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**COMPLETE ANALYSIS OF BUSINESS PERFORMANCE IN
LISTED CEMENT MANUFACTURING ENTERPRISES IN
VIETNAM**

Major : Accounting

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**SUMMARY OF DOCTORAL DISSERTATION OF
ECONOMICS**

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**The dissertation will be orally defended at the Examining
Committee, meeting at the Academy of Finance**

At h....., ... / ... / ...

**The dissertation can be found at the National Library and the
Academy of Finance Library**

INTRODUCTORY

1. The urgency of the dissertation topic

The Fourth Industrial Revolution, also known as Industry 4.0, has opened up many opportunities as well as created countless difficulties and challenges for businesses. If Vietnamese enterprises do not operate effectively, they will soon go bankrupt and step out of the fierce competition. In recent years, the industry of building materials, in general, and cement production, in particular, have continuously developed and promptly met domestic demand. However, Vietnam's cement industry also faces many difficulties such as the situation that supply is still exceeding demand in the domestic market, the prices of input factors such as electricity, coal, and transportation costs are constantly increasing, especially. The fierce competition of rivals makes cement manufacturing enterprises (DNS) face many challenges. With the specific characteristics of the cement industry, the input materials used for production are exploited from natural resources, but natural resources are finite such as coal, limestone and more, causing a great impact on the environment because the amount of CO₂ emissions into the environment is relatively high, on average, each ton of cement will emit 1.2 - 1.5 tons of CO₂. The requirement for cement production plants is how to produce efficiently but also protect the environment at the same time, which means minimizing waste to the environment or taking measures to treat environmental pollution.

Business efficiency analysis is a very important and necessary management tool in improving business efficiency to help enterprises develop stably and sustainably in the current harsh and global competitive economic environment. The fact shows that the analysis of business efficiency in the currently listed cement manufacturing enterprises - those that have high requirements for information disclosure and transparency, still has many shortcomings that have not met the requirements of using information of the subjects of interest. Inadequacies in business efficiency analysis in cement manufacturing enterprises exist not only in the data used for analysis but also in the content of analysis, usage criteria and analytical methods. Specifically, the content of analysis in enterprises is still quite sketchy, incomplete and the indicators used are not associated with the specifics of the business line, the application of new methods only stops at the methods used.

very basic and simple as well as the analysis process is not really scientific and logical. Therefore, the author has selected and researched the topic: "Complete analysis of business performance in listed cement manufacturing enterprises in Vietnam" with the desire to come up with the most effective solutions to help cement production enterprises do business effectively towards stable and sustainable development.

2. Overview of the research situation

2.1. Research on databases, analytical content, methods and processes for business performance analysis

2.2. Studies on factors affecting business performance and measuring the level of influence

2.3. Studies on cement manufacturing enterprises

2.4. Define research problem

Regarding the database: the author inherits the data source used in the analysis of business efficiency and at the same time specifies the fundamental changes in the source of the database used in the analysis of business efficiency for listed cement manufacturers when using Financial statements prepared in accordance with international financial reporting standards (IFRS).

Regarding the analytical method: the author inherits the methods of business efficiency analysis, especially the forecasting method through econometric model, and the author fills the gap of the previous research by adding the theoretical basis for the selection of factors (independent variables) when included in the regression model to forecast economic indicators, business efficiency of enterprises in the future.

Regarding the content of analysis: the author inherits the approach to the content of business efficiency analysis in terms of economic efficiency and social efficiency, and adds the aspect of environmental efficiency. The author will rearrange a few intrinsic indicators reflecting environmental efficiency but being presented above in terms of social efficiency in some previous studies and at the same time adding additional indicators reflecting environmental efficiency.

Regarding the analytical process: the author inherits the general analytical process of previous studies and sets up a detailed and specific analysis process with

steps suitable for cement enterprises in general and listed cement manufacturers in particular in the context of the Fourth Industrial Revolution when the economy is undergoing constant digital transformation.

3. Research objectives of the dissertation

The basic and thorough goal of the thesis is through theoretical research on business efficiency, business efficiency analysis and the current situation of business efficiency analysis to recommend solutions to improve business efficiency analysis in cement production enterprises listed in Vietnam; thereby, providing necessary information for interested subjects, especially business administrators and investors. From that basic goal, the specific research objectives are determined as:

- Identifying business efficiency and analyzing business efficiency in manufacturing enterprises.
- Fully and properly evaluate the current situation of business efficiency analysis at listed cement manufacturing enterprises, including database sources, analytical content, analytical methods and analytical procedures.
- Specify the basis to propose possible solutions to help listed cement manufacturers to apply in their units to improve business efficiency analysis activities to meet the information needs of special interest subjects, especially, to provide information mainly for managers and investors.

4. Thesis research question

To achieve the stated research objectives, the thesis needs to answer the following questions in detail:

General questions: What appropriate solutions should be applied to complete the analysis of business efficiency in listed cement manufacturing enterprises.

