correlation coefficient <0.3 are considered unusable and should be excluded from the model. The results of the reliability test are shown in Table 2 as follows.

Table 2. Scale reliability analysis

| Variables | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| **CE** | **Cronbach's Alpha = 0.8636** | | | |
| CE1 | 20.3680 | 21.9707 | 0.6755 | 0.8531 |
| CE2 | 20.4440 | 19.7952 | 0.7676 | 0.8417 |
| CE3 | 20.5105 | 20.1153 | 0.7857 | 0.8398 |
| CE4 | 20.4060 | 20.6616 | 0.6717 | 0.8522 |
| CE5 | 20.4345 | 20.9276 | 0.6831 | 0.8512 |
| **RA** | **Cronbach's Alpha = 0.8588** | | | |
| RA1 | 9.3005 | 8.1349 | 0.6888 | 0.8569 |
| RA2 | 9.6900 | 6.6928 | 0.7866 | 0.8170 |
| RA3 | 9.7375 | 6.6101 | 0.7496 | 0.8322 |
| RA4 | 9.5380 | 6.3641 | 0.7876 | 0.8180 |
| RA5 | 9.6380 | 6.7621 | 0.7676 | 0.8370 |
| **CA** | **Cronbach's Alpha = 0.8645** | | | |
| CA1 | 10.1935 | 7.4347 | 0.6365 | 0.8788 |
| CA2 | 10.3265 | 5.7542 | 0.7999 | 0.8246 |
| CA3 | 10.2790 | 6.4277 | 0.7657 | 0.8360 |
| CA4 | 10.3360 | 5.6240 | 0.8455 | 0.8056 |
| **IC** | **Cronbach's Alpha = 0.7581** | | | |
| IC1 | 9.9940 | 4.8982 | 0.4836 | 0.7543 |
| IC2 | 10.2695 | 4.0945 | 0.5776 | 0.7144 |
| IC3 | 10.1650 | 4.1905 | 0.6327 | 0.6831 |
| IC4 | 10.2410 | 4.3767 | 0.6365 | 0.6840 |
| IC5 | 10.2750 | 4.2915 | 0.6827 | 0.6935 |

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| M | Cronbach's Alpha = 0.863 | | | |
|---|---|---|---|---|
| M1 | 6.5645 | 2.6572 | 0.6698 | 0.6451 |
| M2 | 6.7925 | 2.4007 | 0.5548 | 0.7534 |
| M3 | 6.5360 | 2.4425 | 0.6318 | 0.6707 |
| M4 | 6.6925 | 2.5007 | 0.5642 | 0.7635 |
| M5 | 6.7350 | 2.4527 | 0.6519 | 0.6809 |
| AI | Cronbach's Alpha = 0.863 | | | |
| AI1 | 7.0680 | 2.8842 | 0.6793 | 0.7904 |
| AI2 | 7.0490 | 2.2126 | 0.7600 | 0.7211 |
| AI3 | 6.8400 | 2.9279 | 0.6945 | 0.7809 |
| AI4 | 6.8950 | 2.8219 | 0.7245 | 0.7709 |

Source: Research Results of Survey Results

The reliability test in Table 2 shows that CE, RA, CA, IC and M have Cronbach's alpha > 0.6, indicating these measures' reliability. Each variable has total correlations > 0.3; therefore, all items measuring variables are consistent and appropriate for the study. Thus, this study has five factors and 24 observed variables which are statistically significant.

**Exploratory Factor Analysis (EFA)**

Hair *et al*. (2010) argued that Exploratory factor analysis aimed to preliminary assess convergence value, unidirectional value and discriminant validity. This result was then used for multivariate regression analysis. The results of Exploratory factor analysis are shown in Table 3.

Table 3: Rotated Component Matrix[a]

| | Component | | | | |
|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** |
| CE1 | 0.8161 | | | | |
| CE5 | 0.8056 | | | | |
| CE3 | 0.7600 | | | | |
| CE2 | 0.7420 | | | | |
| CE4 | 0.6850 | | | | |
| CA1 | | 0.8522 | | | |
| CA3 | | 0.8142 | | | |
| CA4 | | 0.7733 | | | |
| CA2 | | 0.7344 | | | |
| RA1 | | | 0.8493 | | |

| | | | | |
|---|---|---|---|---|
| RA2 | | | 0.8351 | | |
| RA4 | | | 0.8142 | | |
| RA3 | | | 0.7885 | | |
| RA5 | | | 0.7716 | | |
| IC5 | | | | 0.7961 | |
| IC2 | | | | 0.7714 | |
| IC1 | | | | 0.7258 | |
| IC4 | | | | 0.6508 | |
| IC3 | | | | 0.6307 | |
| M1 | | | | | 0.7866 |
| M2 | | | | | 0.7581 |
| M3 | | | | | 0.6916 |
| M5 | | | | | 0.6726 |
| M4 | | | | | 0.6635 |

