

INTRODUCTION

1. The urgency of the research topic

Cost accounting in manufacturing enterprises in Vietnam today only focuses mainly on financial accounting information for the preparation of financial statements. Providing cost accounting information for making decisions or setting up business and production plans is still a problem that has not been paid attention and invested properly. Therefore, the study of the impact of random factors on the application of cost management accounting in manufacturing enterprises to have appropriate solutions to help the cost management accounting system in manufacturing enterprises improved becomes an urgent requirement and task in the current period. Stemming from that theory and practice, the author chose to study the topic "Improving cost management accounting in Vietnamese paper manufacturing enterprises" to meet the information needs of managers in The increasingly tough competition environment as well as enhancing the adaptability of enterprises to the impact of the Industrial Revolution 4.0 are taking place extensively on a global scale.

2. Objectives, objects and scope of researches

The research objective of the thesis is to research and find solutions to improve cost management accounting in Vietnamese paper manufacturing enterprises to meet the information needs for managers in an increasingly tough competition environment as well as enhancing the adaptability of businesses to the impact of Industrial Revolution 4.0 taking place on a global scale.

The subject of research is cost management accounting in the theoretical, practical aspects and factors affecting the level of cost management accounting application in Vietnamese paper manufacturing enterprises.

Research scope

About content:

- The thesis only focuses on studying cost management accounting towards costs of production and business of paper products without mentioning financial costs and other related expenses (Because of the very wide scope).

- The thesis only researches cost management accounting towards costs of production and business of enterprises that have the function of producing all kinds of finished paper and focuses on studying cost management accounting towards costs of production and business of the process of producing finished paper from the stage of putting the pulp into the production line until producing of all kinds of finished paper at Vietnamese paper factories.

About space:

- The thesis focuses on studying Vietnamese paper manufacturing enterprises, not studying foreign-invested paper enterprises. The dissertation only studies Vietnamese paper manufacturing enterprises with a capacity of 10,000 tons / year or more, this comes from the Vietnam Paper Industry Development Plan up to 2025 with the main viewpoint is to develop the paper manufacturing industry in a modern and sustainable way associated with environmental protection tasks. Accordingly, no licensing and gradual removal of outdated paper factories causing existing environmental pollution with a scale of less than 10,000 tons / year.

About time:

The author surveyed, studied the data on cost management accounting at Vietnamese paper manufacturing enterprises in the period of 2015-2018.

3. Research methods and some fundamental theories for the thesis's research

3.1. Research Methods

On the basis of the methodology of dialectical materialism, historical materialism, the thesis has been used in combination with basic methods of economic science such as methods of comparison, statistics, division, sampling, analysis, interpretation, inductive ... to study theoretical and practical issues; belonging with flexible use of qualitative research methods combined with quantitative research methods.

3.2. Some theoretical foundations for the study of the thesis

In previous studies, many theories have been used by authors to study the factors affecting the application of management accounting and cost management accounting in enterprises, such as Contingency theory, Diffusion of innovations,

Decision usefulness theory, the theory of stakeholders, theory of representatives ... According to the objectives and object of the study, the author chooses to use three theories considered as the theoretical framework for the study of the thesis, those are Contingency theory, Diffusion of innovations and Decision usefulness theory.

4. Contributions of the thesis

About theoretical aspect:

The thesis has systematized and analyzed basic theoretical issues of cost management accounting in manufacturing enterprises.

In practice:

The thesis has examined the demand for cost management accounting information of managers, the reality of cost management accounting contents in Vietnamese paper manufacturing enterprises,, the status of applying technical facilities to process and provide cost management accounting information in paper manufacturing enterprises. Thereby, an objective assessment of the advantages as well as the limited aspects of cost management accounting was given as a basis for the orientation of solutions to improve cost management accounting in Vietnamese paper manufacturing enterprises.

By qualitative research methods combined with quantitative research methods, the thesis has analyzed and evaluated the factors affecting the level of cost management accounting in Vietnamese paper manufacturing enterprises; At the same time, set out the basic principles and requirements to improve cost management accounting in Vietnamese paper manufacturing enterprises as a basis for orienting solutions to improve and propose conditions to implement cost management accounting in Vietnamese paper processing enterprises.

The thesis has proposed solutions and conditions to implement solutions to improve cost management accounting in Vietnamese manufacturing enterprises, in accordance with the operational characteristics of enterprises and meet the needs of cost management accounting information of administrators in the context of the Industrial Revolution 4.0.

