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**IMPROVING THE MANAGEMENT ACCOUNTING  
INFORMATION SYSTEM AT IMPORT-EXPORT  
ENTERPRISES IN HANOI**

*Major*                    : Accounting

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**SUMMARY OF DOCTORAL THESIS IN  
ECONOMICS**

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**This works is completed at  
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## INTRODUCTION

### 1. Urgency of the thesis topic

Along with the current globalization trend, countries around the world have increasingly overcome the limits of geographical distance, language and customs participate in international exchange and cooperation in all economic sectors. That means that trading activities are no longer only conducted within the boundary of a country but on an international scope. Therefore, in order to realize economic development targets, each country must pay attention to expanding investment and promoting international trade relations through import and export activities.

In Vietnam, import and export activities have long been recognized as the indispensable for external economic activities and a means of promoting economic development. In particular, Hanoi capital has always been one of the leading localities in the country in import and export activities, bringing great benefits to the national economy. According to statistics of the Hanoi Statistical Office, the import-export turnover of Hanoi in 2018 reached 44,886 billion USD while the import-export turnover of the whole country according to preliminary data of the General Statistics Office reached 480 billion USD. So, in 2018 alone, Hanoi's import-export turnover accounted for about 10.69% of the whole country's import-export turnover. Therefore, developing import-export activities in Hanoi is not only the task of the Party and the government but is also the central task in the management of each enterprises to achieve the best efficiency. One of the supporting management tools of enterprises is the management accounting (MA) information system.

In recent years, Vietnam has entered into many trade agreements with international organizations and countries around the world, opening up opportunities and challenges for Vietnamese import-export enterprises in general and import-export enterprises in Hanoi in particular. To develop sustainably, managers of import-export enterprises in Hanoi need to have effective business strategies and decisions. Therefore, the introduction of measures to improve the MA information system is very important for these enterprises.

On the other hand, in the current context of Industry 4.0, when science and technology becomes increasingly important and effectively supports the management accounting information system, it is necessary to provide useful information of high accuracy in a quick and timely manner in order to help managers in enterprises make the right decisions, improve competitiveness and business efficiency for enterprises. However, reality shows that there are still many limitations in the MA information system at import-export enterprises in Hanoi. According to the results of research and investigation, the implementation of this system in many enterprises is fragmented, inconsistent, lack of linkage and is not suitable for requirements of management and innovation. One of the reasons can be due to the lack of knowledge and management capability in the process of building the MA information system.

When reviewing the theoretical basis in domestic and foreign studies, the author found that there are still research gaps in the scope of the MA information system for further study and improvement, such as the theory on applying analytical methods to support information for control objectives, the change of the MA information system in the context of Technology 4.0... In understanding the great

significance of improving the MA information system at import-export enterprises in Hanoi and hoping to help managers at enterprises have an insight into establishing the MA information system, the author chose the following topic as the thesis topic: **“Improving the management accounting information system at import-export enterprises in Hanoi”**. The research topics are urgent in both theory and practice. The author hopes to partly clarify the theoretical and practical issues in building the MA information system to provide information for managers to perform their tasks well and contribute to improving the position of enterprises.

## **2. Literature review**

Through the review of domestic and international studies with aspects of MA information system, techniques used in management accounting (MA) and studies on accounting at export and import enterprises, the author found that:

*Firstly:* Many previous works on accounting at import-export enterprises mainly studied from the perspective of financial accounting (FA) to conform to international standards and current regulations without paying attention to building a system to generate MA information which is an extremely important content and has the most practical significance that needs to be focused on.

*Secondly:* The purpose of building the MA information system is for this system to be effective and fully and promptly meet the information needs of managers. Therefore, in addition to studying the MA information system with traditional contents, in order to have a highly effective MA information system, it is necessary to evaluate factors that affect the efficiency of the MA information system and the degree of impact of those factors as the basis for improvement. However,

the authors of previous studies considered factors that affect the management accounting information system but did not provide an in-depth assessment of the direct impact of factors on the efficiency of this system. Therefore, the author thinks that this content is also a new point that can be explored in the thesis.