Extraction Method: Principal Component Analysis
Rotation Method: Varimax with Kaiser Normalization
Source: Research Results of Survey Results

In table 3, factor analysis results based on principal components analysis and varimax rotation show that groups of factors drawn from observed variables with loading factor coefficients are relatively high (greater than 0.6); therefore, these loading factors are significant.

**Correlation Analysis**

We conducted a correlation test between the five independent variables and the dependent variable of AI. The dependent variable (AI) is measured by three observed variables, namely AI1 AI2, AI3 and AI4. The mean values and correlation test result of 5 independent variables and 1 dependent variable (AI). According to the table 4, when considering the correlation with the dependent variable of AI, the independent variables of CE, RA, CA, IC and M all have Sig. values greater than 0.01. Therefore, the independent variables are correlated with the dependent variable. Pearson correlation coefficients of the variables range from 0.148 to 0.589, indicating the positive and quite close correlation between the independent variables and dependent variable, so it is reasonable to conduct multivariate regression analysis to assess impacts of internal control on quality of accounting information. The mean values and correlation test result of 5 independent variables and 1 dependent variable are shown in Table 4.

Table 4. Pearson Correlation

|  |  |  | CE | RA | CA | IC | M | AI |
|---|---|---|---|---|---|---|---|---|
| **CE** |  | Pearson Correlation | 1 |  |  |  |  |  |
|  |  | Sig. (2-tailed) |  |  |  |  |  |  |
|  |  | N | 193 |  |  |  |  |  |
| **RA** |  | Pearson Correlation | .253 | 1 |  |  |  |  |
|  |  | Sig. (2-tailed) | .452 |  |  |  |  |  |
|  |  | N | 193 | 193 |  |  |  |  |
| **CA** |  | Pearson Correlation | .267 | .251 | 1 |  |  |  |
|  |  | Sig. (2-tailed) | .346 | .386 |  |  |  |  |
|  |  | N | 193 | 193 | 193 |  |  |  |
| **IC** |  | Pearson Correlation | .124 | .143* | .260 | 1 |  |  |
|  |  | Sig. (2-tailed) | .238 | .010 | .132 |  |  |  |
|  |  | N | 193 | 193 | 193 | 193 |  |  |
| **M** |  | Pearson Correlation | .108 | .056* | .154 | .229 | 1 |  |
|  |  | Sig. (2-tailed) | .220 | .040 | .407 | .495 |  |  |
|  |  | N | 193 | 193 | 193 | 193 | 193 |  |
| **AI** |  | Pearson Correlation | .589** | .382* | .148** | .447** | .382** | 1 |
|  |  | Sig. (2-tailed) | .000 | .032 | .000 | .000 | .000 |  |
|  |  | N | 193 | 193 | 193 | 193 | 193 | 193 |

Source: Research Results of Survey Results

## Multiple Regression Analysis

From the results in Table 5, it is shown that all independent variables have Sig. < 0.05, meaning internal control factors have an influence on the quality of accounting information. The level of impact of each factor depends on the beta coefficient.

Table 5: Multiple regression results

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
|  |  | B | Std. Error | Beta |  |  | Tolerance | VIF |
| 1 | (Constant) | -.498 | .183 |  | -2.457 | .006 |  |  |
|  | **CE** | .290 | .040 | **.276** | 6.641 | .000 | .698 | 1.293 |
|  | **RA** | .184 | .032 | **.201** | 5.236 | .002 | .817 | 1.104 |
|  | **CA** | .134 | .037 | **.141** | 3.300 | .000 | .663 | 1.360 |
|  | **IC** | .205 | .040 | **.175** | 4.668 | .001 | .860 | 1.050 |
|  | **M** | .271 | .041 | **.258** | 6.073 | .000 | .667 | 1.354 |

Source: Research Results of Survey Results

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$$AI = 0.276 * CE + 0.201 * RA + 0.141 * CA + 0.175 * IC + 0.258 * M \quad (2)$$