5. Structure of the thesis

In addition to the introduction, conclusion, list of abbreviations, lists of tables, diagrams, lists of references and appendices, the thesis is structured in 3 chapters:

Chapter 1: Basic theory of cost management accounting in manufacturing enterprises.

Chapter 2: Current situation of cost management accounting in Vietnamese paper manufacturing enterprises.

Chapter 3: Solutions to improve cost management accounting in Vietnamese paper manufacturing enterprises.

CHAPTER 1. BASIC THEORY OF COST MANAGEMENT ACCOUNTING IN MANUFACTURING ENTERPRISES

1.1. The nature and role of cost management accounting in manufacturing enterprises

1.1.1. Nature of cost management accounting in manufacturing enterprises

Cost management accounting is the cost accounting department in cost management accounting system of enterprises, collecting, processing, measuring, analyzing and providing cost information to serve the implementation of administrator functions such as planning, implementation organization, assessment and decision making.

1.1.2. The role of cost management accounting in manufacturing enterprises

Cost management accounting plays an important role in corporate governance and administration, expressed in the following basic points:

- Cost management accounting is not only the main source to provide necessary information for managers to make business decisions at all stages of planning, estimation, implementation organization, inspection and evaluation but also a tool to help managers monitor and supervise the operation of economic and financial operations and business of enterprises.

- Cost management accounting will advise managers in the process of processing, analyzing information, selecting the most suitable business plan and decision making. In addition, it also collects and analyzes information for planning, production prediction and predicting business results, ...

1.2. Content of cost management accounting in manufacturing enterprises

With purpose of the information to be provided to the administrator in a systematic, clear and logical manner, the cost management accounting content should be established according to the process of recording, processing and providing cost management accounting information. According to this view, the author determines cost management accounting content in manufacturing enterprises including: (1) Cost identification, (2) Setting norms and cost estimation, (3) Method of determining costs , (4) Cost analysis and (5) Cost accounting report.

1.3. Technical facilities for processing and providing cost management accounting information in manufacturing enterprises

Cost management accounting information of enterprises can be formed by manual technology or information technology software in the field of corporate governance in general and financial and accounting in particular. However, in the context of the Industrial Revolution 4.0. is strongly affecting all areas of economic, cultural and social life, the application of IT technology is necessary because it affects the time, quality and efficiency of information provided by cost management accounting. Software to process and provide cost management accounting information at enterprises can be (1) traditional single accounting software; (2) Integrated accounting software in enterprise resource planning software (ERP) system; (3) Method of processing and providing cost management accounting information in the context of Industrial Revolution 4.0 (Application of artificial intelligence, Big Data Technology, Blockchain, Cloud Computing Application).

1.4. Factors affecting the application of cost management accounting in manufacturing enterprises

Through an overview of the research works on factors affecting the management accounting and cost management accounting application in enterprises, it is possible to withdraw some basic factors that have been discovered and tested by former researchers, including: Size of enterprises, characteristics of management and organizational structure, level of information technology, managers' views on management accounting, qualifications of managers and qualifications accountant.

1.5. Experience in cost management accounting in some countries around the world and lessons for Vietnamese businesses

The market economy appears in developed countries for a long time, leading to strong development both in scope and operation scale of enterprises, so that management accounting in general or cost management accounting in particular in France, America, Japan, Australia, ... which have a long history researches in both theory and practice. Based on the above-mentioned experience of cost management accounting in some countries in the world, some lessons can be applied from these countries in the following aspects: (1) About cost identification, (2) About construction norms and cost estimation, (3) Regarding the method of cost determination, (4) Regarding cost analysis and (5) Cost management accounting report.

CONCLUSION OF CHAPTER 1

In chapter 1 of the thesis, the author presents the theoretical basis of cost management accounting in manufacturing enterprises on the following issues:

- Clarify the concept, nature and role of cost management accounting in manufacturing enterprises;
- Systematize and analyze the content of cost management accounting in manufacturing enterprises in 5 aspects: Identify costs; build norms and cost estimates; method of determining costs; cost analysis and cost management accounting report;
- Systematizing technical facilities to process and provide cost management accounting in manufacturing enterprises;

- Study the factors affecting the application of cost management accounting in manufacturing enterprises;
- Studying experience of cost management accounting in manufacturing enterprises in some countries in the world, thereby withdrawing lessons for Vietnamese enterprises.

The contents of the study in chapter 1 are premise in theory so that the author can conduct research and assess the current status of cost management accounting in Vietnamese paper manufacturing enterprises (chapter 2), thereby giving a complete solution to improve in chapter 3.

