

CHAPTER 1

INTRODUCTION OF DISSERTATION AND LITERATURE REVIEW

1.1. Introduction of dissertation

1.1.1. The necessity of dissertation

Internal audit (IA) since its inception has been an effective tool to manage and control from within enterprises. Through the development process, IA is more and more complete in theory and practice. Today, IA is a tool to support businesses to improve operational efficiency, effectiveness of internal control (IC) and risk management, create value added and achieve operational goals. (Gramling and et al, 2004; Hass et al, 2006; Yee et al, 2008, Walter and Guandaru, 2012; IIA, 2016.)

Vietnam's steel industry was born in the 1960s as a core heavy industry in a developing economy. It is the manufacturing characteristics that belong to heavy industry, large inventories, high level of foreign trade transactions, high need of capital loan that sponsors the import activities and has a revolving investment. So, steel enterprises have a high level of operational risk, financial risk, technology risk and legal risk. In the coming time, Vietnam will continue to participate more deeply in the process of global integration, a series of free trade agreements (FTA) has just been signed or will be valid soon. Meanwhile, science and technology are developing rapidly, business environment is changing fluctuately, unstably, and unpredictably. Therefore, steel businesses need strong tools for corporate governance, internal control and risk management to be able to cope with risks, seize opportunities, increase value and gain advantage in fierce competition paralysis. This raises an urgent need for the establishment and maintenance of a robust and effective three-tier defense system of which IA is an essential part.

In fact, some Vietnamese steel enterprises already have IA, but the number is too modest and the rest is a very large proportion of steel enterprises that do not have this function. For enterprises that already have IA, the effectiveness of IA (IAE) in internal control, risk management and corporate governance are not high. Moreover, existing IA does not mean it brings added value for enterprises. The effective IA has an important and positive significance in internal control, risk management activities and governance processes (Gramling et al. 2004, Sarens 2009, Ismael, 2013, IIA 2016). What characteristics of steel enterprises indicate it needs to establish IA. What do steel enterprises have to do to make IA become more effective? This question should be answered through scientific and practical research. The value of IA has been recognized by the world in both theory and practice. Many academic and experimental studies have been published, helping to improve the understanding of IA. In particular, a number of studies have supported to partially answer the above question in their context. However, there is no known research to solve the above problem for steel enterprises in the current context of Vietnam. In addition, the

significant changes in theory and practice of IA, IC, corporate governance and risk management make some previous research results need further testing in the new context.

In Vietnam, IA is receiving great attention in terms of academia and practice, but IA is still a relatively new concept and empirical research on IA is lacking. Research on factors affecting the existence and validity of IA in the steel industry has not been published by any author. Steel enterprises have the characteristics of heavy industrial production and risks of supply, consumption, finance, environment, labor safety ... Therefore, their needs and characteristics of IA are also different from other industry ones. The implementation of an empirical study on the existence and validity of IA in the current Vietnamese steel enterprises is very necessary and useful

From that urgent need of practice and theory, the author chose to study the topic "*Researching IA in Vietnam's steel enterprises*".

1.1.2. Research objectives and questions

1.1.2.1. Objectives of the study

The overall purpose of the thesis is: Determining the factors affecting the existence of IA and IAE in Vietnam's steel enterprises.

The detail research objectives identified include:

- (1) Determine the factors that are the characteristics of enterprises affecting the existence of IA in Vietnamese steel enterprises.
- (2) Determine the factors that are the characteristics of IA affecting the IAE in Vietnam's steel enterprises.
- (3) Proposing solutions and recommendations to help determine the existence and increase IAE among Vietnamese steel enterprises.

1.1.1.2. Research questions

(1) Which characteristics of the current Vietnamese steel enterprises affect the existence of IA? Specifically:

- (1.1) Size and complexity of enterprises affect IA's ability to exist in Vietnamese steel enterprises?
- (1.2) Characteristics of risk characteristics and risk management of enterprises affect the existence of IA in Vietnam's steel enterprises?
- (1.3) Enterprise's management characteristics affect the existence of IA in Vietnam's steel enterprises?
- (1.4) Enterprise's characteristics of the interaction with the external environment affect the existence of IA in Vietnamese steel enterprises?

(2) For Vietnamese steel enterprises having IA, which characteristics of IA affect IAE? Specifically:

- (2.1) Size of IA affects IAE in Vietnamese steel enterprises?
- (2.2) Capacity of internal auditors affects IAE in Vietnamese steel enterprises?
- (2.3) Scope IA affects IAE in Vietnam's steel enterprises?

(2.4) Technical method of internal auditors affects IAE in Vietnamese steel enterprises?

(2.5) Independence of IA affects IAE in Vietnamese steel enterprises?

(2.6) IA operational basis affects IAE in Vietnamese steel enterprises?

(3) What solutions to determine the existence of IA and increase IAE in Vietnam's steel enterprises.

1.1.3. Research objects and scope

1.1.2.1. Research objects

The research objects of the thesis:

- Existence and characteristics of IA, IAE in Vietnam's steel enterprises;
- Impact of enterprise's characteristics on the existence of IA in the Vietnamese steel enterprises;
- Effects of IA's characteristics on IAE in Vietnamese steel enterprises.

1.1.2.2. Research scope

* Scope of research contents: thesis focuses on researching the existence of IA and IAE in steel enterprises; not focusing on the implementing process and organizing IA. Factors affecting the existence of IA in the steel enterprises are characteristics of enterprises such as size and complexity, risk and risk management characteristics, corporate governance characteristics and characteristics of external interaction. Factors affecting IAE in steel enterprises are characteristics of IA including size of IA, capacity of internal auditors, IA technical method, IA scope, operational basis of IA and IA independence.

* Scope of research object: Enterprises in the steel industry include enterprises having actually business activities of steel products. The thesis researches enterprises in the steel industry operating in the Vietnamese territory according to the Law on Enterprises 2014, focusing mainly on large-scale enterprises.

* Scope of research period: Data for literature and theoretical research is updated until 2019. Data reflecting the general situation of the industry and enterprises in the industry is in the period 2011-2019. Data reflecting the reality of enterprises in the survey sample is the data in the two years from 2017 to 2018 of enterprises.

1.1.4. Research methods

The thesis uses a combination of qualitative research and quantitative research, in which quantitative research is mainly.

Qualitative research is done through processing and analyzing data collected from document investigation methods, expert methods and interview methods. The questionnaire templates and interview outline are a opensemi-structured format. Qualitative research is used to: 1) Preliminary test the suitability of theoretical models, measures for variables in the model, can discover new or make necessary adjustments and 2) Discuss research results and suggest practical solutions..