Table of results of multiple linear regression analysis shows that all variables have Sig values. < 0.05, statistically significant. At the same time, the Variance Inflation Factors (VIF) is in the permissible condition (< 10), which proves that the collinearity between the independent variables is very low, consistent with the assumption of this study that the predictive variables are independent of each other. The results show that the independent variables are positively correlated with the dependent variable. Therefore, the hypotheses H1, H2, H3, H4, H5 as so given are accepted. In which, the variable CE is the variable that has the strongest impact on the quality of accounting information, followed by the variable M coefficient $\beta 5 = 0.258$, the variable RA $\beta 2 = 0.201$, variable IC $\beta 4 = 0.175$ and variable CA $\beta 3 = 0.141$.

*Regarding the control environment*, the variable CE with the correlation coefficient $\beta 1 = 0.276$ is the variable that has the strongest impact on the quality of accounting information. This result is consistent with the studies by Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Mire (2016), Kinyua (2016), Zipporah (2015). Previous studies have demonstrated that an organization that maintains integrity and good ethical values will have reliable quality accounting information and attract investors, thereby providing many business opportunities for the enterprise. Mwakimasinde *et al.* (2014), Nyakundi *et al.* (2014), Njeri (2013), Magara (2013) affirmed that a reasonable organizational structure helps maintain smooth coordination in the organization, thereby providing information will quickly and effectively contribute to improving the quality of financial statements. Mawanda (2011) asserted that a strong enough control environment will help increase information quality. On the whole, studies show that a good control environment improves the quality of accounting information. However, the study by Muraleetharan (2011) showed that the control environment has a negative effect on the quality of accounting information as the manager has directed the accountant to "colorize" the information in order to beautify the financial statements. *Regarding risk assessment:* The variable RA has a positive impact on the quality of accounting information with the coefficient $\beta 2 = 0.201$, the results of this study are consistent with the conclusions of Afiah and Rahmatika (2014), Mawanda (2011), Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017). Businesses with a good risk assessment system assist in increasing the reliability of information for decision-making by managers and contribute to improving financial efficiency. Ahmed & Muhammed (2018) studied the influence of financial risk management on the quality of accounting information of small and medium enterprises. The

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author asserted financial risk management practices, including; risk identification, risk monitoring, risk assessment and risk reduction are positively correlated with the quality of accounting information and financial performance. Studies shared the same tendency that when enterprises are concerned with risks and have prognostic and hedging measures, are willing to publicize risk information in financial statements, thus making the quality of accounting information more reliable.

*Regarding control activities:* The variable CA has the smallest impact on the quality of accounting information with the coefficient $\beta3 = 0.141$. For the trend of positive effects, this result is consistent with the studies by Ahmed & Muhammed (2018), Ramadhan & Herwiyanti (2017), Nyakundi *et al*. (2014), Kinyua (2016), Zipporah (2015), Samuel & Wagoki (2014), Samuel & Wagoki (2014), Njeri (2013), Magara (2013). When enterprises strengthen control activities, it will indirectly affect the quality of accounting information in the positive direction. Recognizing the role of control activities, businesses often build an internal audit system or a special supervisory committee in the banking industry or large corporations. Controls are therefore essential to prevent, detect and eliminate incidents of fraud. Kinyua (2016) showed that control activities account for 20.2% of the variation in information quality in financial statements.

*Regarding information and communication:* The variable IC has a positive impact on the quality of accounting information, with $\beta4 = 0.175$. This result is consistent with the studies by Sumaryati *et al*. (2020), Afiah & Rahmatika (2014), Mawanda (2011). Enterprises with good information and communication systems, especially the strengthening of information connection within enterprises, will enable the improvement of the quality of accounting information. When parts of the business are connected, information will be circulated in a faster and more adequate manner. From the research results, it is shown that the relevance of the accounting information system is statistically significant in improving the quality of the usefulness of the information provided by the accountant. The results of study by Muraleetharan (2011) have shown that information and communication have a negative effect on the quality of accounting information.