*Thirdly:* In the context of the explosion of the Industry 4.0, the traditional MA method is gradually no longer suitable; instead it is a tight, inseparable combination among core digital elements of Technology 4.0 such as: Enterprise resource planning (ERP), cloud computing and Blockchain technology in MA activities. Some previous studies about the combination of Technology 4.0 with the MA information system only analyzed the MA information system in the application environment without considering the impact of other technologies (blockchain, cloud computing) on this system.

*Fourthly:* From traditional techniques to modern techniques, each MA technique has a certain importance and meaning. When studying the works on this issue, the author found that the techniques used mainly focus in the aspect of information processing to assist managers in planning and making decisions. The techniques for information processing to support the control function of managers are still lacking. Moreover, import-export activities have characteristics that are different from domestic activities so there are certain differences in applying the content of the analysis.

### **3. Research objectives**

The basic and overall objective of the thesis is to build appropriate solutions to improve the MA information system for import-export enterprises in Hanoi in the current period in order to provide useful information that meets the requirements of managers.

To achieve that goal, the author decides on specific research objectives as follows:

- Systematize and clarify the theoretical basis of the MA information system at trading enterprises that satisfy management requirements.

- Evaluate the characteristics and requirement of information usage; study the current situation and factors affecting the efficiency of the MA information system at import-export enterprises in Hanoi and find out the pros and cons of this system during the study period.

- Propose solutions to improve the MA information system in order to create an effective system that provides sufficient and timely information for the management goals of managers at import-export enterprises in Hanoi and is in line with the development orientation of import-export activities of Hanoi through reality assessment.

#### **4. Research questions**

To achieve the above-mentioned objectives, the thesis raises specific research questions to be addressed, including:

*Question 1:* How to understand theoretical issues about the MA information system in order to be able to provide adequate and timely information according to management requirements?

*Question 2:* What is the current situation of the MA information system to meet management goals, and what are factors affecting the efficiency of the MA information system at import-export enterprises in Hanoi?

*Question 3:* What contents need to be brought out to improve the MA information system to achieve efficiency, meeting the management requirements in a timely, adequate manner and in line with the city's development orientation of import-export activities?

## **5. Research scope**

### **5.1. Research object**

The research object of the topic is the MA information system on theoretical and practical aspects associated with the management function of the manager and factors affecting the efficiency of the MA information system at import-export enterprises in Hanoi.

### **5.2. Research scope**

The author limits the research scope of the thesis as follows:

- *In terms of content:* The thesis focuses on building the MA information system to provide information for managers in implementing objective of planning, operating, controlling and making decisions.

- *In terms of scope:* The author chooses to approach import-export enterprises that mainly engage in direct import for domestic sale or domestic purchase for direct export rather than enterprises engaging in production for export or in import for production.

- *In terms of time and space:* The thesis focuses on commodity import-export enterprises in Hanoi that engaged in direct import-export business from 2017 to 2020.

## **6. Research process and methodology**

### **6.1. Research process**

### **6.2. Research methodology**

The thesis uses a combination of qualitative research methods (documentary research methods, methods of observation and in-depth interviews) and quantitative research methods (design of survey questionnaire/ object survey/ usage of excel tools and SPSS 20 software to synthesize data. The time of send the questionnaire and get the feedback is from May 2017 to January 2020).

## **7. Scientific and practical significance of the research topic**

*Firstly:* The thesis has comprehensively and synchronously studied the contents of the MA information system, then affirms the importance of the MA information system in providing information for managers in enterprises to implement management goals.

*Secondly:* The thesis generalizes the current status of the MA information system in import-export enterprises in the current period; contents of the thesis are clearly presented with scientific logic as the basis for evaluating the achieved results, limitations and the reasons for the limitation of the MA information system at import-export enterprises in Hanoi.

*Thirdly:* The thesis proposes synchronous and feasible solutions to improve the MA information system at import-export enterprises in Hanoi. Especially, in the context of the direct impact of the Industry 4.0 on the MA information system of enterprises, the thesis points out the support of this revolution; this helps enterprises have orientation to develop IT infrastructure in the future

## **8. Structure of the thesis**

In addition to the introduction, general conclusion, list of reference materials and appendices, the thesis consists of 3 chapters as follows:

Chapter 1: Theoretical basis of the management accounting information system at trading enterprises.

