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# Impact of Responsibility Accounting on the Performance of Vietnam Enterprises to Sustainable Development: An Empirical Study

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**Abstract:** One of the crucial tools for management nowadays in decision making of managing, operating and controlling business activities is viewed as system of responsibility accounting. Responsibility accounting helps management to control and evaluate activities conducted by departments of a firm and evaluate different levels of management responsibilities. Then, this also helps management to have valuable information in making decisions for achieving general objective to sustainable development. However, responsibility accounting in general is a very new content in both theoretical and Practice in Viet Nam. Presently, Vietnamese firms also cope with challenges in evaluating outcomes of these firms. Research have shown the application with Responsibility Accounting in enterprises according to 7 elements of Responsibility Accounting in Vietnamese cement firms. Research have shown Impact of Responsibility Accounting on the performance of Vietnam enterprises. This is the scientific basis for enterprises in Vietnam in general and Vietnamese cement firms in particular have a successful application of responsibility accounting to improve the business performance. In the dimension of this paper, SPSS 22 was used to collect and analysis data, basing on the results of 114 questionnaires of managers and head of department from Vietnamese cement firms

**Keywords:** Responsibility Accounting, cement, elements, administrator

## 1. INTRODUCTION

Our economy is intensive integrating into the region and the world economy by entering into new-generation free trade agreements, such as TPP, AEC... In order to compete with other enterprises under the current severe competition circumstance, enterprises should expand production and business and improve the effectiveness of production and business activities, on the other hand. The more developed production and business activities of enterprises, the more expended the grading and decentralization of departments in enterprises. Therefore, a management structure level shall appear and each individual shall create a responsibility limitation, in which, individuals shall make his own decisions. With a view to executing the

common goal of the entire enterprise, each department, and each manager shall successfully fulfill his assigned tasks. In order to determine the level of task fulfillment of departments and the entire enterprise, the periodical inspection and evaluation of operation result of department should be done. The inspection and evaluation of departments shall secure the attainment of the common goal of enterprise. Furthermore, during the organization of the implementation of planned goals of enterprises, the attainment or failure to attain the estimation can occur. Then the demand of performance evaluation of departments should be closed linked with responsibility and power of the manager of department. RA shall enable managers to control and evaluate the performance of departments of enterprises, and evaluate, at the same time, the management responsibility of senior managers. Therefore, the provision of knowledge basis as well as practice of the application of responsibility accounting, the impact of the application of responsibility accounting on activities of enterprises, then the provision to the first line managers to promote the application of responsibility accounting to Vietnam production enterprises is vital. In Vietnam, the responsibility accounting theme is the new one to the enterprises, both in theory and practice. The general objective is to determine the impact of responsibility accounting on an activity of enterprises in order to point to limitations and reasons of existences to be the basis for solutions to strengthen the application of responsibility accounting in such enterprises. Specific objectives: Evaluation of the actual situation of responsibility accounting towards the case study in Vietnam cement manufacturers and The impact of responsibility accounting on activities of Vietnam cement manufacturers

## **2. DEFINITION AND NATURE OF RESPONSIBILITY ACCOUNTING**

There are many different views about the responsibility accounting, according to different purposes, professional researchers or administrators in enterprises with different angles of RA in the business different now. However, there is no unified concept of responsible accounting:

Higgins, one of the first researchers to present the concept of responsibility accounting, in 1952 he generalized: responsibility accounting is the accounting system is organized in enterprise to collect and report on expenses at the levels of management in enterprise. Each manager of organization shall be responsible and control an allocated expense. The organizational structure of enterprise is the spine of responsibility accounting [15].

Responsibility accounting closely related to cost accounting. One of the important goals of responsibility accounting is the control of cost at the basic levels of supervisor. This mean that not all expenses controlled at the management level of divisional director, it means that expenses are controlled at any level which arise expenses and accepted [26].

Responsibility accounting is the accounting system which collects, summarizes and reports on accounting according to personal responsibility of manager [14]. Responsibility accounting is the system spreading decision-making authority and allocation of resources meanwhile maintaining concentrated information and control through the evaluation of performance and accountability [8].