CHAPTER 2. CURRENT SITUATION OF COST MANAGEMENT ACCOUNTING IN VIETNAMESE PAPER MANUFACTURING ENTERPRISES

2.1. Overview of Vietnamese paper manufacturing enterprises

2.1.1. The process of formation and development of Vietnamese paper manufacturing industry

Paper production is one of the jobs that were formed very early in Vietnam, around the year 284. From this period to the beginning of the 20th century, paper was made by manual methods to serve the recording and making folk paintings, votives, ... Throughout the history of the nation, Vietnamese paper production has been constantly developing to serve the needs of production and domestic consumption.

On November 18th, 2014, the Minister of Industry and Trade signed Decision No. 10508 / QĐ-BCT approving the "Planning for development of Vietnamese paper industry to 2020, taking into account 2025" with the viewpoint of developing paper production industry towards sustainability associated with environmental protection tasks; apply advanced technology to improve product quality, reduce materials consumption, energy, improve competitiveness of businesses and products, focus on building a number of national brands with paper products and pulp to compete effectively in the process of economic integration;

mobilize all resources from all economic sectors in any form to boost production to meet the increasing and diverse needs of society.

2.1.2. Characteristics of Vietnamese paper manufacturing industry

Characteristics of the Vietnamese paper manufacturing industry is that there are many paper manufacturing enterprises but most of them have small scale capacity (less than 10,000 tons / year). Enterprises with a capacity of less than 10,000 tons / year account for a large number but the total capacity only accounts for 16.3% of the whole industry. Enterprises with this capacity range mostly belong to packaging paper and votive paper products. Enterprises with a capacity of 10,000 tons / year or more account for a small amount but the total capacity accounts for 83.7% of the whole industry. Enterprises with large capacity not only bring benefits in socio-economic development but also ensure environmental benefits.

2.1.3. Management organization characteristics in Vietnamese paper manufacturing enterprises

Through the survey results on the organizational structure of management in paper processing enterprises, it is shown that enterprises are organized under the form of a joint stock company or a limited liability company in the form of online - function.

2.1.4. Technological process and production organization characteristics affect cost management accounting in Vietnamese paper manufacturing enterprises

Depending on the characteristics and scale of operations, the production of finished paper at enterprises can be carried out according to one of the following technological processes: The process of producing finished paper products is closed with many stages from the stage of growing material tree areas (wood, bamboo ...); the process of producing finished paper from the stage of using used paper; the process of producing finished paper only performs one stage of production from pulp - the main raw material that is purchased outside and put into the production line to produce finished paper. Regardless of which production process the company applies, the production of finished paper is through the

process of putting pulp - the main raw material into the production line until creating the finished paper of all kinds because this is the obligatory general process of paper production technology.

The main production technology process of finished paper is a complex process, continuous processing is done on a closed chain, conducted through 3 stages: The pulp cleaning stage, the stage of making paper and the completion stage.

2.1.5. Characteristics of accounting organization in Vietnamese paper manufacturing enterprises

Through synthesizing survey results in manufacturing enterprises, it is found that 98% of enterprises organize accounting in concentrated form and 2% of enterprises in the form of half-centralized and half-dispersed.

Survey results show that 100% of enterprises have not organized cost management accounting division separately, accountants still concurrently hold both financial and management accounting, 100% of enterprises responded to survey forms organise cost management accounting division in the enterprises' accounting apparatus.

2.2. Current status of cost management accounting in Vietnamese paper manufacturing enterprises

2.2.1. Current situation of demand for cost management accounting information of Vietnamese paper production managers

Through the results of summarizing the demand for cost management accounting information of managers in Vietnamese paper manufacturing enterprises, the demand for cost management accounting information of managers is relatively high, in which the highest demand is set in cost analysis information, followed by information from cost management accounting reports. However, the administrator's need for some cost management accounting information is limited, the lowest is information in terms of cost recognition.

2.2.2. Status of cost identification

According to the research results in Vietnamese paper processing enterprises, at present 100% of paper manufacturing companies, regardless of capacity scale,

identify the production and business costs according to the following criteria: According to the nature and initial economic content of cost (according to cost factor) and by function of operation.

In addition to the above two ways of identifying costs, Vietnamese paper manufacturers have not yet implemented cost recognition according to other criteria. Ways of identifying costs to serve information needs for corporate governance such as cost identification according to the behavior of costs, according to the ability of the administrator to control or identify the cost to serve to make business plan choosing decisions has not been interested in paper businesses.

2.2.3. Current situation of norm construction and cost estimation

2.2.3.1. About building cost norms

The survey results in paper processing enterprises show that 100% of enterprises with medium capacity and large capacity have set cost norms for all business production cost items.