Chapter 2: The current situation of the management accounting information system at import-export enterprises in Hanoi

Chapter 3: Solutions to improving the management accounting information system at import-export enterprises in Hanoi

**CHAPTER 1: THEORETICAL BASIS OF THE  
MANAGEMENT ACCOUNTING INFORMATION SYSTEM  
IN TRADING ENTERPRISES**

**1.1. BASIC ISSUES OF THE MANAGEMENT ACCOUNTING  
INFORMATION SYSTEM AT TRADING ENTERPRISES**

**1.1.1. Concept and role of management accounting information**

Society is developing day by day; the requirement for information becomes more diverse and richer. Information is not merely a supporting element but it is also considered as an element directly affecting the business process of enterprises. Useful information is always considered as a type of "property" which is very valuable for enterprises and other objects outside enterprises in making decisions. MA accounting information is economic - financial information collected and processed from events occurring internally by the accounting unit. This information is predictive, flexible, appropriate and detailed for each activity, each department, and each specific management purpose. From there, managers can use the information generated to develop business orientations, coordinate activities and evaluate the control of activities taking place in the enterprise. It can be seen that MA information creates a very useful information channel for managers, a transparent information system which shows management responsibility at all levels in operating enterprises. Therefore, MA is an effective tool that allows managers to control the production process, evaluate the efficiency of each part of the enterprise to make appropriate decisions. It is necessary to build a good MA information system to meet the goals set out by company executives.

## **1.1.2. Concept and approaches of the management accounting information system**

### ***1.1.2.1. The concept of management accounting information system***

From studying different concepts of the MA information system combined with the concept of MA the author has drawn out above, the author states that: "*The management accounting information system is a system consisting of people assisted by supporting facilities in collecting, processing, providing, archiving and controlling information. From there, the system provides economic and financial information according to management requirements in planning, operating, controlling and making decisions in an effectively way in the context of fierce competition in the economy*". The MA information system will provide essential, quick, timely and accurate information for managers in making decisions. This helps promote the business activities of enterprises and avoid unnecessary risks in implementing the plans of enterprises.

### ***1.1.2.2 Approaches of the management accounting information system***

- According to accounting cycle
- According to accounting category (toward accounting objects)
- According to the process of information processing
- Through components of the MA accounting information system

## **1.1.3. Requirement of information of the management accounting information system in trading enterprises**

- Information must be appropriate, ensuring the management requirements
- Information must be truthful and easy to understand
- Information must be timely

- Information must be reliable
- Information must be kept confidential

## **1.2. CONTENT OF THE MANAGEMENT ACCOUNTING INFORMATION SYSTEM AT TRADING ENTERPRISES**

### **1.2.1 The process of collecting, processing and providing management accounting information**

#### ***1.2.1.1. Collecting management accounting information***

##### ***Task 1: Identify the information to be collect***

Based on the specific needs and goals of managers, the MA department conducts specific steps for the information collection process to ensure that information is collected quickly and accurately for the right purpose with the correct content.

##### ***Task 2: Identify sources of information collection***

Internal information source: Information is obtained from internal divisions within the unit and normally without any cost.

External information sources: Usually divided into 2 main sources: primary data source and secondary data source.

##### ***Task 3: Encode management objects (information-carrying entity)***

Code is understood as characters or numbers combined together according to the principles in a systematic, logical manner to reflect information about the encoded object. The encoding of management objects (information-carrying entities) is the task of each enterprise. Codes are designed for each specific object, depending on the size and management requirements of the unit to determine the number of codes, the number of characters in a code, the encoding method.

##### ***Task 4: Determine methods and perform information collection***

To collect input information for processing, the MA department must combine many different methods such as: Interview method (direct,

mail, or phone interview), methods of observation, method of research at table, method of public opinion polling, method of direct investigation, method of accounting voucher.

#### ***1.2.1.2. Processing management accounting information***

To perform MA information processing, it is necessary to use a combination of analytical methods to generate information for result evaluation and decision making of managers. In the processing environment combined with current IT support, the data are entered into the computer system on accounting software or excel tools for processing according to the request of managers.

#### ***1.2.1.3. Providing management accounting information***

Based on the requirement of information usage of managers at all levels, the MA information system will provide output information after processing by means of MA reports.