Thus, the thesis must answer the following specific questions:

- The nature and content of business efficiency and business efficiency analysis in production enterprises?
- How is the analysis of business efficiency in the listed cement manufacturing enterprises going? What are the data sources for analysis, the content of analysis, the method of analyzing business efficiency and the specific analysis process?

- Based on what grounds to propose solutions to improve the analysis of business efficiency in listed cement manufacturing enterprises in Vietnam?

5. Subjects and scope of the research

5.1. Research subjects

The research subjects that the dissertation is aiming at is: Analysis of business efficiency in listed cement manufacturing enterprises in Vietnam.

5.2. Research scope

- *Regarding the content:* The thesis studies the theoretical basis and practice of business efficiency analysis activities taking place in enterprises, including: database, analytical content, analytical methods and analytical processes to find out the weak sides, the causes of the limitations. Thus, it recommends solutions to improve the analysis of business efficiency in enterprises.

- *Regarding space:* The thesis researched 18 cement factories listed on all 3 stock exchanges HSE, HNX and UPCOM.

- *Regarding time:* The dissertation focuses on research in the period from 2010 to 2020. This is a long enough time for the collected data to be used in predictive analysis using the econometric method. Simultaneously with a research period of 5 years or more, the dissertation also helps enterprises to assess their own growth rates and trends.

6. Dissertation research method

6.1. Research process

The thesis uses a combination of both qualitative research methods and quantitative research methods to achieve the research objectives set out. In which, qualitative research is carried out through investigation, survey, and interview with relevant subjects in order to collect information to serve the assessment of the current situation of business efficiency analysis at listed cement manufacturing enterprises. while quantitative research is conducted through the collection of numerical data, using descriptive statistics to summarize data, synthesize and analyze the results of quantitative data in the form of tables, data sheets or charts to assess the current situation of business efficiency analysis at listed cement manufacturing enterprises.

6.2. Data collection methods

- Secondary data source: The author collects data mainly from financial statements, annual reports, analytical reports of cement manufacturing companies listed on highly reliable websites. The total number of listed cement manufacturing enterprises subject to research in the dissertation until December 31, 2020 is 18 enterprises.

- Primary data source: The author directly collects through surveys, and direct interviews with subjects related to the topic in two ways: (1) calling directly to the surveyed subjects; (2) send an email to each of the surveyed subjects.

7. Scientific and practical significance of the dissertation

**** Scientific significance***

The research results of the dissertation contribute to systematizing and clarifying the theoretical basis of business efficiency and analyzing business efficiency in enterprises.

**** Practical significance***

The dissertation has pointed out the achieved aspects as well as limitations, the causes of the limitations that need to be overcome in the analysis of business efficiency of listed cement manufacturing enterprises. In addition, the thesis has pointed out and analyzed the factors affecting business efficiency from the perspective of economic efficiency to help listed cement manufacturers forecast the development trend of enterprises in the future. Finally, the thesis recommends some possible solutions that can be applied to cement production enterprises in the process of analyzing business efficiency.

8. Dissertation structure

In addition to the introduction and conclusion; table list; picture list; list of appendices, references, the dissertation is divided into 3 chapters:

Chapter 1: General theory of business efficiency analysis in manufacturing enterprises.

Chapter 2: Practical analysis of business performance in cement manufacturing enterprises listed in Vietnam.

Chapter 3: Complete solution to analyze business performance in cement manufacturing enterprises listed in Vietnam.

Chapter 1

GENERAL THEORY ON ANALYSIS OF BUSINESS EFFICIENCY IN PRODUCTION ENTERPRISES

1.1. Business efficiency and business performance analysis in manufacturing enterprises

1.1.1. Business efficiency

Business efficiency has appeared in the world for a long time and has been researched by many scientists in the world as well as domestic scientists. Each researcher will have a different approach or point of view. The most common points in the views of the researchers are: Business efficiency of an enterprise reflects the economical and optimal use of input costs or resources by enterprises to achieve maximum output. On the basis of inheriting the views of previous studies, the dissertation author believes that: *Business efficiency of enterprises in the market economy is an economic category that reflects the most effective use of the inputs of the limited production process to meet the wishes of enterprises set out in each different period and have a harmonious combination between economic efficiency associated with social efficiency and environmental efficiency towards stable and sustainable development.*

Today, when the business environment is increasingly risky and volatile, especially the trend of sustainable development - the requirement to associate economic development with environmental protection and social security. Therefore, the author believes that when considering the effectiveness of enterprises, it should be fully considered on all three angles including economic efficiency, social efficiency and environmental efficiency, especially for enterprises with high levels of high pollution impact on environment. Environmental efficiency is achieved when enterprises continuously take actions to minimize or prevent adverse impacts on the environment caused by their production and business activities. And this is also the author's approach in the thesis.