Quantitative research was done on the data collected from the survey with questionnaires sent to the administrators and IA staff of 193 steel enterprises in the selected sample. The collected survey data will be processed and analyzed by Excel and SPSS 20 software. Descriptive statistical analysis and inference statistics (Logistics regression, linear regression, non-parametric test) used in conjunction. The purposes of quantitative research are: 1) Describe and evaluate the current status of IA in steel enterprises, 2) Test the ability of affecting by steel enterprises' characteristics to the existence of IA, and 3) Test the ability of affecting by the characteristics of IA to IAE in steel enterprises.

Data sources include primary data and secondary data. Secondary data source is the system of domestic and international standards and legal documents; Relevant research projects published in journals, topics and projects have been accepted; data about enterprises and general characteristics of the steel industry on the official website of enterprises of the steel industry and related associations. Primary data source is collected through questionnaire survey method, expert method and semi-structured interview method with administrators and internal auditors.

1.1.5. Structure of the thesis

In addition to Conclusion and Appendices, the thesis includes 5 main content chapters, as following:

Chapter 1-Introduction of the topic and literature research.

Chapter 2-Theoretical issues and theoretical basis

Chapter 3-Research methodology.

Chapter 4-Research results

Chapter 5-Discussion on research results and propose solutions, recommendations.

1.1.6. New contributions of the thesis

The new contributions of the thesis include:

(i) Clarifying the nature of IA according to the modern point of view, signs identifying the existence of IA and clarifying the IAE in the enterprises;

(ii) Assess the current state of IA through the existence and characteristics of IA and IAE at current steel enterprises;

(iii) Determining the factors affecting the existence of IA in steel enterprises are 9 factors reflecting the characteristics of steel enterprises, including: size of enterprises, number of subsidiaries of enterprises, legal type, the ratio of capital held by members of the Board of Directors or the Members' Council, the ratio of debt receivables and inventories to total assets, the ratio of average import-export value, the proportion of administrators with accounting and auditing expertise, the administrator's support for IA, the use of Big 4's services..

(iv) Determine the factors that affect the IAE in Vietnam's steel enterprises and determine their impact level. These are the characteristics of the IA ranked in

order of influence as follows: basis - method of IA operation, size of IA, capacity of IA staff, scope of activities of IA and independence of IA.

(v) Proposing solutions and recommendations for two groups of steel enterprises: solutions to determine existing capacities and establishing IA in enterprises that do not have an IA; solutions to increase the IAE in the steel enterprises that already have IA.

1.2. Review of related studies and research gaps

1.2.1. Overview of related research

1.2.1.1. Overview of research on factors affecting the existence of IA in enterprises

There is not much research associated with the existence of IA in enterprises. Most of the research on this topic has been done in countries with developed IA such as Australia, UK and USA. Typical authors and works include Wallace and Kreutzfeldt (1991), Craswell et al (1995), Carey et al (2000), Carcello et al. (2005), Goodwin Stewart and Kent (2006), Saren et al (2006), Ismael (2013) and Ismael and Roberts (2018). The results from these works show that the factors affecting the existence of IA in the enterprise include: *size of enterprises, complexity of enterprises, existence and effectiveness of audit committee, characteristics of risk and risk management, corporate governance characteristics, administrators's characteristics and relationship with the outside of enterprises.*

1.2.1.2. Overview of research on factors affecting the effectiveness of internal audit in enterprises

The first group of studies on factors that directly affect IAE include Arena and Azzone (2009), Sayag (2010), Mihret (2010), Ismael (2013), Alzeban and Gwilliam (2014), Drogalas and et al. (2015).

The second group consists of studies on factors that have indirect effects on IAE such as Myers and Gramling (1997), Zain and Stewart (2006), Al-Twaijry et al. (2003), Sarens (2009), Abdolmohammadi (2012).), Alzeban and Gwilliam (2014), Yu et al (2019)

Through summary of previous research results, it can be seen that the factors shown to affect IAE include internal and external factors, direct or indirect effects on IAE in different types of different entities.

1.2.1.3. General assessment of national and international involved researchs

1.2.2. Research gaps and research orientation

1.2.2.1. Research gaps

✓ **Firstly**, previous studies still have certain limitations on methods, data and content: the content is not comprehensive enough, some content aspects of the factors are omitted; some scales or observed variables are not suitable; the results obtained between studies are inconsistent; some results are obtained by qualitative methods.

✓ **Secondly**, there are significant differences in research context or object among previous studies compared to Vietnam in terms of general legal institutions, governance rules and IA practice frameworks.

1.2.2.2. Research orientation of the thesis

From the above general analysis, the author finds that there are still gaps left from previous studies and two main research directions chosen are: i) Researching the effects of the characteristics of steel enterprises on the presence of IA, and ii) Study the effects of IA's characteristics on IAE. The thesis examines and tests the previous findings associated with the characteristics of the steel industry in the rapidly changing context of Vietnam and the world, in the new context of the IA with changes in practice and theory. The thesis studies fully and comprehensively the attributes of IA, studies IAE on all three angles of IC, risk management and corporate governance and from the perspective of three parties representing IA. The thesis supplements and modifies some indicators and scales that have not been considered or contain conflicting results in previous studies.

CHAPTER 2-THEORETICAL ISSUES AND THEORETICAL BASIS

2.1. Reasoning of the existence of IA in enterprises and its influencing factors

2.1.1. The existence of IA in enterprises

2.1.1.1. IA on the modern point of view

According to the latest point published by the Internal Audit Institute (IIA) in the International Professional Practice Framework for IA (IPPF), “IA is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.” (IIA, 2016a). This definition recognizes and affirms the role of “creating added value, improving operations and supporting the achievement of the organization's goals, emphasizing the comprehensive effectiveness of IA in corporate governance, risk management, IC.

2.1.1.2. Existing signs of IA in enterprises

Existing signs of IA in enterprises are considered from two angles: contents and form in corresponding to activities and entities of IA. An enterprise has the existence of IA while it simultaneously has IA activities and IA department (according to IIA, 2016a) and proved by certain signs.

2.1.2. Factors affecting the viability of internal audit

□ *The size and complexity of enterprises:*

+ Size of enterprises

+ The number of subsidiaries reflects complexity of enterprises structure

+ Number of stages in the value chain of the steel industry in which enterprises participate.

+ Type of enterprises: listed enterprises and unlisted enterprises

□ *Characteristics of the risks and risk management of enterprises:*

+ Debt coefficient of enterprises.