#### ***1.2.1.4. Archiving management accounting information***

Archiving is the keeping of data content, documents for reference when necessary and for processing and providing information upon request. Archiving must ensure that fast, easy, accurate and secure access is required. In the computer environment, information is stored in different files.

#### ***1.2.1.5. Controlling management accounting information***

The content of MA information control includes: (1) Controlling input data source; (2) Controlling data processing process; (3) Controlling the provision of output information; (4) Controlling information archiving.

### **1.2.2. Management accounting apparatus**

The determination of the subjects participating in information processing depends on the business activities and organizational

model of enterprises with different accounting assignment: (1) Combination model; (2) Split model; (3) Mixed model.

### **1.2.3. Supporting facilities**

The supporting facilities of the MA information system are directly related to the software and hardware system of the computer, in which:

- *Electronic computer hardware system* is physical and tangible equipment of a machine system

- *Accounting software system* is a program set up to support accounting work.

## **1.3. FACTORS AFFECTING THE EFFICIENCY OF THE MANAGEMENT ACCOUNTING INFORMATION SYSTEM AT TRADING ENTERPRISES**

### **1.3.1. Background theory related to factors affecting the efficiency of the management accounting information system.**

#### **1.3.1.1. The theory of technology diffusion**

The theory of technology diffusion by Attewell (1992) emphasizes the role of external organizations as consultants and information technology providers as knowledge providers to reduce the knowledge barrier or lack of knowledge of those who adopt the accounting information systems.

#### **1.3.1.2. Resource-based theory**

Enterprises can use their internal resources to gain competitive advantages.

### **1.3.2. Efficiency of the management accounting information system**

In this thesis, the author uses the scale of Ismail (2009) to study the efficiency of the MA information system.

### **1.3.3. Factors affecting the efficiency of the management accounting information system**

*1.3.3.1. Knowledge of the managers*

*1.3.3.2. Commitment of the managers*

*1.3.3.3. Accounting human resources*

*1.3.3.4. Involvement of external experts*

*1.3.3.5. IT application in the management accounting information system*

## **1.4. THE MANAGEMENT ACCOUNTING INFORMATION SYSTEMAT SOME COUNTRIES IN THE WORLD AND EXPERIENCE LESSONS FOR VIETNAM**

### **1.4.1 The management accounting information system at some countries in the world**

- The management accounting information systemat U.S enterprises
- The management accounting information systemat French enterprises
- The management accounting information systemat Japanese enterprises

### **1.4.2 Experience lessonsin organizing the management accounting information systemforVietnamese enterprises**

*Firstly:* Enterprises in Vietnam nowadays are mainly small and medium enterprises, so it is appropriate to apply the combined model of FA and MA in the same accounting system because this model allows using the system of vouchers and books in FA to save costs.

*Secondly:* Vietnamese enterprises need to apply both traditional and modern MA techniques in other countries to process, analyze and

provide information to realize the objectives of planning, control and and decision making.

*Thirdly:* The management reporting system should be divided into the following types of reports: report for the planning function of managers; reports for inspection and control functions of managers; reports for the decision-making function of managers.

*Fourthly:* It is necessary to focus on providing comprehensive training for MA staff in terms of expertise, skill and understanding of IT to apply IT and the advancement of science and technology in the context of international integration in MA activities.

*Fifthly:* Enterprises need to invest in upgrading modern infrastructure and equipment, find solutions to build the MA software system in particular and for the whole enterprise in general to facilitate the collection, processing and analysis of information.

## **CHAPTER 2: THE CURRENT SITUATION OF THE MANAGEMENT ACCOUNTING INFORMATION SYSTEMAT IMPORT-EXPORT ENTERPRISES IN HANOI**

### **2.1. OVERVIEW OF IMPORT-EXPORT ENTERPRISES IN HANOI**

#### **2.1.1.Overview of commodity import-export activities in Hanoi**

#### **2.1.2 Characteristics of commodity import-export activities and information requirements of managers at import-export enterprises in Hanoi**

##### ***2.1.2.1 Characteristics of commodity import-export activities***

- Characteristics of foreign nature in import-export activities
- Characteristics of commodity and circulation of commodity in import-export