1.1.2. Business performance analysis

Business efficiency analysis is understood as the process of applying technical and professional analytical methods (also known as analytical tools and techniques) to review and evaluate data reflecting business efficiency on the economic, social and

environmental aspects. Thus, we can correctly identify the real business efficiency of the enterprise, forecast the business efficiency as well as the growth rate of the business efficiency of the enterprises, providing necessary information for interested parties to serve the making of appropriate decisions.

When conducting business efficiency analysis, it should be fully implemented on all three angles including economic efficiency, social efficiency and environmental efficiency in order to accurately and fully reflect the efficiency of the enterprises.

1.1.3. Meanings of business performance analysis

Business efficiency analysis is an effective tool to help enterprises achieve the set goals. Information obtained from business efficiency analysis will be the scientific basis for all users to use information such as business managers, investors, authorities and other subjects to make key decisions accurately and timely.

For managers: Information from business efficiency analysis helps managers measure profitability as well as long-term financial potential of enterprises. In addition, it also helps administrators evaluate the management capacity or planning and controlling activities of enterprises.

For investors: The results of business efficiency analysis help investors know if the capital they have invested is effectively used or not and help them assess the development prospects of the business in the future.

For other subjects: Information provided by the business efficiency analysis will be an important and reliable basis for them to make the right decisions.

1.2. Data, content, methods and processes for business performance analysis in manufacturing enterprises

1.2.1. Database for business performance analysis

Data sources used for business efficiency analysis include information inside and outside the enterprises. In which the information inside the enterprises is the financial reporting system (financial statements) along with management reports, while the information outside the enterprises such as information about the economic situation, information of the industry, information about the partners... With the information, the financial statements must ensure consistency and comparability.

1.2.2. Content analysis

1.2.2.1. Content analysis of business performance from the perspective of economic efficiency

+ Overview of business operations:

To assess the overall business efficiency, analysts use the comparative method by comparing the value of the item of the period of analysis with the value of the previous period or previous periods to see the fluctuation of the indicator. Some basic criteria are used such as: the ratio of cost of goods sold to net revenue; gross profit to net sales ratio; the ratio of net profit to net sales from business activities and the ratio of expenses to total revenue.

+ Analysis of operational capacity:

Performance analysis is carried out by using the comparative method combined with the continuous substitution method to determine the influence of each factor affecting the analytical criteria. The operational capacity of the enterprise reflects the ability to use the costs/inputs expressed through the indicator reflecting the turnover rate of the costs/inputs. The speed of rotation is assessed through the criteria "Number of revolutions of each object" and "Time of 1 rotation of each object. From there, the analyst conducts an analysis of the operating capacity of inventory, total assets or receivables, etc.

+ Profitability analysis:

When analyzing indicators reflecting profitability, analysts use the comparative method in combination with the exclusion method or in combination with the Dupont method. The indicators in this group are of special interest to the target audience because they will be the basis for managers to evaluate current business performance and make future business decisions, and investors will rely on them to make important decisions. The metrics analysts use can be return on assets (ROA), return on equity (ROE), and return on costs.

+ Business efficiency analysis from investors:

Analysts, when evaluating the indicators of this group, use the comparative method combined with the chart method, which can be combined with the exclusion method to determine the influence of the factor on the analytical criteria to be able to specifically comment and assess. Before making a decision whether to invest in a certain enterprise, investors can analyze the business performance of that enterprise

through a number of criteria such as earnings per share, earnings per common share, the price-to-earnings ratio and the stock-to-book value.

1.2.2.2. Content analysis of business performance from the perspective of social efficiency

When analyzing the indicators reflecting social efficiency, analysts mainly use the comparative method to compare among years, compare with other enterprises in the same industry, the same business field and compare with the industry average from the previous years that shows the contribution of enterprises to social - economic development. Some indicators can be used when analyzing business efficiency from the perspective of social efficiency such as: contribution to the state budget; creation of jobs for workers; average income of employees; number of occupational accidents in the year and expenditures for social activities.

1.2.2.3. Content analysis of business performance from the perspective of environmental performance

When analyzing the indicators reflecting environmental efficiency, analysts mainly use the comparative method to compare among years, compare with other enterprises in the same industry, the same business field and compare with the industry average from year to year. That shows the contribution of enterprises in environmental protection. Analysts can combine with the SWOT method in the analysis process to assess the environmental protection activities of enterprises with society to help businesses develop stably and sustainably. Some indicators can be used when analyzing business efficiency from the perspective of environmental efficiency such as: awareness and responsibility of enterprises for environmental protection; exploit mineral resources in accordance with regulations; cost of environmental restoration; costs of purchasing secondary sources of raw materials and fuel; waste collection costs from other industrial plants; investment level for treatment of exhaust gas pollution; investment level for dust pollution treatment; total number of times sanctioned for environmental law violations; total amount sanctioned; contribute to the community and locality and regenerate the environmental landscape.

1.2.3. Analytical methods

Methods that can be used in business efficiency analysis include: detailed method of research criteria; comparative method; exclusion method; balanced contact method; chart method; Dupont method; SWOT matrix method and forecasting method.