+ The ratio of debts receivable and inventory in the total assets of enterprises

+ Risk management committee

+ Risk management process

□ *The administration and administrators characteristics of enterprises:*

+ Independence of the chairman of the Board of Directors/Board of Members.

+ Ownership ratio of members of the Board of Directors / Board of Members.

+ Existence of audit committee

+ Characteristics of senior management: support for the use of IA, the administrator's expertise in accounting and auditing.

□ *External interaction characteristics:* the degree of participation in international trade and the use of services by Big4 major auditing firms.

2.2. Theory of IA's effectiveness in enterprises and its influencing factors

2.1.1. IA's effectiveness in enterprises

IA's effectiveness (IAE) is the ability of IA to achieve its goals in monitoring and improving IC, risk management and management process of enterprises. In particular, IA objectives include three main contents: monitoring and improving internal control systems, monitoring and improving risk management, evaluating and improving corporate governance processes (IIA, 2016a)

2.2.1. Factors affecting IAE

-Scale of IA: shown through the number of IA staff

-Independence of IA in terms of IA department position, access rights, reporting channels, authority to approve, recruit and appoint.

-Professional competence of IA staff: skills, knowledge and experience of internal auditors.

-Scope of IA: the scope of content, object and cycle.

-IA method: Risk-oriented audit method, IT application and continuous audit.

-IA implementing facilities: IA regulation-process, IA plan, assurance and improvement program of IA quality.

2.2. Theoretical basis of research

2.2.1. Agency theory

2.2.2. Theory of performance or benefit-cost relationship

2.2.3. Institutional theory

2.2.4. Contingency theory of organizations

2.2.5. Resource dependencing theory

CHAPTER 3 - RESEARCH METHODS

3.1. Research design

3.1.1. Research process

3.1.2. Model of research on factors affecting the ability of IA to exist in Vietnamese steel enterprises

3.1.2.1. Construction and development of research hypotheses

H1.1: Business size positively affects the ability of IA to exist in steel enterprises.

H 1.2: The number of subsidiaries of the company positively affects the ability of IA to exist in steel enterprises.

1.3: The degree of participation of enterprises in the industry value chain positively affects the ability of IA to exist in steel enterprises.

H 1.4: Being a listed company increases the ability of IA to exist in steel enterprises

H 1.5. The existence of an audit committee or equivalent increases the ability of IA to exist in steel enterprises

H 1.6. The independence of the chairman (Board of Directors or Board of Members) increases the ability of IA to exist in steel enterprises.

H 1.7. A large enough capital ratio owned by members of the Board of Directors or Board of Members increases the ability of IA to exist in steel enterprises.

H1.8. The debt ratio positively affects the ability of IA to exist in steel enterprises

H1.9. The ratio of receivables and inventories account to total assets of enterprises positively affects the ability of IA to exist in steel enterprises.

H1.10. Having a risk management committee increases the ability of IA to exist in steel enterprises

H1.11. Having an risk management process increases the existing ability of IA in steel enterprises

H1.12. The proportion of administrators with expertise in accounting-auditing positively affects the ability of IA to exist in steel enterprises

H1.13. The administrator's supportive opinion toward the use of IA increases the ability of IA to exist in steel enterprises.

H1.14. The use of audit services from Big 4 increases positively affects the ability of IA to exist in steel enterprises

H1.15. The degree of participation in international trade positively affects the ability of IA to exist in steel enterprises.

3.1.2.2. Research model and variables in the model

$$\begin{aligned} \ln\left(\frac{IA}{1-IA}\right) = & B_{00} + B_{01}QMDN + B_{02}CTC + B_{03}CGT + B_{04}DNNY + B_{05}UBKT + \\ & B_{06}CTDL + B_{07}VON + B_{08}HSN + B_{09}N\&H + B_{10}UBRR + B_{11}QTRR \\ & + B_{12}CMON + B_{13}QDUH + B_{14}BIG4 + B_{15}XNK \end{aligned}$$

(Model 1.0)

Source: Goodwin and Kent (2006) and Ismael (2013,2018) amended

The variables in the model are explained and measured as follows:

* **Dependent variable** $\ln\left(\frac{IA}{1-IA}\right)$

IA: There is the presence of IA in enterprises

1- IA: There is no presence of IA in enterprises

The signs determining the presence of IA in enterprises are enterprises that simultaneously have IA activities and have a IA department (in the opinion of IPPF 2016), specifically:

Firstly, enterprises have documents proving the reality of IA activity, including: Plan/program/outline/Decision IA; Reports / IA reports or other documents with relevant contents such as control reports, management reports, ...

Secondly, enterprises have the documents that serve as the basis for the existence of department IA: Decision on establishment of Department IA; Stipulate the functions and duties of the IA department; Decision to appoint the Chief of IA or in charge of IA; Internal auditors recruitment decision, or IA service outsourcing contract; or other document as the basis for the establishment of the IA department and the recruitment, appointment, and assignment of IA personnel.

* **The independent variables and the corresponding scale:**

| T T | Variables | Describe variables and scales | Type of var | Source |
|--------|-----------|-----------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | QMDN | Size of enterprises is measured by the total assets on the financial statements (The unit of calculation is VND trillion) | Quantitative var | Arena & Azzone (2007); Carcello & et el. (2005), Knechel & Willekens (2006), Hay & Davis (2004); Carey & et el. (2000); Ismael (2013, 2018); Goodwin & Kent (2006); |
| 2 | CGT | Number of stages in the value chain of the steel industry that enterprises are participating; It can be 1, 2, 3, 4, 5 or 6. | Quantitative var | Carcello & et el. (2005), Arena & Azzone (2007), Wallace & Kreutzfeldt (1991), Michael B. Adams, (1994), Knechel & Willekens (2006), Hay & Davis (2004) |
| 3 | CTC | Number of subsidiaries of enterprises | Quantitative var | Goodwin & Kent (2006); Ismael (2013), (2018) |