- Characteristics of payment in import-export activities

### *2.1.2.2 Information requirements of managers in import-export enterprises in Hanoi*

### **2.1.3. Organization of the management apparatus in import-export enterprises in Hanoi**

## **2.2. THE CURRENT SITUATION OF THE MANAGEMENT ACCOUNTING INFORMATION SYSTEM AT IMPORT-EXPORT ENTERPRISES IN HANOI**

### **2.2.1. The current situation of the process of collecting, processing and providing management accounting information**

#### *2.2.1.1. The current situation of collecting management accounting information*

#### *2.2.1.2. The current situation of processing management accounting information*

#### *2.2.1.3. The current situation of providing management accounting information*

#### *2.2.1.4. The current situation of archiving management accounting information*

#### *2.2.1.5. The current situation of controlling management accounting information*

### **2.2.2. The current situation of the management accounting apparatus**

### **2.2.3. The current situation of supporting facilities**

## **2.3. ANALYSIS AND ASSESSMENT OF FACTORS AFFECTING THE EFFICIENCY OF THE MANAGEMENT ACCOUNTING INFORMATION SYSTEM IN IMPORT-EXPORT ENTERPRISES IN HANOI**

The official questionnaire used in the quantitative study consists of two parts

Part 1: General information about enterprises and survey subjects

Part 2: Contents of statements about factors affecting the efficiency of the management accounting information system in enterprises

After removing the ineligible feedback, the author proceeded to process information via excel and then used the SPSS 20 software to perform analysis steps and get the results for the thesis.

$$\text{HQHT} = 0,294 * \text{NVKT} + 0,236 * \text{CNTT} + 0,199 * \text{CGBN} + 0,281 * \text{NQT}$$

#### **2.4. ASSESSMENT OF CURRENT SITUATION OF MANAGEMENT ACCOUNTING INFORMATION SYSTEM AT IMPORT-EXPORT ENTERPRISES IN HANOI**

The achieved results and limitations are shown as follows:

##### **2.4.1 Some achieved results**

*Firstly*, regarding collection of input information for the MA information system: The system collects implementation information from reliable internal and external sources (but mainly from internal sources) through vouchers, books and other materials sent from other units to create a database of high accuracy.

*Secondly*, regarding the processing of MA information: Enterprises develop specific and clear business plans for the contents of revenue and expenses as the basis for carrying out smooth import and export activities and achieving goals.

*Thirdly*, regarding supporting facilities: Basically, enterprises invested in purchasing modern equipment and facilities such as

computer systems, network systems (Wife, LANs ...) to serve the activities of the accounting unit.

*Fourthly*, regarding the management accounting apparatus: The surveyed enterprises all use the combination model between MA and FA. This general model creates conditions for enterprises to apply the cost-saving principle, especially for import-export enterprises in Hanoi which are mainly of small and medium size with little capital.

## **2.4.2 Limitations**

### ***2.4.2.1. The process of collecting, processing and providing management accounting information***

#### *2.4.2.1.1. Collecting management accounting information*

(1) According to the survey, the current management accounting information system does not really focus on collecting future information but mainly uses information collected from internal sources of enterprises. Although the sources of implementation information have the advantage of bring highly accurate, they are not very useful in providing orientation for future activities. The current process of collecting input information at enterprises shows a number of limitations because it only pays attention to internal sources without paying attention to external sources ; import-export business activities requires external sources of information to help managers evaluate business operations thoroughly and accurately.

(2) About encoding management objects: a number of enterprises have not yet agreed to choose a unified encryption method for each management object. This leads to confusion among contents after being encoded and duplication (the same object is managed with different codes or many objects are managed by same code). At the same time, the current encoding method is mainly done to meet FA

activities but is not encoded to match the content of MA. Some management goals require more detailed encoding; for example: the management of import-export commodity requires detailed information on quality, quantity of goods, origin ... as the basis for negotiation.

(3) Methods of collecting information: Methods of collecting data are not diversified.

#### *2.4.2.1.2. Processing management accounting information*

##### *Firstly: Processing information for planning*

Many import-export enterprises in Hanoi city currently do not focus on planning in a specific and systematic manner. The process of developing these plans still has many shortcomings, leading to slow planning progress.