1.2.4. Analytical process

The analytical process is understood as the work steps that the analyst needs to perform from the arrangement, arranging staff, assigning specific jobs to each person to achieve analytical results. The business efficiency analysis process in enterprises includes 3 stages: Preparing for analysis, conducting analysis and finishing the analysis. In order for business efficiency analysis to be highly effective, enterprises need to prepare and perform well at each stage of the analysis process.

1.3. Factors affecting business performance analysis

1.3.1. Subjective factors

First, the perception of business managers about business efficiency analysis

Second, the professional competence of the staff performing the analysis

Third, the characteristics of enterprises' production and business lines

Fourth, the organizational structure of the enterprise's management apparatus

In addition, in some other studies, factors belonging to the enterprise themselves that affect business efficiency such as enterprise age, enterprise size, capital structure, financial leverage, and business risks are also mentioned. These factors are often used in econometric models.

1.3.2. Objective factors

First, the analysis of business efficiency is influenced by legal documents of the State.

Second, the analysis of business efficiency is influenced by the industry average indicator system.

Third, business efficiency analysis is influenced by the development of science and technology.

Fourth, the analysis of business efficiency is affected by competition in the industry.

Besides the above factors, business efficiency analysis can also be influenced by economic factors such as interest rates, inflation, economic growth rate, socio-cultural factors, customer factors, and suppliers, factors of natural conditions and infrastructure, etc.

1.4. Experience in analyzing business performance of some countries in the world and lessons for Vietnamese manufacturing enterprises

1.4.1. World experience

In this section, the author presents the experience of analyzing business efficiency of some advanced countries in the world, such as the UK, the US and China, thus, we can offer lessons that can be applied in domestic manufacturing enterprises in Vietnam.

1.4.2. Lessons for Vietnam

About analytical database: The business efficiency analysis process can provide quality and really useful information to interested people, requiring the database for analysis to be collected from many sources fully and accurately including all information inside and outside the enterprises related to the content of analysis. The information provided must be consistent and comparable. The financial statements are an important data source of the business performance analysis process. Therefore, financial statements prepared according to IFRS standards in the near future will help Vietnamese enterprises get closer to enterprises in the world in the current global economy, thereby helping domestic enterprises to attract more money flows from domestic and foreign investors.

Regarding the content of analysis: enterprises need to develop the content and the system of analytical criteria that must be associated with the specific nature of the production and business lines. With the production facilities in general and the cement factories in particular. The rate of environmental pollution is very large, so in the analysis process, it is necessary to analyze the indicators reflecting the effectiveness for the environment. At the same time, the system of indicators of business efficiency analysis needs to have comparative indicators, indicators reflecting the level of growth, etc. so that users can assess the stability and sustainability of the development of enterprises. In the process of analyzing business efficiency, it is necessary to compare it with the industry average indicator system, which is a reliable basis for enterprises to see where the real position of the enterprise

is compared to other enterprises in the same industry. However, each enterprise itself cannot build the average data of the industry, of the field. This requires all sectors to make efforts to develop the average indicators of each industry.

Regarding the analytical process: with the strong development of the current 4.0 digital revolution, it is necessary to analyze the business performance of Vietnamese enterprises to build a scientific analysis process integrated with analytical software. Advanced analysis to bring fast and accurate results to users, minimize errors in the analysis process and specialize in business efficiency analysis. All steps in the analysis process must be performed well to bring accurate final results.

Regarding analytical methods: there should be flexible application and combination of methods. When analyzing business efficiency, the indicators should not only stop at the comparison between the previous year and the following year, but the analysis period should be long enough from 5 years or more to accurately and objectively reflect the business efficiency of the enterprise. Thereby, it will also see the trend and growth rhythm of enterprises to be able to forecast business results in the coming years. In addition, enterprises should include the forecasting method by the econometric model in the business efficiency analysis process because this is a method with high scientific basis, providing relatively accurate results to help correctly forecast the economic targets develop plans as well as strategies for their enterprises.

Regarding the level of the analyst: the content and methods used in the analysis are very diverse and flexible, especially when Vietnamese enterprises in the very near future will apply IFRS standards to prepare financial statements. Therefore, business efficiency analysis activities are required to be performed by qualified and qualified people with thorough understanding of accounting, finance and business analysis in order to accurately assess the business efficiency of each enterprise.

Chapter 2

THE STATUS OF ANALYSIS OF BUSINESS EFFICIENCY IN CEMENT PRODUCING ENTERPRISES LISTED IN VIETNAM

2.1. Overview of cement manufacturing companies listed in Vietnam

2.1.1. History of formation and development

Vietnam's cement industry was born in association with the development of national history. The first cement production facility is Hai Phong Cement Factory with 2 kilns with a capacity of 30,000 tons/year. In the period before 1990, the cement industry was slow to develop due to many difficulties in the domestic economy.