| | | | | |
|----|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------------------------------------------------------------------------------------|
| 4 | <i>DNNY</i> | Equal to 1 if enterprises are listed enterprises and equal to 0 if enterprises are other types of enterprises. | Binary var | Qualitative research. |
| 5 | <i>UBKT</i> | Equal to 1 if the enterprise has an audit committee or an equivalent division and otherwise the variable is 0. | Binary var | Knechel & Willekens (2006); Goodwin & Kent (2006), Ismael (2013), (2018) |
| 6 | <i>CTDL</i> | If the chairperson of the Board of Directors or the Board of Members is independent, the variable takes value 1; otherwise, the variable takes value 0. | Binary var | Goodwin & Kent (2006), Ismael (2013), (2018) |
| 7 | <i>VON</i> | Equal to 1 if the ratio of capital owned by members of the Board of Directors or the Board of Members is 5% or more and 0 otherwise. | Binary var | Goodwin & Kent (2006), Ismael (2013), (2018) |
| 8 | <i>UBRR</i> | Equal to 1 if enterprises have risk management committee, and 0 if otherwise. | Binary var | Knechel & Willekens (2006); Goodwin & Kent (2006), Ismael. (2013), (2018) |
| 9 | <i>QTRR</i> | Equals 1 if enterprises have a risk management process and zero otherwise. | Binary var | Goodwin & Kent (2006) |
| 10 | <i>N&H</i> | The ratio of receivables and inventories account to total assets on the financial statements. | Quantitative var | Ismael. (2013), (2018); Carcello & et al. (2005), Knechel & Willekens (2006), Hay & Davis (2004) |
| 11 | <i>HSN</i> | The ratio of short-term and long-term liabilities to total assets on the financial statements | Quantitative var | Jensen & Meckling (1976); Goodwin & Kent (2006); Carey & et al. (2000); Hay & Davis (2004) |
| 12 | <i>QDUH</i> | Equal 1 if the administrators of enterprises support the use of IA, otherwise it is 0 | Binary var | Arena & Azzone (2007) |
| 13 | <i>CMON</i> | The proportion of managers of the business with expertise (degrees, certificates) in accounting - auditing. | Quantitative var | Qualitative research. |
| 14 | <i>BIG4</i> | Equal 1 if the enterprises use the service (including IA) of an auditing firm belonging to The Big4 and 0 otherwise. | Binary var | Goodwin & Kent (2006), Ismael (2013), (2018) |
| 15 | <i>XNK</i> | Calculated by the average of the rate of imports and the rate of exports in the period | Quantitative var | Qualitative research. |

3.1.3. Research model of influence of internal audit characteristics on the effectiveness of internal audit in enterprises

H2.1: IAE in steel enterprises is positively related to the size of IA

H2.2: IAE in steel enterprises is positively related to the capacity of IA staff

H2.3: The more advanced and appropriate IA range, the higher IAE in steel enterprises

H2.4: The more advanced and appropriate IA method, the higher IAE in steel enterprises.

H2.5: The more complete and advanced IA's operational basis, the higher IAE in steel enterprises

H2.6: The more complete and advanced IA's operational basis, the higher IAE in steel enterprises.

The following research model is suggested :

$$HL = B_{20} + B_{21}QM + B_{22}NL + B_{23}PV + B_{24}PP + B_{25}DL + B_{26}C$$

Variables and their scale in the model are as follows :

| TT | Coding variables | Variables label | Measures and items | Exp-ected | Resources |
|-------------------------------------|------------------|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------|
| <i>Independent variables</i> | | | | | |
| 1 | IAS | Size of IA | Number of internal auditors | + | Zain and Stewart (2006); Arena and Azzone (2009); Ismael(2013); Alzeban and Gwilliam (2014) |
| 2 | IAC | Capacity of IA staff | IAC1: Experience of internal auditor IAC2: Skills of internal auditor IAC3: Knowledge of internal auditor | + | Sarens et al. (2009); Mihret (2010); Sayag (2010); Ismael (2013); Drogalas et al. (2015); Amuchirai (2018) |
| 3 | IAR | Range of IA | IAR1:Range of IA content IAR2: Range of IA objects IAR3: Range of IA cycle | + | Albercht et al. (1988); Al-Twaijry et al. (2003);Arena and Azzone (2009); Mihret (2010); |
| 4 | IAM | Methods of IA | IAM1: IA based risk-oriented approach. IAM2: IA based applying advanced technology IAM3: Continuous audit | + | Sarens (2009) Ismael (2013) |
| 5 | IAI | Independence of IA | IAI1:Direct and unlimited access IAI2: Report directly to the top management level IAI3: Authority to appoint /hire /fire IA chief, approve IA budget and plans IAI4: IA department under the highest governance level. | + | Sayag (2010); Mihret (2010); Ismael (2013); Drogalas and et al. (2015); Amuchirai (2018); |
| 6 | IAB | Operational basis of IA | IAB1: Having an appropriate charter and procedures of IA IAB2: Having an annual plan, detailed program of IA IAB3: Having a program to ensure and improve IA quality. | + | Ismael (2013); IIA (2016) |
| <i>Dependent variable</i> | | | | | |
| 7 | IAE | Effectiveness of IA | IAE1: Evaluating the reasonableness and efficiency of mobilizing and using operational resources. IAE2: Ensuring policies, regulations, plans and procedures complied. | | Ismael (2013) Dellai and Omri (2016); IIA (2016); |

| | | | | | |
|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| | | | IAE3: Detect fraud risk and prevent asset loss. IAE4: Ensuring the reliability and effectiveness of the information system IAE5: Ensuring business goals and strategies implemented IAE6: Monitoring, evaluating and consulting to improve risk managing processes. IAE7: Monitoring, evaluating and consulting to improve internal control IAE8: Monitoring, evaluating and consulting to improve internal governance processes. | | |
|--|--|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|

Source: Authors' compilation

Each enterprise has 3 persons representing 3 parties related to IA activities participating in the evaluation on the Likert scale from 1 to 5 corresponding to the rating level from *1 = Totally dissatisfied* to *5 = Totally satisfied*.

3.2. Research method

3.2.1. Qualitative research methods

3.2.1.1. Semi-structured interview method

Interviews were conducted with 8 managers. The interview is prepared in a semi-structured format. The content of the interview revolved around the respondents' opinions, perceptions and assessments about IA organizations in enterprises

3.2.1.2. Professional method

The experts questioned are those who are knowledgeable in the audit field, especially the IA: 5 people. The way to do this is to meet directly to discuss issues that need experts to comment on. The exchange was recorded and taken-note.

3.2.1.3. Processing qualitative research data

The obtained data are summarize and classify by topics, keywords, problems, goals and then sum them into each record in Excel.

3.2.2. Quantitative research method

3.2.2.1. Design survey questionnaire

- The first survey questionnaire is used for enterprises selected in the survey sample, including enterprises with and without IA.

- The second survey questionnaire is used to survey representatives related to IA from enterprises with IA including owners, managers and internal auditors.