At enterprises with small capacity, although the general results of surveys show that 100% these enterprises have set cost norms, however, the construction of cost norms in these enterprises has not been completed.

2.2.3.2. About cost estimation

According to the survey results, at present 100% of paper enterprises with medium capacity and large capacity have estimated cost for all business production cost items.

In paper manufacturing enterprises with small capacity, survey results show that 100% of these enterprises have not actively planned production. Besides, these enterprises have not yet set norms for basic expense items, so the estimation of production and business costs has not yet been implemented.

2.2.4. Status of cost determining methods

The survey results show that 100% of surveyed paper processing enterprises, regardless of capacity scale, applies cost determining which is the actual cost method and production cost accounting to calculate the cost of products according to production process. Object of collecting production cost is the production place

(100%). Subjects calculating product prices are each type of product of each place of production (100%).

In terms of modern cost-determination methods, 100% of surveyed enterprises have not applied modern cost-determination methods such as Activity Based Costing, Target costing, Kaizen costing or other modern methods.

2.2.5. Status of cost analysis

2.2.5.1. About cost analysis to control costs

Through surveys in enterprises, 76% of enterprises responded that they conducted analysis of cost fluctuations, of which monthly analysis (7% of enterprises), and every 6 months (17% of enterprises) and most businesses periodically every year (52% of businesses). 24% of enterprises do not perform cost change analysis.

2.2.5.2. About cost analysis to make business decisions

Survey results in paper enterprises show that 100% of enterprises responded that information provided by accountants have served the need to make cost control decisions, 100% of enterprises said that they have used information about costs for the need to make decision to accept or reject an order or choose an order to produce in the context of limited production resources.

2.2.6. Current situation of cost management accounting reports

The system of cost management accounting reports at paper manufacturing enterprises has basically met the requirements of assessing the level of completion of the plan without much meaning in meeting the information needs for the direction and administration of administrators.

2.3. Current situation of application of technical facilities to process and provide cost management accounting information in Vietnamese paper manufacturing enterprises

Survey results on the application of technical facilities to process and provide information on cost management accounting at Vietnamese paper processing enterprises show that 69% of enterprises have applied accounting software, including 50% of enterprises only apply single accounting software and 19% of enterprises have applied integrated accounting software in enterprise

resource planning system (ERP); no enterprise has applied the achievements of the Industrial Revolution 4.0 in handling and providing cost management accounting information; the proportion of enterprises that have not yet applied accounting software is 31%.

2.4. Factors affecting the level of application of cost management accounting in Vietnamese paper manufacturing enterprises

To serve the study of factors affecting the level of cost management accounting application in Vietnamese paper manufacturing enterprises, the author used a combination of qualitative research methods and quantitative research methods.

SPSS 20.0 software is used by the author to test the factors as well as the value and reliability of the scales of factors affecting the level of cost management accounting application in Vietnamese paper manufacturing enterprises, the model fit of the proposed research model.

Based on the standardized regression coefficients, the order of influence of the factors arranged in descending direction is as follows: The most influential factor is "Level of accountant staff"; second is the factor "Characteristics of organizational structure"; third is the factor "Administrator's level"; The fourth is the factor "Administrator's view on management accounting" and the lowest is the "IT equipment level".

2.5. Discussion on research results

2.5.1. Discuss the results of research on the status of cost management accounting and application of technical facilities to process and provide cost management accounting information in Vietnamese paper manufacturing enterprises

2.5.1.1. Advantages

❖ About the need of cost management accounting information of managers

Administrators pay close attention to the basic contents of cost management accounting such as cost identification, construction of norms and cost estimation, cost determination methods, cost analysis and cost management accounting reports.

Thus, the demand for cost management accounting information of managers is initially oriented to serve the corporate governance functions.

❖ *About identification of costs*

Comparing with the information needs of the managers in terms of cost recognition, the need for information on cost - based on element and operational functions identification has the largest average value, reaching 3.8 shows that the identification of costs in Vietnamese paper manufacturing enterprises has met relatively well the needs of the administrator.

❖ *Construction of norms and cost estimates*

According to survey results, the group of medium and large capacity enterprises, the construction of cost norms is implemented for all business production cost items. Each cost item has a norm for each cost factor. The method of setting cost norms applied in paper enterprises is quite simple, understandable and consistent between years.

The estimation of business production costs in general and the estimation of production and business costs in particular have been quite methodical and detailed by paper enterprises with medium and large capacity. The construction of norms and cost estimation in a number of paper enterprises have met quite well the needs of business managers in their management.