Since 1990, with an average growth rate of 10%/year, Vietnam's cement industry has met most of the country's cement demand. In 1997, it met over 80% and by 2000 it had met most of the demand for construction cement in the country. In 2005, Vietnam's domestic production and consumption was 28.8 million tons. By 2009, production and domestic consumption of 45.5 million tons of cement. Vietnam ranks 8th in the ranking of countries producing the most cement in the world.

Since 2010, cement enterprises in Vietnam have been affected by the financial crisis and economic recession, facing many difficulties. In 2014, Vietnam's economic situation initially recovered, the real estate market warmed up and achieved certain positive results. In 2017, due to the influence of stormy weather, major floods affected the consumption of cement in the country. In 2018, the cement industry had many bright spots. The export of clinker and cement was 31.65 million tons, the largest ever, up 55% compared to that of 2017. In 2020, the whole country had 86 production lines, and cement was produced by the dry method, cement production output reached 80.97 million tons, of which domestic consumption was 62.12 million tons, down 4% compared to 2019.

2.1.2. Organizational characteristics of the management apparatus

The organizational structure of the listed cement production enterprises will have the organizational structure of the JSC according to the guidance in the model charter under the Decision No. 15/2007/QĐ - BTC issued on March 19, 2007 by the Ministry of Finance. Therefore, the organizational structure in the cement production enterprises must have mandatory components including: General meeting of shareholders, board of managers, board of directors and supervisory board. The author gives 2 typical models representing enterprises with complex management apparatus, namely Ha Tien Cement Joint Stock Company and an enterprise with relatively compact management apparatus, which is Thai Binh Cement Joint Stock Company.

2.1.3. Business performance characteristics and financial management decentralization of cement manufacturing enterprises affect the analysis of business performance

Operational characteristics of the cement industry is one of the important factors affecting business efficiency as well as business efficiency analysis in enterprises. Therefore, when performing business efficiency analysis, analysts must pay attention to this factor. The characteristics of the cement industry determine the content and criteria of business efficiency analysis of cement production enterprises through the following characteristics:

- *Features of the production technology process:*
- *Features of capital investment:*
- *Features of input materials:*
- *Features of the relationship with construction activities:*
- *Features of environmental costs:*
- *Features of decentralization of financial management:*

2.2. Actual situation of analyzing business performance in listed cement manufacturing enterprises in Vietnam

2.2.1. Database for analysis

100% of cement production enterprises have collected documents for the analysis process, including information inside and outside the specific enterprise in the financial statement system, 100% of analysts use the balance accounting sheet and income statement to collect data to put into analysis; very few units put into use the cash flow statement and notes to financial statements. As for the management report, the information used for the analysis is mainly based on the report of the board of directors and the report of the board of directors. There are differences between enterprises when using specific external information: 3/18 Cement production enterprises only collect general information about the economic situation, accounting for 16.67%; there are 6/18 Cement production enterprises that collect information by economic sector, accounting for 33.33% and the rest 9/18 Cement enterprises collect both general information about the economic situation and information by economic sector, accounting for 50%.

2.2.2. Status of analytical content

2.2.2.1. Content analysis according to the provisions of current law

The survey results showed that 2/18 enterprises did not perform a full analysis of the indicators according to the instructions, which were companies with stock codes TBX and SDY. These two enterprises are enterprises with very small capital scale among the cement production enterprises.

2.2.2.2. Content analysis from the perspective of economic efficiency

Analysts will conduct business efficiency analysis from the perspective of economic efficiency through 4 contents by general assessment of business efficiency; analysis of operational capacity; profitability analysis and business efficiency analysis from investors. Based on survey results and statistical results from SPSS software, the author considers the difference in importance and performance level in each specific content and indicator. Thus, the author would give comments on which criteria are often chosen by managers or investors when making decisions and which are rarely used.

2.2.2.3. Content analysis from the perspective of social efficiency

Based on survey results and statistical results from SPSS software, it shows that the level of awareness about the importance and level of implementation at listed Cement Enterprises for the issue of social efficiency is still very low. Currently, enterprises are mainly interested in income for employees, while the proportion of investment costs for social activities only accounts for a very small proportion of the total revenue of enterprises.

2.2.2.4. Content analysis from the perspective of environmental efficiency

Based on survey results and statistical results from SPSS software, it shows that the listed cement factories are conscious and responsible for environmental protection, which is always appreciated and most of the enterprises perform the maximum exploitation. according to the mining license issued by the Department of Natural Resources and Environment, but the analysis is not done regularly. In all indicators reflecting environmental performance, managers rarely or do not use information related to environmental performance in their decision making.

2.2.3. Current status of analytical methods

Survey results and statistics from SPSS software show that awareness of the importance of methods used in the analysis of many enterprises is still limited. The main method that the listed cement manufacturers use in analyzing business efficiency is the specific comparison method, which is a simple comparison method. The remaining methods have much less use than the comparison method. The results of the interview show that currently, there is not a single enterprise that has made a forecast using an econometric model, but most of them forecast a certain indicator based on the results of the past indicators and future expectations.