*Regarding monitoring activities:* The variable M, with coefficient $\beta5 = 0.258$, is one of the two factors that have the strongest impact on the quality of accounting information. The results of studies by Ramadhan & Herwiyanti (2017), Nyakundi *et al*. (2014), Kinyua (2016), , Samuel & Wagoki (2014) are also consistent with that of our study. Effective monitoring activities will enable members of the enterprise to understand clearly the objectives, level of risk,

as well as authority and responsibility. An enterprise with a good internal control system is one that has built a self-monitoring system through the organizational structure and tasks of each functional department or section. This enables the department/section to strengthen mutual control and self-control, so that the information presented in the financial statements will be more reliable. However, some studies have also demonstrated that monitoring activities with cumbersome procedures will reduce the timeliness of accounting information (Zipporah, 2015, Njeri, 2013).

## FINDINGS AND DISCUSSION

The quality of accounting information plays an important role in the company's structure of internal governance to help users make the right judgment about the results, thereby making the right decisions. The information provided by the accountant is guaranteed to be useful, thus reducing the asymmetry of information, increasing the liquidity of the capital market, and contributing to the improvement of the company's performance. Currently, the state of distorted accounting information of enterprises is still quite serious due to many subjective and objective reasons. Each enterprise will have its own measures to increase the quality of accounting information. However, enterprises should pay attention to the continuous application of a strict and effective internal control system, by then the enterprise will ensure that accounting information is "useful" in all aspects. The results of this study show that all hypotheses are accepted. The study adds to the conclusion about the positive impact of internal control on the quality of accounting information. Therefore, in order to increase the efficiency of internal control in listed companies, managers in these enterprises need to focus on promoting and improving the internal control system in accordance with the following recommendations:

**For Control Environment**

The central issue of the control environment is integrity and adherence to ethical values within the company. Recognizing this role, business leaders need to develop and issue a code of ethics and conduct that applies to all employees in the business from the leadership level to each individual.

The organizational structure and management apparatus should be completed in towards specific decentralization, ensuring the independence between departments. Improving professional qualifications, focusing on training and fostering human resources to improve the capacity and qualifications of employees. Businesses need to strengthen the optimization of the

system of independent directors, support to strengthen the management and supervision of the board of directors of former directors and major shareholders, prevent disciplinary violations, and gradually improve the system of accounting information quality.

Businesses should also build a remuneration system and evaluate the performance of directors, establish a specialized committee in the board of directors to prevent the board from concentrating too much power for fraud in the tally. Further, for the Monitoring Board, it is necessary to prove the professionalism, independence, and improve the operation process of the Monitoring Board.

Businesses should change the traditional organizational structure and establish a customer-oriented business process, a flat organic organizational structure to promote the team of grassroots managers, improve the democracy in decision making, saving management costs, speeding up information transmission and reducing information distortion. Building a good corporate culture with sustainable values. Valuing people, understanding people, caring about people and professional ethics of accountants to retain good people.

**For Risk Assessment**

Businesses consider issuing specific and detailed goals in writing. Managers can use risk identification methods such as SWOTs analysis. Ensure that the risk analysis and assessment process is carried out scientifically. Improve the effectiveness of risk management measures. Make the best use of mechanisms and policies to support SMEs of the state and the government.

Most Vietnamese enterprises are not so interested in risk assessment in a professional manner. To do so, it should be noted that risk assessment should be closely associated with all activities of the business from strategic goals to compliance goals, reporting goals and operational goals. In addition, businesses need to change their perception of risk control and prevention to determine risk assessment activities, so they should ensure 3 rounds of defense. The first round is the departments or sections responsible for detecting, maintaining and evaluating control activities to limit risks. The second round is the risk management department is responsible for monitoring, evaluating and monitoring all risks. The third round is the internal audit is responsible for monitoring independently from the above two rounds.

When determining goals, businesses need to take into account acceptable risks, at the same time, objectives should be communicated clearly and specifically to each employee. To do this requires that objectives must be detailed in 3 directions of internal control: reporting goal, operational goal and compliance goal. Of these 3, reporting goal is to ensure that the types

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of reports provide quality financial and non-financial information. Operational goal should be based on current resources and previous year's performance results and economic context. Compliance goal requires that update must be ensured when there are changes in national and international regulations and policies.

Risk identification should be organized on an enterprise-wide scale, not only with managers but also with the participation of employees in the enterprise. Risk identification should be conducted regularly to help businesses compare and evaluate the change of each risk over time. Risk identification serves as the basis for controlling them. Currently, there are many techniques for identifying risks such as: SWOTs and questionnaires, Checklist technique, Brainstorming for small businesses. Delphi techniques, FTA error tree analysis techniques, event tree analysis techniques, and mapping techniques can apply to large enterprises that have more resources for risk management activities because of their high precision and complex technique. In actual fact, most enterprises are small-scale, so the check-list technique can be applied. The results of research on the current situation of risk assessment in enterprises show that there are many risks that may occur to enterprises such as exchange rate risk; legal risks; risks at the stages of purchase, production and sale; personnel risks; risks of technology research and development into production; information technology risks.