3.2.2.2. The size and method of selecting sample survey

The total size of enterprises is about 1000 enterprises participating in the steel production and trading sector, operating in the Vietnamese territory according to the Law on Enterprises 2014 (National Assembly, 2014), included in the list of steel

enterprises posted on the website [http://published /trangvangvietnam.com](http://published.trangvangvietnam.com) (during the survey period from December 2017 to December 2018).

There are two survey samples for two regression models with the following scale:

| Model | Sample unit | Minimum sample size | Sample surveyed size | Sample used size | Conclusion on analytical conditions |
|---------|-------------|---------------------|----------------------|------------------|-------------------------------------|
| Model 1 | Enterprises | 150 | 193 | 178 | Ensure appropriate |
| Model 2 | Survey form | 30 | 114 | 114 | Ensure appropriate |

Source: Author's implementation

3.2.2.3. Data collection and processing methods

3.2.2.4. Data analysis by descriptive and comparative statistical techniques

- Description of a variable: frequency and frequency statistics for nominal variables; Describe the multivariate variables of the same scale: Frequency, Mean, Max, Min, Sum, Mode.

- Descriptive statistical analysis (T-Test test); The qualitative variables are statistically calculated by% and the Chi-square test..

3.2.2.5. Analyzing data by logistic regression model

- * Checking multicollinearity among quantitative variables
- * Testing the relationship between qualitative variables
- * Measuring model suitability
- * Measuring the correct prediction rate of the model
- * Testing the overall suitability of the model
- * Testing the significance of the regression coefficients
- * The method of putting independent variables in /out of the model.
- * Analyzing regression model.

3.2.2.6. Analyzing data by linear regression model

- * Evaluating the reliability of the scale of the variables in the model: Cronbach's Alpha > 0.6; Corrected Item-Total Correlation > 0.3;
- * Exploratory Factor Analysis (EFA): KMO coefficient > 0.5 with sig. < 0.05; Principal Component and Varimax rotation.
- * Checking for multi-collinearity phenomenon: Chi-square test coefficient (r) < 0.8; VIF < 2 and Tol > 0.5;
- * Evaluating and testing the suitability of the linear regression model: The adjusted quantities R² and R² in the ANOVA analysis were as close to 1 as possible.
- * Testing the hypothesis of the regression coefficient

CHAPTER 4-RESEARCH RESULTS

4.1. The overview of the Vietnamese steel industry and research sample characteristics

4.1.1. The overview of Vietnam's steel industry

4.1.1.1. The process of formation and development of Vietnam's steel industry

4.1.1.2. Characteristics of production and business activities of the steel industry.

4.1.1.3. Characteristics of the business environment and major risks

4.1.2. Characteristics of enterprises in the sample

4.1.2.1. Characteristics of the size and complexity of the business

4.1.2.2. Risks and risk management characteristics of the business

4.1.2.3. Management characteristics and the managers of the business

4.1.2.4. Characteristics of business interaction with the outside

4.2. IA in the steel industry enterprises in Vietnam today

4.2.1. The existence of an IA in the steel enterprises

38 enterprises in the 78 enterprises surveyed have IA (accounting for 21.35%) while 140 enterprises don't have this function (accounting for 78.65%). This ratio correctly reflects the fact that IA is still quite new and not really popular among Vietnamese steel enterprises

Signs identifying IA's presence in steel enterprises are quite diverse:

✓ IA About IA activities: Some enterprises have had clear IA activities, which are shown on annual audit plans, thematic audit outlines, IA reports, IA minutes. However, many enterprises can only carry out a number of traditional IA activities and signs proving IA activities are quite sketchy.

✓ Regarding the IA department: The IA department is relatively well established in a few enterprises with the establishment decision, the IA regulation and the regulations on the functions and duties of the IA. However, many enterprises do not have an own and full-time IA division and personnel. Even some enterprises only set up a working group according to each audit work, each IA task arising and self-dissolve after completing their duties. Proofs of IA department in these enterprises is also incomplete and unclear.

4.2.2. Characteristics of IA in steel firms

4.2.2.1. Scale of IA

4.2.2.2. Independence of IA

4.2.2.3. Capacity of IA staff

4.2.2.4. Scope of IA

4.2.2.5. Technical methods of IA

4.2.2.6. Operational basis of IA

4.2.3. Effectiveness of internal audit in Vietnamese steel enterprises

The IAE is considered on 8 specific issues, including:

- HL1: IAE in evaluating the reasonableness and efficiency of mobilizing and using resources;
- HL2: IAE in ensuring compliance with regulations, processes;
- HL3: IAE in fraud risk detection and property loss prevention;
- HL4: IAE in ensuring safe, efficient and quality information and information systems.
- HL5: IAE in ensuring the implementation of enterprises' goals and strategies.
- HL6: IAE in monitoring and improving the risk management process
- HL7: IAE in monitoring and improving internal control
- HL8: IAE in monitoring and improving corporate governance process

From the perspective of the survey participants, all 8 contents of the IAE calculation have the maximum rating (score 5)

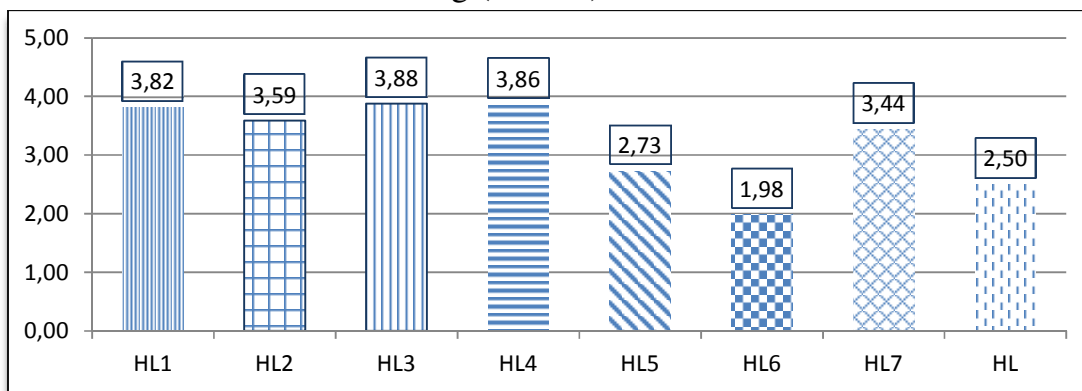


Chart 4.7: Average rating of each content to calculate the effectiveness of IA

Source: Author's implementation based on survey data

4.3. Factors affecting the existence and effectiveness of IA in Vietnamese steel enterprises

4.3.1. Factors affecting the ability of the existing IA in Vietnam steel enterprises

4.3.1.1. Correlation analysis between qualitative variables

Chi-Square test results obtained the values of T with sig. so small, all 08 independent variables have univariate correlation with the dependent variable.