❖ *About the method of determining costs*

Paper enterprises have used a number of traditional costing methods to implement production costs accounting detailed to each object of cost collection, which is the part where the costs incurred and each type of product arise in each department. This is the basis to provide detailed and complete information for the calculation of the cost of each type of product, as well as an information source for cost analysis to control costs, thereby finding timely adjustment measures to save costs, lower product costs for businesses.

❖ *About cost analysis*

Contrary to the assessment of information needs of managers in the aspect of cost analysis, the content of cost analysis to control costs has a very high average

value, reaching 3.9 indicating that cost analysis in paper processing enterprises has initially met the needs of managers.

❖ *About cost management accounting reports*

The research results of the current status of cost management accounting information in Vietnamese paper manufacturing enterprises showed that a part of enterprises was interested in making some types of reports to meet the needs of planning, controlling and evaluating the business activities of enterprises. Thereby contributing to improve the quality of planning work as well as cost control effectiveness during operation.

❖ *About applying technical facilities to process and provide information on cost management accounting*

Survey results on the application of technical facilities to process and provide information on cost management accounting in Vietnamese paper manufacturing enterprises show that most enterprises have applied accounting software, including those applying only single accounting software and some businesses have applied integrated accounting software in enterprise resource planning system (ERP). These help the information to be updated quickly and promptly, minimizing errors, helping to optimize the processing results.

2.5.1.2. *Limitations and reasons*

❖ *About identification of costs*

In addition to the need to identify costs by factors and according to the operational functions, the paper enterprises administrators also expect the cost information to be classified into variable costs and fixed costs to serve the management. However, in fact, paper enterprises have not yet conducted the expense recognition according to this standard. The recognition of costs according to the control ability of the administrator or the identification of expenses for making decisions on selection of business plans has not yet been taken care of by enterprises.

❖ *Construction of norms and cost estimates*

In a section of paper enterprises, although the construction of norms and estimation of production and business costs have been done in detail by items and

by cost factors, but not yet scientific; norms and cost estimates information constructed for cost items are not consistent with the way of identifying costs.

At small capacity paper enterprises, they have not actively planned production. Besides, these enterprises have not yet set norms for basic expense items and the estimation of production and business costs has not yet been implemented.

❖ *About the method of determining costs*

Paper businesses are applying the actual cost method in determining production expense. This is a simple, easy-to-implement cost determination method. However, the determination of cost of goods sold and the value of inventory must wait until the end of the period due to the distribution of the general actual costs related to a variety of products. These affect the timeliness of information for administrator decision making. Thus, it can be seen that the level of meeting the information needs of administrators in the manufacturing enterprises in terms of methods of determining costs is still limited.

❖ *About cost analysis*

Survey results show that enterprises have determined the difference between the actual cost and the cost norms and cost estimates for material and tool cost factors, the determination of the difference has not been done in a normal way. For other cost factors, paper firms have not conducted cost analysis. On the other hand, most enterprises have not conducted analysis of cost information by technical analysis of cost management accounting to serve business decisions as well as analysis of cost - volume - profit relationships to assess the impact of changes in cost, selling price and output on the profit of the business.

❖ *About cost management accounting reports*

In general, the system of cost management accounting reports in Vietnamese enterprises has not met the demand for information of managers. Enterprises still mainly focus on the cost reports system at the production stage. Therefore, the demand for information for cost control and business decision making have not been fully met.

❖ *About applying technical facilities to process and provide information on cost management accounting*

Paper manufacturing enterprises have applied accounting software, including integrated accounting software in the ERP system, mainly using software for financial accounting purposes. Most of cost management accounting information at the request of managers are handled manually by Excel. In addition to enterprises that have applied accounting software, there is also a section of paper businesses that has not yet applied accounting software in processing and providing cost management accounting information.

2.5.2. Discuss the research results on factors affecting the level of cost management accounting application in Vietnamese paper manufacturing enterprises

The results of testing the model to study the factors affecting the level of cost management accounting application in Vietnamese paper manufacturing enterprises show that the qualifications of accountants, characteristics of management and organizational structure, qualifications of the administrator, the manager's point of view on the management accounting and the level of information technology impact the same way to cost management accounting application in Vietnamese paper manufacturing enterprises. Research results of the model once again test the hypotheses that scientists have previously proposed in other units and scope. The results are completely consistent with the actual conditions in Vietnamese paper manufacturing enterprises under the research scope of the thesis. The results from this research model are one of the basis for the author to propose some solutions and recommendations to contribute to improving cost management accounting in Vietnamese paper manufacturing enterprises to better meet the information needs of administrators in executing corporate governance functions.