The process of risk analysis and assessment should assess the frequency of occurrence and the extent of the impact of different types of risks on the operation of the entity. Enterprises need to widely disseminate to all employees in all departments and sections so as to have a clear awareness of the harmful effects of risks as well as the limits that the enterprise can accept. In addition, enterprises can encourage employees to write reports on the detection, analysis and assessment of risks and propose remedial measures through policies of salary increase, promotion or reward.

Based on the results of the risk analysis and assessment, business administrators propose measures to respond to risks in the most appropriate way. Depending on the level of risk and the desire of the administrator, one of four risk response measures can be implemented as follows: risk acceptance, risk reduction, risk transfer, and risk avoidance. Of these, risk is accepted when the risk is at the lowest level, in this case, the enterprise does not need to implement intensified procedures and control measures. In order to minimize risks for businesses, enterprises need to apply control measures and develop appropriate financial plans to deal with risks. In addition, businesses can perform risk transfer by taking out insurance, outsourcing to share the losses caused by risks. In case the risk is very high and there are no

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control measures possible, then businesses can apply risk avoidance measures, which means that the enterprise is forced to abandon the project and change business orientations.

### For Control Activities

Businesses need to establish a technology foundation and manage information security related to control activities in the context of the 4.0 revolution. Need to invest, upgrade infrastructure and find solutions to ensure information security for important information systems, promptly handle threats that threaten network security. One of the important risks confronting businesses is information technology risks such as: information technology infrastructure failing to meet management needs, disruption of information technology systems, network attacks from outside, information, internal documents loss, stored data loss. In order to cope with these risks, it is required that businesses pay attention to the investment and establishment of a synchronous technology infrastructure to be able to meet the management needs by equipping the machines with the latest technology, modern equipment and software. In addition, ensure sufficient human resources to be able to operate that information system so that information can not be interrupted in the production process and ensure the confidentiality of information.

Businesses need to strengthen the implementation of measures to control activities related to customers, payments, control according to processes and cases.

### For Information and Communication

Information: Today for decision making people use both financial and non-financial information to provide an overview of the quality of management. Non-financial information is considered an important factor in assessing a company's financial prospects. Financial information mainly focuses on accounting information. Thus, in order to complete financial information, businesses need to pay attention to improving the accounting information system in the enterprise. Need to organize and apply synchronously the system of documents, accounts, books and reports in accordance with the standards, regime and in line with the characteristics of business operations, organizational models and management requirements. Businesses need to develop a process for making and circulating documents so that relevant individuals and departments know their responsibilities and work at each stage to avoid violating the principle of non-duality. On the basis of determining the information needs of departments and divisions, businesses need to design documents intended for many uses and show the maximum level of

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internal control and ensure that the information provided is consistent with the management needs. In addition to opening a general account to provide general financial accounting information as a basis for preparing financial statements, managers should open detailed accounting accounts and accounting books based on business operation characteristics and management requirements to serve as a foundation for building and deploying the management reporting system. Proceeding from that enable managers to analyze the situation of using input factors, the situation of production and consumption to make appropriate business decisions to bring optimal benefits to the business.

Communication: The creation of internal information channels to help businesses collect feedback from many different sources will enable businesses to promptly detect unexpected problems to find solutions in a timely manner. The bottom-up information channel will help employees directly respond to the leader or inversely the top-down information channel will ensure that requirements, orders and tasks are implemented. Especially for products manufactured according to the tastes of consumers, the information channel from customers will help businesses promptly adjust production activities to create products that meet the requirements of customers and partners. Apart from building complete and smooth information channels, managers also need to pay attention to communication activities as communication will enable businesses' products to reach customers in the quickest and most regularly way. Information exchanged between departments is done quickly, timely, fully, continuously and smoothly ensures that activities in the enterprise will take place. The design of internal communication channels between departments, sections, will help functional departments, sections, and individuals quickly and promptly have information to perform their tasks. To do this, the administrator first needs to define specific requirements, tasks and announcements for each department so that different departments can see the general picture as well as specific tasks of their departments. In addition to exchanging information by organizing meetings, documents, phone calls, etc., businesses can take advantage of Zalo, SMS... to set up groups to discuss and exchange work status, feedback on work results and make recommendations and requests in a timely manner. Besides, in order to ensure coordination between departments in the performance of work, administrators must regularly check and monitor to promptly detect inadequacies in information exchange between departments to promptly adjust accordingly