*Secondly: Information processing for the function of implementation organization*

Currently, cost classification at enterprises just stops at dividing costs into product costs and period costs to ensure they meet the requirements in preparing and providing information of financial statements. Enterprises have yet classified cost by activity level or other classification methods

*Thirdly: Information processing for control and decision-making functions*

Due to the limitation on the use of analytical methods, the amount of information provided for audit control has not met the needs of administrators. MA staff mainly uses the comparison method without combining with other methods to evaluate actual results with set estimates and plans.

When evaluating the current situations of information processing methods, the author found that the applied methods were still lacking so they have not provided a comprehensive pictures from many angles for managers to recognize the issues and make decisions.

#### *2.4.2.1.3. Providing management accounting information*

The indicators on the performance report almost coincided with the indicators tracked in the FA book. Even though they are convenient for management activities, they have not provided adequate information for managers. Enterprises have not paid attention to the MA reporting system; very few of them build a complete MA reporting system.

#### *2.4.2.1.4. Archiving management accounting information*

Many import-export enterprises in Hanoi city have not had specific regulations on arranging and archiving documents. The majority of enterprises in the survey did not regularly check the archived data, so sometimes data loss occurred.

#### *2.4.2.1.5. Controlling management accounting information*

According to the survey, at some enterprises, data security is not considered important, so data loss, fraud and errors still occur in information processing. There are still cases where information recorded on vouchers is incorrect or incomplete, affecting the report. The importance of the process of archiving information is not recognized by most import-export enterprises, especially the confidentiality of information.

### ***2.4.2.2. The management accounting apparatus***

According to survey data, only 23.5% enterprises said that their foreign language levels were good, 32.4% said their foreign language level were average. The remaining 44.1% thought that the accounting

staff had poor foreign language skills; therefore so they needed the support of the managers or chief accountant to read documents when there are in other languages.

#### **2.4.2.3. Supporting facilities**

Enterprises has barely taken advantage of the benefits from the Industry 4.0 while this revolution has been changing the accounting activities of enterprises. ERP, blockchain and cloud computing applications are quite unfamiliar to enterprises, especially small and micro enterprises.

#### **2.4.3 The cause of limitations**

*Firstly:* Due to the limited capability of managers

*Secondly:* Due to the limited capability of the accounting staff, they have not been unable to adapt to the changes in job requirements or aware of their role in helping the managers in making economic decisions.

*Thirdly:* Universities have now introduced the subjects of MA and MA information system; however, they only provide theoretical knowledge basis that is not linked to reality in enterprises.

*Fourthly:* The legal system for the organization of the MA information system in enterprises has not been completed.

## **CHAPTER 3: SOLUTIONS TO IMPROVE THE MANAGEMENT ACCOUNTING INFORMATION**

### **SYSTEMAT IMPORT-EXPOR ENTERPRISES IN HANOI**

#### **3.1. DEVELOPMENT ORIENTATION OF IMPORT-EXPORT ACTIVITIES IN HANOI**

For export activities, the People's Committee of Hanoi issued Decision No. 2913 / QD-UBND on approving the project “*Promoting*

*Ha Noi's export in the integration period by 2020 with an orientation to 2025".*

Decision No. 2471/QD-TTg of December 28, 2011, For import activities, according to the general trend of the country, Hanoi in particular and other regions in general implement with the Prime Minister's Decision No. 2471 / QD-TTg approving the goods import and export strategy for the 2011-2020 period, with orientations toward 2030.

### **3.2. REQUIREMENTS AND PRINCIPLES FOR IMPROVING THE MANAGEMENT ACCOUNTING INFORMATION SYSTEM AT IMPORT-EXPORT ENTERPRISES IN HANOI**

#### **3.2.1. Requirements for improving the management accounting information system at import-export enterprises in Hanoi**

*Firstly:* The improvement of the MA information system must serve the management requirements of import-export enterprises.

*Secondly:* The improvement of the MA information system must ensure cost saving, efficiency and feasibility.

*Thirdly:* The improvement of the MA information system must ensure the goal of information technology application.

#### **3.2.2. Principles for improving the management accounting information system at import-export enterprises in Hanoi**

*Firstly:* The improvement of the MA information system must be based on scientific grounds.

*Secondly:* The improvement of the MA information system must be based on the matching principle.