4.3.1.2. Correlation analysis and multicollinearity test

The pairs of variables has a correlation coefficient r less than 0.8, so the model is eligible for regression analysis.

4.3.1.3. Multivariate regression analysis

The model is run through 7 steps, the result in step 7 is optimal.

** Testing the suitability of the model*

Chi-square has sig. is very small (sig. = 0.000), so the hypothesis that the regression coefficients of model 1.0 are equal to 0 ($B_k = 0$) is rejected. This means that with the existing sample data set, each independent variable in the above model has meaning in explaining the possibility of the dependent variable happening.

Table 4.6: Testing significance of the regression coefficient

| Omnibus Tests of Model Coefficients | | | | |
|--------------------------------------------|-------|------------|----|-------|
| | | Chi-square | df | Sig. |
| Step 7 ^a | Step | -3,062 | 1 | 0,080 |
| | Block | 148,796 | 9 | 0,000 |
| | Model | 148,796 | 9 | 0,000 |

Source: Results of data analysis using SPSS software

** Evaluate the suitability of the regression model*

-2LL = 35,488 considered relatively small means that the sample data has a low degree of error and the relevance of the overall model is relatively high or in other words, is the sample data suitable for Regression analysis of the model 1.0

Table 4.7: Evaluating the suitability of the regression model**Model Summary**

| Step | -2 Log likelihood | Cox và Snell R Square | Nagelkerke R Square |
|------|-------------------|-----------------------|---------------------|
| 7 | 35,803c | 0,567 | 0,878 |

Source: Results of data analysis using SPSS software

** Test interpretability of the independent variables*

There are 9 variables satisfying the test conditions due to sig. <0.05 and they are able to explain the dependent variable statistically with 95% confidence, including: QMDN, CTC, DNNY, VON, N&H, CMON, QĐUH, BIG4 và XNK.

Table 4.8: Testing the explanatory power of the independent variables

| Variables in the Equation | | | | | | | |
|----------------------------------|---------------|---------|-------|--------|----|-------|----------|
| Variables | | B | S.E. | Wald | df | Sig. | Exp(B) |
| Step 7 ^a | QMenterprise | 1,566 | 0,572 | 7,501 | 1 | 0,006 | 4,789 |
| | s | | | | | | |
| | CTC | 00,559 | 0,263 | 4,522 | 1 | 0,033 | 1,750 |
| | enterprisesNY | 5,397 | 2,492 | 4,690 | 1 | 0,030 | 220,761 |
| | VON | -5,627 | 2,863 | 3,864 | 1 | 0,049 | 0,004 |
| | N&H | 7,555 | 3,446 | 4,806 | 1 | 0,028 | 1910,826 |
| | CMON | 5,217 | 2,370 | 4,847 | 1 | 0,028 | 184,379 |
| | QĐUH | 4,085 | 1,505 | 7,363 | 1 | 0,007 | 59,417 |
| | BIG4 | 3,422 | 1,528 | 5,015 | 1 | 0,025 | 30,632 |
| | XNK | 7,169 | 3,541 | 4,099 | 1 | 0,043 | 1298,447 |
| | Constant | -17,704 | 4,928 | 12,907 | 1 | 0,000 | 0,000 |

Source: Results of data analysis using SPSS software

From the analysis result above, the established regression equation is as follows :

$$\ln\left(\frac{IA}{1-IA}\right) = -17,704 + 1,566*QMDN + 0,559*CTC + 5,397*DNNY - 5,627*VON + 7,555*N\&H + 5,217*CMON + 4,085*QDUH + 3,422*BIG4 + 7,169*XNK$$

(Model 1.1)

4.3.1.4. The ability to correct the prediction of the model

With an overall scale of n enterprises, this research result helps to correctly predict 97.9% of enterprises without IA and 89.5% of enterprises with IA

Table 4.9: The ability to predict the model

| Classification Table ^a | | | | | |
|-----------------------------------|--------------------|------------|------------|---------|--------------------|
| | Observed | | Predicted | | |
| | | | IA | | Percentage Correct |
| | | | Without IA | with IA | |
| Step 7 | IA | Without IA | 137 | 3 | 97,9 |
| | | With IA | 4 | 34 | 89,5 |
| | Overall Percentage | | | | 96,1 |
| a. The cut value is .500 | | | | | |

Source: Results of data analysis on SPSS software

4.3.2. Effect of IA's characteristics on IAE in Vietnamese steel enterprises

4.3.2.1. Check the reliability of the scale

The first result: The dependent variable HL and 5 independent variables NL, PV, CS, DL, PP all have Cronbach's Alpha coefficients reaching the required magnitude. The second result: After analyzing EFA and performing factor rotation, the two initial variables, CS and PP, combined into the new variable CSPP with Cronbach's Alpha was 0.788 - better than the old two variables. Thus, the independent and dependent variables have a suitable scale with high reliability.

4.3.2.2. Exploratory Factor Analysis (EFA)

Results of EFA analysis, analysis of Principal Component and Varimax rotation. From the 8 HL indicators, only one factor can be extracted; from 16 indicators of 5 independent variables, DL, NL, PV, CS, PP uploaded and focused on 04 factors, of which 01 new factor was created from CS and the PP named CSPP. The variables HL, DL, NL, PV, CS PP all have KMO of necessary magnitude, Bartlett's test has statistical significance (with sig. <0.001), Initial Eigenvalues > 1, total variance extracted > 50%. That proves that the component indicators of variables HL, DL, NL, PV, CS PP are correlated with each other and focus on explaining the unique corresponding concept.

4.3.2.3. Correlation Analysis - Multicollinearity Test

Independent variables are selected to build a regression model that can explain the dependent variable. The independent variables are not so closely related and multicollinearity is excluded.

4.3.2.4. Evaluate and test the suitability of the linear regression model

Table 4.13: Testing the suitability of the model

| Model Summary ^b | | | | | |
|----------------------------|--------------------|----------|-------------------|----------------------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | 0,880 ^a | 0,774 | 0,763 | 0,4867 | 1,951 |

Source: Results of data analysis on SPSS software

. Table 4.14: Testing the suitability of the overall regression model

| ANOVA ^a | | | | | | |
|--------------------|------------|----------------|-----|-------------|--------|-------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 87,413 | 5 | 17,483 | 73,792 | ,000b |
| | Residual | 25,587 | 108 | ,237 | | |
| | Total | 113,000 | 113 | | | |

Source: Results of data analysis on SPSS software

Thus, it can be concluded that the built-up linear regression model is also consistent with the research overall with very high reliability (99%).