**For Monitoring Activities**

Large enterprises should establish an internal audit department, which not only helps enterprises not only improve operational efficiency but also reduce information distortion and increase the quality of accounting information. Internal auditors will independently audit accounting performance relationships, monitor economic activities, and evaluate internal control systems and refer directly to the board of directors or audit committee. On the other hand, enterprises need to identify and adjust the position of internal audit activities. Enterprises need to organize audit knowledge training for business management staff and help them realize the importance of internal audit to the business. In addition, enterprises need to strictly select, hire and train internal auditors and provide adequate assets to internal audit organizations for the audit to be carried out in accordance with the process.

External monitoring departments need to actively coordinate and streamline the division of labor, clarify the scope of each other's functions, and then link and exchange information, to transform decentralized supervision into general supervision and form an effective supervisory force to carry out the overall supervision of the internal control of the enterprise. Enterprises should strongly develop self-governing organizations and control mechanisms to strengthen the Council and its industry oversight, so that it can combat industry negligence, and honestly issue a portal of control internal control. Further, enterprises can use the mass media, public opinion and other social monitoring forces to limit elements of law violation in order to improve supervision efficiency, thereby ensuring that financial statements and disclosures of information are accurate and reliable.

For the production area, the quality assessment process of internal control is carried out regularly and periodically through monitoring activities inside the enterprise. This department will work directly at the workshops and factories and monitor each stage of the product to avoid risks in the production process, detect frauds and malfunctions. Another department is responsible for monitoring, managing and ensuring the quality of the company's production systems and processes according to quality standards, strictly managing quality standards at every stage from market research, design... to final product production and sale, market marketing and customer service.

For financial and accounting activities, enterprises also conduct regular and periodic reviews through the comparison of accounting data between departments and between the enterprise and third parties such as banks, customers and suppliers. In addition, some

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enterprises also arrange a monitoring board to monitor the financial and accounting activities of the company.

## CONCLUSIONS

Qualitative research methods and quantitative research methods are used in the thesis. Information collected from qualitative methods to explore, adjust and determine the interactions between variables in the model. Information collected from quantitative research is used for statistical analysis to describe surveys on internal control in Vietnam's listed companies to assess the reliability and validity of the designed and tested scales. paradigm. From that, it is shown that internal control is one of the important factors to improve the the quality of accounting information of the unit. Effective internal control must combine with the perfecting effects of "control environment, risk assessment, control activities, information and communication, monitoring" to improve the quality of accounting information. The results of the study found a positive and significant impact of internal control factors on the quality of accounting information at companies listed on the stock market in Vietnam.

In addition to the results achieved above, the research still has some limitations. So future research will be suggested as follows:

*First*, the study measures the influence of internal control on the quality of accounting information of companies listed on the stock exchange. Future research can incorporate more control variables such as stock exchanges: HNX, HOSE.

*Second*, this study uses samples from companies listed on the Vietnam stock market with two main trading floors: HNX and HOSE. Future research can expand to other exchanges such as UPcom, unlisted businesses, etc.

*Third*, In fact, there are many other factors that affect the quality of accounting information of firms, not only 5 factors of internal control from COSO (2013). Future research can expand to other factors such as types of business, State policy, ect.

*Fourth*, the study only stopped recommending internal control to improve the quality of accounting information, but did not pay little attention to qualitative methods, so the author mentioned briefly outline some of the causes of limitations of internal control on the quality of accounting information of enterprises listed on the stock market in Vietnam. Future research can combine qualitative methods to further analyze the limitations of internal control in non-financial enterprises listed on the Vietnamese stock market in order to improve and minimize the risks of misconduct that can happen in businesses.

*Fifth*, The authors use the regression analysis method to estimate the correlation between the dependent variable and the independent variables, the level of impact of the internal control factors on the quality of accounting information at companies listed on the stock market in Vietnam. The level of multi-dimensional impact between variables and factors has not been studied in this research. The authors found that, if studying the multi- dimensional impact between variables, thematic factors will have higher values. Future research will continue to explore these research directions in future studies.

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