2.2.4. Status of the analytical process

There has not been a listed cement manufacturing company that has its own division specializing in business efficiency analysis and this work is currently still performed by a part-time department, mainly the accounting department and some businesses are carried out by other departments such as the marketing department or the contract analysis division which is under the material planning department or the internal control department. The analysis of business efficiency in a number of enterprises is not carried out regularly or periodically, but only before the General Meeting of Shareholders and is of a coping nature.

2.3. Assessing the current situation of analyzing business performance in listed cement manufacturing enterprises in Vietnam

2.3.1. The achievements

Regarding the database: all listed cement manufacturing companies before conducting business efficiency analysis collect documents for analysis. Data collected for analysis includes both internal and external data.

Regarding the content of analysis: some enterprises have built very complete and methodical analysis content, analysts have in-depth professional qualifications, knowledge in the field of accounting and typical analysis such as staff analysis of Ha Tien 1 Cement Joint Stock Company or Bim Son Cement Joint Stock Company. In addition, the information of these enterprises is fully presented on each company's own website so that the users who need to use it can easily grasp the information.

Regarding analytical methods: 100% of listed cement manufacturing enterprises use comparative methods in the process of analyzing business efficiency.

Ha Tien 1 Joint Stock Company has applied the modern method - the rolling forecast method to estimate financial indicators in a continuous time based on the level of activity in the past to serve the decisions in the present and in the future.

Regarding the analytical process: the business efficiency analysis process at the listed cement manufacturing enterprises, despite being incomplete, has basically met the basic information needs. The analytical process in cement factories basically goes through 3 stages including preparing for analysis, conducting analysis and finishing the analysis.

2.3.2. Limitations and reasons

2.3.2.1. Limitations

Regarding the database: in the process of analyzing listed cement enterprises, they rarely use cash flow statements and notes to financial statements in management reports, most often use are reports of the board of managers and reports of the board of directors. There are still some enterprises that have not combined using general information on economic situation with information by economic sector. Many listed cement manufacturers have not studied and prepared documents on how to prepare financial statements according to IFRS, even some enterprises do not know the existence of IFRS.

Regarding the content of analysis: there are still many enterprises that have not performed well the analysis of business efficiency in each content, even there are enterprises that have not yet fully analyzed the basic financial indicators according to the provisions of the law. Moreover, the information provided has not been used much by managers and investors in management decisions or investment decisions. In addition, the current cement production enterprises only focus on economic efficiency but have not focused on social efficiency and environmental efficiency.

Regarding the analytical method: comparative data are often used by enterprises from 2 to 3 years, very few enterprises can compare data in 4 or 5 years. Very few listed cement manufacturing enterprises have a comparison of analytical criteria with other enterprises in the same industry or with the industry average, or if there is a comparison, it is not shown in the annual report and analysis report of the enterprise. Analytical methods that are said to be more technical than comparative

methods such as exclusion, SWOT, prediction and Dupont methods are rarely used by businesses in their analysis.

Regarding the analytical process: currently all cement production enterprises have not organized an independent analysis department, most of the analytical work is done by the finance - accounting department, or in some enterprises, this is done by the internal audit department or the marketing department or the material planning department, so the level of expertise is still limited. In these enterprises, there is no standard analytical procedure and enterprises still do not carry out analysis planning before conducting the analysis process

2.3.2.2. Causes of the limitaion

Regarding the database: Limited awareness of managers, qualified analysts and have not updated information. In addition, businesses are not aware of all the benefits that digital transformation will bring to businesses, on the other hand, they also hesitate to transfor, so the information technology infrastructure has not been focused and invested in enterprises.

Regarding the content of analysis: The legal regulations on analytical criteria are not strict and not mandatory. Information on business efficiency analysis in most listed cement manufacturing enterprises is not highly transparent. Business efficiency analysis in Vietnam has not yet been focused. Analysts' professional knowledge and deep understanding of the financial and accounting fields are not high. The listed cement production enterprises have not compared with the criteria of other enterprises or with the target of the industry average in the analysis report.

Regarding the analytical method: Most enterprises have not yet aware of the usefulness of the analytical method, as well as the limited expertise of the analyzers. The analysis of the indicators is mainly based on the available formulas, so the explanation of the causes of the fluctuations is still sketchy, not specific to clarify the causes and effects, and has not helped users of the information to have a full and correct view of the business performance of the enterprise in order to see the opportunities and development potential of the enterprise.

Regarding the analytical process: an independent business efficiency analysis department has not yet been established with qualified and well-trained analysts. In the context of Industry 4.0 era, with a strong digital transformation economy, but the

analysis process of enterprises has not shown adaptation to the changes brought about by digital transformation, so the efficiency is not really high. Most of the cement production enterprises have not updated and invested funds for advanced software to support in business efficiency analysis.