4.3.2.5. Testing hypothesis of linear regression coefficients

Table 4.15: Testing significance of the coefficients in the linear regression model

| Coefficients ^a | | | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | | | | | | | | |
| | (Constant) | -,655 | ,179 | | -3,669 | ,000 | | |
| | CSPP | ,495 | ,061 | ,495 | 8,098 | ,000 | ,562 | 1,779 |
| | DL | ,254 | ,053 | ,254 | 4,777 | ,000 | ,739 | 1,353 |
| | NL | ,291 | ,049 | ,291 | 6,002 | ,000 | ,890 | 1,123 |
| | PV | ,256 | ,046 | ,256 | 5,583 | ,000 | ,996 | 1,004 |
| | QM | ,267 | ,070 | ,261 | 3,795 | ,000 | ,510 | 1,959 |

a. Dependent Variable: HL-HieulucIA

Source: Results of data analysis on SPSS software

The t-statistic values have significance level sig. very small (sig. <0, 1%). Thus, the variables QM, PV, DL, NL, CSPP affect the dependent variable HL with very high reliability of 99%. Therefore, the regression equation is as follows:

$$HL = -0,655 + 0,267 * QM + 0,256 * PV + 0,291 * NL + 0,254 * DL + 0,495 * CSPP$$

(Model 2.1)

4.3.2.6. Check the assumptions for linear regression analysis

To check whether the assumptions of regression analysis are violated, the thesis uses Histogram chart, Normal P-P Plot chart, Scatterplot scatter chart.

CHAPTER 5 - DISCUSSION OF RESEARCH RESULTS, SOME SOLUTIONS AND RECOMMENDATIONS

5.1. Synthesize and discuss research results

5.1.1. Synthesize and discuss the results of actual survey by IA in Vietnam steel enterprises

IA in steel enterprises was surveyed on 3 main contents, including:

- The current status of IA in steel enterprises
- The characteristics of IA in steel enterprises
- IAE in steel enterprises
- The existence of IA: According to the survey results, only 38 enterprises out of 178 steel enterprises had IA (accounting for 21.8% of the sample size).
- There is a significant shortage in the IA scale as required by the IA
- The capacity of IA team is assessed at average level.
- The scope of activities of the IA also has limitations in terms of subject, content and audit cycle.
- The independence of IA is assessed at an average level. Some criteria of the independence are achieved by very few enterprises.
- The popular IA methods are still traditional techniques based mainly on the basis of personal experience, and advanced techniques and tools have not been put into use.
- The operational facilities of the IA are at a relatively low level, the standards of the IIA are still an unfamiliar concept.

The IAE is rated moderate. The contents that are rated positively are all traditional contents of the IA, and the weak and faint contents are all new and modern.

5.1.2. Synthesize and discuss the results of research on factors affecting the existence of IA in Vietnamese steel enterprises

Table 5.01: Summary of research results on the effects of factors on the existence of IA in enterprises

| Variables | Hypothesis | | Results | | | Results versus hypotheses |
|-----------|------------|------------------|-------------|-----------------|------------------|---------------------------|
| | Code | Impact direction | Reliability | Order of impact | Impact direction | |
| QMDN | H1.1 | + | 95% | 7 | + | Accepted, positively |
| CTC | H1.2 | + | 95% | 8 | + | Accepted, positively |
| CGT | H1.3 | + | Low | | | Rejected |
| DNNY | H1.4 | + | 95% | 3 | + | Accepted, positively |
| UBKT | H1.5 | + | Low | | | Rejected |
| CTDL | H1.6 | + | Low | | | Rejected |
| VON | H1.7 | + | 95% | 9 | - | Accepted, positively |
| UBRR | H1.8 | + | Low | | | Rejected |
| QTRR | H1.9 | + | Low | | - | Rejected |
| HSN | H1.10 | + | Low | | | Rejected |
| N&H | H1.11 | + | 95% | 1 | + | Accepted, positively |
| CMON | H1.12 | + | 95% | 4 | + | Accepted, positively |
| QDUH | H1.13 | + | 95% | 5 | + | Accepted, positively |
| BIG4 | H1.14 | + | 95% | 6 | + | Accepted, positively |
| XNK | H1.15 | + | 95% | 2 | + | Accepted, positively |

Source: Synthesized from model 1.1

Compared to the previous results, the results of this study have similarities besides certain inconsistencies.

From the above discussion, it can be seen that: The characteristics of enterprises have an important impact on the possibility that IA is presence in enterprises. An enterprise is a listed enterprise with a large scale and many subsidiaries with higher demand for IA. In the course of operation, if enterprises maintain a large value of inventories and liabilities receivable in the total assets, a high ratio of import-export transactions and use audit services from Big 4 auditing firm, they have a higher availability of IA presence. Especially, if the members of the Board of Directors own a large proportion of capital (equal or over 5%), many managers of enterprises have expertise in accounting-auditing and they support IA, enterprises will likely have IA higher.

5.1.3. Synthesize and discuss research results on the effect of IA characteristics on IAE in steel enterprises

The variables QM, NL, PV, DL, CSPP positively affect the dependent variable HL with a confidence level of 99% and the hypotheses are accepted.

Table 5.02: Summary of research results on the effects of IA's characteristics on the steel enterprises

| Variables | Hypothesis | | Results | | | Results versus hypotheses |
|-------------|------------|------------------|-------------|-----------------|------------------------|---------------------------|
| | Code | Impact direction | Reliability | Order of impact | Regression coefficient | |
| <i>QM</i> | H2.1 | + | 99% | 3 | 0,267 | Accepted, positively |
| <i>NL</i> | H2.2 | + | 99% | 2 | 0,291 | Accepted, positively |
| <i>PV</i> | H2.3 | + | 99% | 4 | 0,256 | Accepted, positively |
| <i>DL</i> | H2.5 | + | 99% | 5 | 0,254 | Accepted, positively |
| <i>CSPP</i> | H2.4 +H2.6 | + | 99% | 1 | 0,495 | Accepted, positively |

Source: Synthesized from model 2.1

In summary, the elements of the characteristics of the IA include elements of volume (size parts IA) and the elements of nature (the independence of the IA, capacity internal Auditors, the scope of the audit, inspection methods accounting and operating facilities of IA) both had an impact on the satisfaction level of internal auditors, administrators and the board of directors about IAE in enterprises. The effects are reversible with a high confidence level of 99%. This result is the basis for the thesis to propose solutions to increase IAE in Vietnam's steel enterprises.