CONCLUSION OF CHAPTER 2

Based on the information and documents collected through the process of surveying and interviewing accountants and administrators in Vietnamese paper

manufacturing enterprises, the thesis has evaluated the need for cost management accounting information of senior administrators; synthesizing and analyzing the actual situation of cost management accounting contents being implemented in paper processing enterprises; the reality of applying technical facilities to process and provide information on cost management accounting in paper processing enterprises. Thereby, an objective assessment of the advantages as well as the limitations in cost management accounting and the application of technical facilities to process and provide cost management accounting information, as a basis for the orienting to complete and propose solutions to improve cost management accounting in Vietnamese paper manufacturing enterprises. Besides, by qualitative research methods combined with quantitative research methods, the thesis has pointed out the factors affecting the level of cost management accounting application in Vietnamese paper manufacturing enterprises, as a basis for propose solutions and conditions to implement solutions to improve cost management accounting in Vietnamese paper manufacturing enterprises, in accordance with the operation characteristics of enterprises and meet the needs of cost management accounting information of managers in an increasingly tough competition environment.

CHAPTER 3. SOLUTIONS TO IMPROVE COST MANAGEMENT ACCOUNTING IN VIETNAMESE PAPER MANUFACTURING ENTERPRISES

3.1. Development orientation of Vietnamese paper manufacturing industry

Currently, the paper manufacturing industry is one of the key sectors of the country. Along with the continuous development of the national economy, Vietnamese paper manufacturing industry increasingly affirms its important strategic role, meeting essential needs of society, contributing positively to develop the national economy, raise the cultural level and intellectual standards, create jobs and stable incomes for laborers, create a big source of revenue for the budget, contribute to hunger elimination and poverty alleviation for ethnic groups in

remote areas of the country. Building and operating a suitable cost management accounting system will help provide timely, reliable and real-time information to managers, contributing to improve the governance effect and strengthen competitiveness for Vietnamese paper manufacturing enterprises.

3.2. Principles and requirements for improving cost management accounting in Vietnamese paper manufacturing enterprises in the context of Industrial Revolution 4.0

3.2.1. Principles of improvement

- Compliance principle: With purpose of information collected, processed and provided internally ensured reliability in order to meet the needs of all levels of administrators in making good decisions, cost management accounting must comply policies and regulations of the law on economics, finance and business in general for enterprises and regulations related to the exploitation of natural resources and environmental protection in particular for Vietnamese paper processing enterprises.

- Principle of inheritance: Improving cost management accounting in Vietnamese paper manufacturing enterprises is not completely new construction but needs to analyze, select and inherit experience from former models and researches in the country as well as developed countries which have successfully applied cost management accounting.

- Principles of conformity: Must be derived from the situation of the enterprise, in accordance with the level of management organization, conditions of facilities, production and business characteristics, staff capacity to improve management efficiency in whole business.

- Principles of innovation and adaptation: According to experts, accounting is one of the leading areas of information technology application will be affected and greatly impacted from the Industrial Revolution 4.0. If businesses do not have the knowledge, ability to explore and innovate quickly, it will be very difficult to grasp and adapt the requirements of finance and accounting digital.

- Principle of thrift and efficiency: The construction of cost management accounting system at enterprises needs to be based on an assessment of the benefits and costs to build a suitable system for the firm.

3.2.2. Improvement request

In order for the cost management accounting improvement in Vietnamese paper manufacturing enterprises to be effective, the following requirements must be ensured:

- The cost management accounting improvement must take into account the factors of orientation and prospect development of the industry in general and enterprises in particular, in accordance with the business characteristics and the status of cost management accounting of enterprises.

- The cost management accounting improvement must be conducted synchronously, ensuring sufficient, timely and reliable information for business managers in selecting the optimal production plans, contributing to bring high economic efficiency.

- The cost management accounting improvement must be placed in the conditions of information technology application, computer network to ensure the speed and efficiency of the process of data collection, input, processing and supplying information as well as compliance in line with the trend of world economic development.

- The cost management accounting improvement must meet the information needs of administrative levels in the enterprise.

3.3. Solutions to improve cost management accounting in Vietnamese paper manufacturing enterprises

3.3.1. Cost identification improvement

Paper businesses need to combine to conduct cost identification according to the cost of relationship with the level of activity (according to the behavior of costs) to meet the information requirements for corporate governance. Combined with the cost identification in relation to the level of activity, paper manufacturing enterprises need to implement cost identification according to the manager's ability to control the cost to divide the costs into control costs and uncontrolled costs.