*Thirdly:* The improvement of the MA information system must be feasible.

*Fourthly:*The improvement of the MA information system must be flexible.

*Fifthly:* The improvement of the MA information system must be cost-saving and effective.

### **3.3. SOLUTIONS TO IMPROVING THE MANAGEMENT ACCOUNTING INFORMATION SYSTEM AT IMPORT-EXPORT ENTERPRISES IN HANOI**

#### **3.3.1. Improving the process of collecting, processing and providing management accounting information**

##### ***3.3.1.1. Improving the collection of management accounting information***

*Firstly:* the management accounting information system at import-export enterprises should collect data from external sources on a regular basis and create a database over many different times, ready when needed.

*Secondly:* It is necessary to combine different collection methods.

*Thirdly:* Enterprises should design their own voucher system of their enterprises to ensure information for MA' processing in the direction of combining FA and MA.

##### ***3.3.1.2. Improving the processing of management accounting information***

*Firstly:* Improve information processing for business planning

*Secondly:* Improving information processing to serve the function of implementation organization

*Thirdly:* Improving information processing to serve the control function

*Fourthly:* Improving information processing for decision-making functions

### ***3.3.1.3. Improving the provision of management accounting information***

*Firstly:* The content of the management accounting report must fully reflect the information according to management requirements in planning, supervising, controlling and making economic decisions. Reports should be developed in the direction of providing information according to the functions of planning, organization, operation, control assessment, and decision-making.

*Secondly:* Accountants should design by themselves using excel tools in combination with functions such as Sumprodvel function, combining many "if" functions, Index / Match functions, Sumifs function, array formula, Vlookup function, Hlookup function ... and advanced excel features such as developer, charts, pivot tables....

### ***3.3.1.4. Improving the archiving of management accounting information***

*Firstly:* Develop regulations on method and time of archiving

*Secondly:* Develop regulations about the archiving unit

### ***3.3.1.5. Improving the control of management accounting information***

The MA information control process needs to focus on and have clear regulations for all 4 stages: controlling input sources, the process of information processing, the provision of output information and the archiving of MA information

## **3.3.2. Improving the management accounting apparatus**

*Firstly:* Enterprises need to raise awareness for each accountant to be proactive and active in order to improve professional skills and professional ethics according to Vietnamese and international standards.

*Secondly:* In addition to professional skills, each accountant in general and management accountants in particular need to foster their skills in using accounting software, analysis software, administration ... to improve their necessary knowledge in information security, artificial intelligence, cloud computing ... to ensure the job skills needed in Industry 4.0.

*Thirdly:* Enterprises need to build a set of specific criteria to evaluate the performance of employees.

### **3.3.3. Improvin supporting facilities**

*Firstly:* For enterprises that do not have enough conditions to buy separate software (mainly small and micro enterprises) for MA work or implementing the ERP model, they may still use semi-manual form. for MA work but should improve knowledge of the tools available in the computer.

*Secondly:* For enterprises that have the ability to invest in IT but currently they do not use the ERP system, they should lean on changing and improving the application of IT in automating activities.

*Thirdly:* For enterprises that use the ERP system for business activities and also have strong financial potential like groups and corporations, it is necessary to create a database containing a large amount of information with high security so enterprises need to study models such as blockchain and cloud computing model.

## **3.4. CONDITIONS FOR IMPLEMENTING SOLUTIONS**

### **3.4.1. From the government**

### **3.4.2. From Hanoi**

### **3.3.3. From enterprises and training institutions**

## **LIST OF THE AUTHOR'S PUBLISHED WORKS RELATED TO THE THESIS TOPIC**

1. Nguyen Thi Hong Duyen (2018), Application of information technology in management accounting at import-export enterprises in Hanoi, *Socio - economic Information and Forecast Review (ISSN 0866 – 7120), Issue 146*
2. Nguyen Thi Hong Duyen, Pham Anh Tuan (2020), Application of the ERP model – solutions to improve the management accounting information system at enterprises, *National scientific conference, University Of Finance And Business Administration (ISBN: 978-604-79-1828-7)*
3. Nguyen Thi Hong Duyen (2020), The management accounting information systemat some countries and experience lessons for Vietnam, *Review of Finance (ISSN 2615 – 8973), issue 729*