5.2. Background and principles to propose solutions and recommendations

5.2.1. Background of proposing solutions and recommendations

5.2.2. Principle of proposing solutions and recommendations

Solutions and recommendations are proposed on the basis of absolute compliance with legal regulations and relevant professional guidelines.

The implemented solutions and recommendations must be suitable and feasible

The implemented solutions and recommendations must be effective

Proposed solutions and recommendations must be associated with research results and consistent with the objective, subject and scope of the thesis.

5.2.3. Proposing solutions for Vietnamese steel enterprises that have not had internal audit yet

5.2.3.1. Determine the ability of IA existence in enterprises

For steel enterprises without IA yet, it is necessary now to determine whether enterprises must / should set up the function IA or not.

The first case: enterprises are required to set the function IA

That is when enterprises are required to have an IA division according to the provisions of current legal documents (Article 10, Decree No. 05/2019 / ND-CP dated January 22, 2019 of the Government on IA). At that time, according to the principle of absolutely respect for legal provisions, enterprises need to immediately

establish the IA function without considering the second principles of suitability, feasibility and the third principle of efficiency.

The second case - enterprises should (voluntarily) set up IA

Enterprises that are not required to have an IA are encouraged to apply IA, they need to determine whether enterprises should or not establish IA. This depends on the factors influencing the probability of IA appearing. Based on this prediction, enterprises can determine whether, with current specific conditions, the availability of IA in enterprises is high. So that, they can be proactive in establishing IA effectively.

5.2.3.2. Proposing solutions to establish internal audit in steel enterprises

- Raising awareness of steel enterprises' administrators about IA
- Prepare the operational facilities of the IA, including: IA regulations, IA handbook and papers, working forms for internal auditors.
- Establishment of IA department: with issues of authority position, organizational model of IA department, identification of IA regulations, human resources for IA work and regulations of functions, duties as well as IA department organization structure.
- Prepare technical facilities and infrastructure for IA activities

5.2.4. Solution to strengthen IAE in the steel industry in Vietnam

The fact of having IA does not mean that IA is valid and meets the expectations of administrators and related parties. Based on the actual survey results at 38 steel enterprises and the results of researching factors affecting IAE, the thesis proposes the following groups of solutions to enhance the IAE of steel enterprises.

5.2.4.1. Strengthening the operational base of the IA

Steel enterprises need to actively prepare the operational facilities of IA as fully, advanced and asymptotically to IIA standards as much as possible: Develop the IA Charter and issue the IA manual according to IIA standards; Develop risk-oriented IA plans with consultation; Develop an IA quality assurance and improvement program according to IIA standard.

5.2.4.2. Increase the independence of IA

Which model be suitable with IA to ensure IA's authority, independence and objectivity so scope of IA is not be affected and limit. Each model has its advantages, disadvantages and suitable application conditions, thereby brings the different levels of authority and independence to the IA. So, enterprises need to base on the characteristics of enterprises to choose a model appropriately.

5.2.4.3. Increase the capacity of internal auditors

Professional qualifications, skills and experience of internal auditors are the most important factor related to personnel issues. An internal auditor is not required to have background in accounting, finance - auditing. But a team of enterprise's

internal auditors must have extensive knowledge including law, engineering, technology, finance, tax, international trade, planning and statistics, econometrics and computer technology. Professional training for internal auditors; Encourage internal auditors to take the audit of audit certificates. Regularly organize professional auditors: obtain national auditor certificate or internal auditors certificate.

5.2.4.4. Solutions for the scope and content of internal audit

(i) Identify the focus of the IA, focusing on the following main contents: Evaluation and recommendations to improve control procedures, risk assessment, performance analysis and related information.

(ii) The scope of the IA should be extended to:

- Operational audit: evaluate the efficiency and effectiveness of production - business activities and investment projects, import-export and mining activities ...
- Environmental audit is a necessary content.
- Auditing of energy sources and raw materials: mining, coal, oxygen, electricity, ...
- Audit of labor safety.

5.2.4.5 Group of solutions for corporate governance

First, raise the awareness of administrators about IA.

Second, apply international good corporate governance practice

Third, set up risk management committees and build risk management processes in enterprises.

Fourth, information sharing and cooperation between departments and enterprises are based on the understanding and recognition of IA's role and functions in enterprises.

5.2.5. Some recommendations to implement the solution

5.2.5.1. Recommended for State agencies

5.2.5.2. Recommendations for the steel industry and steel enterprises in Vietnam

5.2.5.3. Recommended for professional organizations

CONCLUSION

Around the world, the role and importance of IA has been recognized and increasing. In Vietnam, IA is gradually receiving more attention both academically and practically. Up to now, Decree 05/2019 / ND-CP dated 22 January 2019 has been issued and the effective date of the Decree is very near. Accordingly, a part of enterprises are required to have an IA, they need to quickly research, deploy and set up the conditions and basis for having an IA function. Enterprises that already have IA need to further strengthen the effectiveness of this function to support corporate governance, internal control and risk management in a risky and challenging context.

In that sense, this thesis is implemented and has achieved initial research objectives with the following achievements:

Firstly, the thesis systematized and clarified the nature and attribute characteristics of IA from a modern point of view, contributing to enrichment and development of general knowledge of IA;

Secondly, the thesis has determined the signs determining the existence of IA in enterprises.

Third, the thesis has identified the factors being characteristics of enterprises that affect IA's existence in Vietnam's steel enterprises, including: size and complexity of the enterprises, characteristics on risk and risk management, governance characteristics and interacting with the outside environment.

Fourthly, the thesis has identified the factors being characteristics of IA that affect IAE in Vietnam's steel enterprises, including: IA operational basis, capacity of IA staff, IA scope, technical methods of IA staff, IA size and independence of IA.

Fifthly, the thesis gave two groups of solutions and some recommendations based on scientific bases and practical basis for Vietnam's steel enterprises to determine the existence of IA and increase IAE in Vietnamese steel enterprises.

In addition, the thesis also has certain limitations such as measuring factors being characteristics of IA as well as IAE based on the views of the respondents. That caused a reduction information's objectivity. In addition, the respondents' perception is not equal, a part of awareness of IA is not really correct and complete.

The completed thesis has contributed to clarifying the theoretical issues, supplementing and enriching the understanding of Internal Audit. At the same time, it provides feasible recommendations for steel enterprises in particular and for our country's businesses in general. Besides, the research results of this thesis also give useful suggestions on research orientation for future research.