3.3.2. Norms and cost estimates improvement

In order to help businesses overcome the above limitations, thereby better meeting the needs of information on norms and cost estimates in the coming time, the author proposes the formulation of norms and cost estimation should be made for each item according to the operational function of the cost and applied to all paper manufacturing enterprises regardless of the capacity scale.

3.3.3. Determining costs improvement

In order to contribute to enhance the cost control effectiveness and overcome limitations in the allocation of overhead costs at enterprises with medium and large capacity scale, the author proposes that enterprises can apply Activity Based Costing.

At enterprises with small capacity, stemming from the not highly specialized level of management organization and production organization; limited investment in management technology facilities and qualifications of accountants; financial potential and competitiveness are generally weak, so the method of determining costs should be improved in the direction of cost control in order to cut costs. In order to achieve this goal, the author proposes enterprises with small capacity should apply normal costing, gradually apply Kaizen costing.

3.3.4. Cost analysis improvement

3.3.4.1. Cost analysis improvement to control costs

❖ *Analysis of production costs*

Production costs analysis can be carried out in detail for each type of product, then for the whole enterprise depends on the level of detail in recording production costs of paper manufacturing enterprises.

❖ *Analysis of non-production costs*

When analyzing fluctuations in selling expenses and administration expenses, paper enterprises should focus on considering the cost factors that account for a large proportion of the cost structure or strong fluctuating factors between periods to deeply explore the cause, thereby determining appropriate adjustment solutions.

3.3.4.2. Cost analysis improvement to make business decisions

- ❖ *Cost - Volume - Profit analysis*
- ❖ *Cost information analysis to make short-term decisions*

3.3.5. Cost management accounting reports improvement

In order to contribute to fully meet the information needs for managers and ensure consistency for the reporting system to serve administrators to implement corporate governance functions, the author proposes solutions to cost management accounting reports improvement in paper processing enterprises according to three reporting systems: (1) Reports for planning functions; (2) The report serves the function of control, evaluation and (3) Reporting for decision making.

3.4. Solution on applying technical facilities to process and provide cost management accounting information in Vietnamese paper manufacturing enterprises

3.4.1. Solution for applying single accounting software

The single accounting software besides the advantages of processing speed and accuracy also have many other advantages such as low investment costs, ease of use, can take advantage of resources on existing equipment at business to save investment costs for the system. Therefore, the author believes that this is still a suitable solution on technical means of handling and providing cost management accounting information in paper manufacturing enterprises in the coming time, especially suitable for enterprises with small capacity scale.

3.4.2. Solution for applying integrated accounting software in enterprise resource planning system (ERP)

According to the author, paper enterprises have a medium and large capacity scale, even some small capacity scale enterprises with good financial potential should study investment in integrated accounting software including cost management accounting software to ensure appropriate and timely information for managers.

3.5. Conditions for implementing solutions in the context of the Industrial Revolution 4.0

3.5.1. On the side of state management agencies and professional associations

The State needs to have more specific directions and guidance, closer to the reality so that cost management accounting in enterprises are really applied in a full and effective way to control and manage costs and product prices. In addition, the State should consider establishing the Career Association on management accounting in Vietnam to strengthen the cooperation with international professional organizations on management accounting, establish management accounting development projects in Vietnam, forming products that are more specific and consistent with international practices for businesses appliance. On the other hand, the State should consider management accounting as a consulting service profession to organize training and examination for practicing certificates as an internal audit service in developed countries. Thereby, it is possible to provide information about management accounting to enterprises to gradually apply to the firm.

On the side of professional organizations such as Vietnam Chamber of Commerce and Industry, Vietnam Association of Accountants and Auditors and Vietnam Paper and Pulp Association need a close relationship on organizing courses about management capacity improvement toward leaders of paper manufacturing companies, including training subjects on management accounting in general and cost management accounting in particular so that managers command to apply to businesses.

3.5.2. On the side of training institutions

The Industrial Revolution 4.0 is creating strong impacts on the movement of the world economy, clearly changing human resources in all areas of business, including accounting. Since then requires training institutions in the field of accounting in Vietnam to have innovative solutions in both the content of the training program and teaching methods to equip learners with the knowledge of theory and practice, the necessary skills to be ready to become highly qualified workers, adapt to the requirements of businesses in the context of the ever-growing technology.

3.5.3. On the side of paper manufacturing enterprises

Firstly, it is necessary to renew the views of managers on accounting management required in the era of the Industrial Revolution 4.0.