Chapter 3

COMPLETE SOLUTIONS FOR ANALYSIS OF BUSINESS EFFICIENCY IN LISTED CEMENT PRODUCTION ENTERPRISES IN VIETNAM

3.1. Development orientation, principles and requirements for completing analysis of business performance in listed cement manufacturing enterprises in Vietnam

3.1.1. Orientation and development goals of listed cement manufacturing enterprises in Vietnam

3.1.2. Requirements and finishing principles

To complete the analysis of business efficiency in the listed cement production enterprises, it is necessary to ensure the following 3 requirements: *requirements for providing useful information; requirements for information about competitive advantage and requirements for convenience and ease of application.*

To meet the above requirements, the complete analysis of business efficiency in listed cement production enterprises must meet 05 principles. The perfecting principles aimed at lean and efficient goals include: *efficiency principle; matching principle; unification principle; flexibility principle and practicability principle.*

3.2. Complete solution to analyze business performance in listed cement manufacturing enterprises in Vietnam

3.2.1. Completing the database for analysis

The listed cement manufacturing enterprises must prepare all documents related to the content of analysis including information inside and outside the enterprise.

Enterprises need to early implement the preparation of financial statements according to IFRS because this is considered an indispensable requirement. Among the standards issued by IFRS, No. 13 of Financial Statements Standard of "fair value"

and No.15 of Financial Statement Standard of "revenue from contracts with customers" have the most direct and most influential influence on the analysis of business efficiency of enterprises.

3.2.2. Completing the analysis content

** Completing the content of the general assessment of business performance:*

The listed cement manufacturers need to be aware of the difference between business performance and business results in order to choose analytical criteria and make accurate comments. Enterprises need to analyze in detail the fluctuations and the causes of those fluctuations so that the users of the information can use it in making operating or investment decisions.

** Complete content analysis of operational capacity:*

The dissertation proposes to add some additional content and analysis criteria as follows:

+ Analysis of the ability to use long-term assets:

+ Analysis of capacity to use fixed assets:

+ Analysis of usability of materials:

** Completing the content of profitability analysis:*

The profitability of the cost has not been much interest and implementation of cement production enterprises. Therefore, the author offers a way to calculate and point out the specific meaning of this indicator for listed cement manufacturers.

** Completing the content of business efficiency analysis from investors:*

Currently, the listed cement manufacturers only focus on analyzing income per common share. Therefore, the author adds the formula to determine and show the specific meaning of the two indicators price-to-earnings ratio and stock-price-to-book value ratio.

** Completing the content of social effectiveness analysis:*

The author believes that each enterprise, depending on the economic efficiency achieved, will calculate a reasonable cost ratio on the total revenue and be willing to spend that expense on community development activities. In addition, enterprises always have welfare policies for employees to improve their quality of life.

** Completing the content of environmental efficiency analysis:*

To achieve environmental efficiency, each enterprise manager must first be self-aware of its own responsibility for environmental protection. The author offers a few solutions in this content as follows:

Firstly, the cement production enterprises need to exploit the correct output according to the licensed mineral mining license

Second, the cement production enterprises need to make the most of raw materials and secondary fuels.

Third, the cement production enterprises need to make the most of the wastes of other industrial plants

Fourth, the cement production enterprises need to identify and determine exactly what the elements of environmental costs are.

Fifth, the cement production enterprises need to regularly check the dust filter system to ensure compliance with the required regulations.

Sixth, the cement production enterprises need to consider installing a system that takes advantage of residual heat generation.

3.2.3. Completing analytical methods

The author adds a number of other analytical methods to the cement production enterprises to help the analysis process be complete and accurate to serve the short-term and long-term decisions of enterprises for sustainable development. The methods need to be applied flexibly and in combination to achieve the best analytical results.

- *Applying the comparison method combined with the chart method:*
- *Applying the exclusion method:*
- *Applying the Dupont method:*
- *Applying the SWOT matrix method:*
- *Applying forecasting method by econometric model:* The author proposes a research model for listed cement manufacturing enterprises with 7 independent variables including: size of enterprise (SIZ), financial leverage (LEV), liquidity (LIQ), solvency (SOL), ratio of tangible fixed assets (TANG), growth rate (GRO) and age of the enterprise (AGE). Dependent variable reflecting business efficiency is measured through 3 criteria: ROA, ROE and ROS.