Secondly, administrators need to focus on improving the understanding and level of all aspects required by the Industrial Revolution 4.0.

Thirdly, it is necessary to renew the management organization and the decentralization of management in the enterprise.

Fourthly, attention should be paid to investment in an information technology system suitable for the implementation of cost management accounting at enterprises.

Fifthly, it is necessary to improve professional qualifications and professional capacity of accounting staff.

3.6. Limitations of the thesis and future research directions

This study has certain limitations on the scope of research. Accordingly, the author concentrates on studying cost management accounting toward cost of producing and trading but has not studied financial costs and other related expenses such as development costs of raw material areas, environmental costs ... (because it will be very wide with a doctoral thesis topic). From the above limitation, the author wishes in the future, within the framework of research conditions, to conduct research on financial costs and other related expenses in Vietnamese paper manufacturing enterprises to have assess the situation as well as propose solutions to comprehensively improve management accounting toward incurred costs related to the production of finished paper products of Vietnamese paper manufacturing enterprises.

CONCLUSION OF CHAPTER 3

Stemming from the needs of the administrator about cost management accounting information for making business decisions, the reality of cost management accounting in paper processing enterprises; based on the assessment of the situation of factors affecting the level of cost management accounting application in paper manufacturing enterprises, the author has proposed the improvement orientation as well as solutions to improve cost management

accounting in paper manufacturing enterprises, in accordance with the operational characteristics of businesses and meet the needs of cost management accounting information of managers. The main solutions include:

- Carry out cost identification according to the relationship of costs with the level of operation and identify costs according to the ability of the administrator to meet the information requirements for corporate governance.

- Implementation of norms and cost estimates for each cost item according to the operation function.

- Applying Activity Based Costing for enterprises with medium and large capacity scale; normal costing and Kaizen costing for small capacity scale enterprises.

- Perform analysis of detailed cost fluctuations according to each expense item; conduct analysis of cost information by technique of cost management accounting to serve business decisions.

- Setting up a system of cost management accounting reports to meet the demand for information to implement administrative functions.

- Considering the application of single accounting software for small capacity scale enterprises and the application of integrated accounting software to medium and large capacity scale enterprises, including cost management accounting software to ensure timely and appropriate information provided to managers.

In order to implement the above solutions, the author also proposed conditions to implement the solution from the State management agencies and the Professional Association, training institutions and from the paper manufacturing enterprises. These conditions need to be implemented in a coordinated manner to help managers actively control the operation of the business and make reasonable and proper business decisions.

Next, the author also stated limitations of the thesis and future research directions.

CONCLUSION

The process of formation and development of management accounting in all countries has been associated with the process of formation and development of a market economy, all focused on solving corporate governance issues, being one of the important information sources provided for business executives to administer, plan and make business decisions. Cost management accounting is a component of management accounting system which plays a key role in implementing corporate management functions. More than ever, the improvement of the cost management accounting system is an urgent requirement in Vietnamese paper manufacturing enterprises in order to best meet the information needs for managers in making business decisions.

According to the research objectives, the thesis has made the following contents:

Firstly, the thesis has presented in a systematic way the basic theoretical framework of cost management accounting in manufacturing enterprises, including: The nature and role of cost management accounting in manufacturing enterprises; cost management accounting contents in manufacturing enterprises; technical facilities to handle and provide cost management accounting information in manufacturing enterprises; factors affecting the application of cost management accounting information in manufacturing enterprises. At the same time, the dissertation explores the experience of some countries in the world in the application of cost management accounting, which is the basis for the study and proposal of solutions for Vietnamese paper manufacturing enterprises.

Secondly, on the basis of the basic theoretical framework of cost management accounting in manufacturing enterprises, by combining qualitative research methods and quantitative research methods, the dissertation analyzed the needs of cost management accounting information of administrative levels; surveying and assessing the actual situation of cost management accounting contents, the status of applying technical facilities to process and providing information on cost management accounting in Vietnamese paper manufacturing

enterprises. Besides, the dissertation has analyzed and evaluated the factors affecting the level of cost management accounting application in Vietnamese paper manufacturing enterprises; identify basic principles and requirements to improve cost management accounting in Vietnamese paper manufacturing enterprises as a basis for orienting solutions to improve and conditions to implement cost management accounting solutions in Vietnamese paper processing enterprises.

Thirdly, the thesis has proposed solutions and conditions for implementing solutions to improve cost management accounting in Vietnamese paper manufacturing enterprises, in accordance with the operational characteristics of enterprises and meeting information needs about cost management accounting of managers in the context of the Industrial Revolution 4.0. is going on stronger and stronger.