Data for the research are collected and calculated from the financial statements of 13 listed cement enterprises in the period from 2010 to 2020 with 143 observations. The specific research model is as follows:

$$\text{Model 1: } ROA_{i,t} = \beta_0 + \beta_1 \times SIZ_{i,t} + \beta_2 \times LIQ_{i,t} + \beta_3 \times LEV_{i,t} + \beta_4 \times SOL_{i,t} + \beta_5 \times TANG_{i,t} + \beta_6 \times GRO_{i,t} + \beta_7 \times AGE_{i,t} + \epsilon_{i,t}.$$

$$\text{Model 2: } ROE_{i,t} = \beta_0 + \beta_1 \times SIZ_{i,t} + \beta_2 \times LIQ_{i,t} + \beta_3 \times LEV_{i,t} + \beta_4 \times SOL_{i,t} + \beta_5 \times TANG_{i,t} + \beta_6 \times GRO_{i,t} + \beta_7 \times AGE_{i,t} + \epsilon_{i,t}.$$

$$\text{Model 3: } ROS_{i,t} = \beta_0 + \beta_1 \times SIZ_{i,t} + \beta_2 \times LIQ_{i,t} + \beta_3 \times LEV_{i,t} + \beta_4 \times SOL_{i,t} + \beta_5 \times TANG_{i,t} + \beta_6 \times GRO_{i,t} + \beta_7 \times AGE_{i,t} + \epsilon_{i,t}.$$

In which: $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ and β_7 are the correlation coefficients.

$\epsilon_{i,t}$ are the error of company i in year t .

The results of running the model show that the results are consistent with the proposed research hypotheses (enterprise size has a positive effect on business efficiency, liquidity has a positive effect on business efficiency, , financial leverage has a negative effect on business efficiency, solvency has a positive impact on business efficiency, the proportion of tangible fixed assets has a positive effect on business efficiency, growth rate has a positive effect on business efficiency, and the age of the enterprise has a positive effect. same way to business office). In order to improve business efficiency in terms of economic efficiency, listed cement manufacturers need to calculate and introduce policies to promote LIQ and SOL factors. When economic performance is good, it is a premise for businesses to pay more attention and invest in social and environmental activities.

3.2.4. Completing the analysis process

Analytical process in the cement production enterprises need to build all 3 steps including: Planning analysis; perform the analysis and finish the analysis (reporting and archiving). Each step in the process needs to be detailed, specific and clear.

3.3. Conditions for implementing complete solutions to analyze business performance in listed cement manufacturing enterprises in Vietnam

3.3.1. For the State

Second, perfectize the system of legal documents on information disclosure on the stock market.

Third, have a clear sanction or mechanism for rewards and penalties for listed cement manufacturers.

Fourth, support enterprises to build a system of financial indicators by industry and business field.

Fifth, offer many preferential policies to support enterprises in order to promote cement exports to solve the problem of oversupply in the country.

3.3.2. For Cement Industry and Association

In order to support and promote the development of cement enterprises, the Association needs to build its own system of business efficiency analysis criteria to be consistent with the characteristics of the cement industry in particular and cement production enterprises in general.

3.3.3. For listed cement manufacturing enterprises

First, enterprises need to increase awareness for managers, units, departments and divisions in enterprises about the necessity and importance of business efficiency analysis.

Second, enterprises need to increase the application of information technology in business efficiency analysis

Third, enterprises must regularly improve the professional qualifications and skills of analysts

Fourth, enterprises need to conduct periodic and regular business efficiency analysis.

Fifth, enterprises need to work together to build a detailed, complete and unifying set of business efficiency analysis indicators suitable for the cement industry.

***Sixth*, implementing the policy of the Party and State to quickly build and develop listed cement production companies growing stronger.**

CONCLUSION

In the past years, because of being heavily affected by the Covid-19 epidemic causing the entire world economy and Vietnam, the listed cement manufacturing companies in the country are not an exception. The production and business of cement production enterprises face many difficulties and challenges, but enterprises have always tried to overcome to minimize the disadvantages caused. To be able to promote the effective operation of listed cement production enterprises, it is necessary to constantly improve the analysis of business efficiency in these enterprises to support the making of important decisions in production and business activities as well as provide useful information to attract investors, especially in the digital age of 4.0 and by 2025, it is mandatory for all businesses to apply financial statements preparation according to IFRS international financial reporting standards, the completion of business efficiency analysis in Enterprises in general and listed cement enterprises in particular are more necessary than ever. Therefore, the improvement of business efficiency analysis in listed cement manufacturing enterprises is a meaningful topic both in theory and in practice.

Within the scope of content, the dissertation has solved the following issues:

- Supplementing the theoretical basis of business efficiency analysis in production enterprises to clarify the nature of business efficiency and analyzing business efficiency in production enterprises.

- Point out the influence of the characteristics of the cement industry on how the analysis of business efficiency affects the analysis, clarify the achievements that have been achieved, the remaining aspects in the process of analyzing the business efficiency at 18 listed cement manufacturers. Thus, it proposes groups of solutions to help suit each cement production enterprise to complete the analysis of business efficiency in their enterprises in order to provide valuable information for the decisions of managers, investors and other stakeholders and others who interest.

**LIST OF AUTHORIZED WORKS PUBLISHED
RELATED TO THE DISSERTATION**

1. Vu Thi Quynh Chi, Bach Thi Huyen (2016), “*Solving problems in financial statement analysis at VNPT Thai Nguyen*”, Finance magazine, No. 630.
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