RA is the accounting system is acknowledged through different responsibility centers in the entire organization and reflects results, performance of each center by revenue and cost items [16].

According to Atkinson and colleagues (2001), responsibility accounting is the accounting system functions as collection, summarization and report on accounting information related to costs, income and

operating data by each scope of responsibility or unit in organization. Such system shall provide information so as to evaluate responsibility and performance of each manager. RA shall create reports contain objects which are able or unable to control for a management level [5].

Responsibility accounting is the management method in order for design of accounting system so as to obtain control efficiency through the direct relationship between accounting report and the head in the organizational structure of company at all management levels [19].

Responsibility accounting connects the personal performance report with the heads of the different management levels to determine the level of obtaining goal of management levels, and responsibility centers. These responsibility centers have different goals and use resources of company to obtain goals [23].

Responsibility accounting is the control system of manager based on principles of authorization and determination of responsibility of manager. Such system has managers who make business decisions in separate fields and should be responsible for activities in responsibility centers. Responsibility accounting represents a method of measurement and evaluation of performance [24].

Responsibility accounting is the management control system based on principles of decentralization and determination of the position of responsibility. Manager shall be entitled to make decision and be responsible for activities in a specific field and responsibility center managed by them. Another basic task of responsibility accounting is the measurement of performance of managers. In order to make the meaningful evaluation, working process of each manager should be compared with certain standards [22]. Responsibility accounting is the cost control method determined by managers of enterprises [11]. Responsibility accounting shall provide managers with information to control operating process and evaluate performance of subordinate managers [10].

Thus, there are many different points of view of responsibility accounting. With different researchers, RA shall be acknowledged at different aspects. However, in terms of the nature, those points of view shall create a more comprehensive concept of RA. From above points of views of responsibility accounting, we can take out some general natures of responsibility accounting as follows:

Firstly, responsibility accounting is the important content of managerial accounting which provides financial and non-financial information with regards to production and business activities of enterprises so as to evaluate and control performance of each manager of department. As a result, we can evaluate the general business results of the entire enterprise.

Secondly, responsibility accounting concerning the organizational structure of enterprise which is adequately decentralized. Managers at decentralized levels of decision-making matching their management responsibility during operation process of enterprise. With a view to performing responsibility accounting, it is necessary to adequately decentralize decision-making in enterprise.

Thirdly, responsibility accounting shall provide managers with information to assist in the control of business activities of subordinate managers through personal responsibility of managers by comparison with the actual performance of manager in terms of financial and non-financial items with planned estimate.

Fourthly, responsibility accounting can be based on the organization and the level of decentralization to divide into responsibility centers or based on contents of responsibility accounting to divide into elements

to organize responsibility accounting in enterprise. In each element, RA mixed uses cost accounting methods and performance evaluation methods, especially modern methods to recognize, measure, evaluate business results of enterprises.

Fifthly, responsibility accounting establishes a responsibility accounting report system to provide managers with financial and non-financial information to make business decisions which are suitable with the common goal of enterprise.

Through the summarization of different points of view at different aspects, we can generalize: Responsibility accounting is the information system is designed based on the decentralization for managers, departments in enterprises to mixed use cost accounting methods and performance evaluation methods to recognize, measure, and evaluate business results of enterprise in order to provide adequate authorized managers of departments of responsibility centers with financial and non-financial information to control departments, responsibility center in enterprise to operate according to intended orientation.

### **3. ROLE OF RESPONSIBILITY ACCOUNTING**

Responsibility accounting will measure the cost related to the center, allocation of expenses, revenues, provide information to prepare a detailed cost estimate, provide information on the performance of all levels of management, to provide information for senior executives are choosing lower-level administrators, allowing administrators to set up a system of salary, bonus and incentive systems accordingly right now ...to strengthen sustainable development of enterprises.

### **4. ELEMENTS OF RESPONSIBILITY ACCOUNTING**

Considering the perspective and approach of the organizational structure and the level of decentralization, the liability of accounting is divided into the central responsibility.

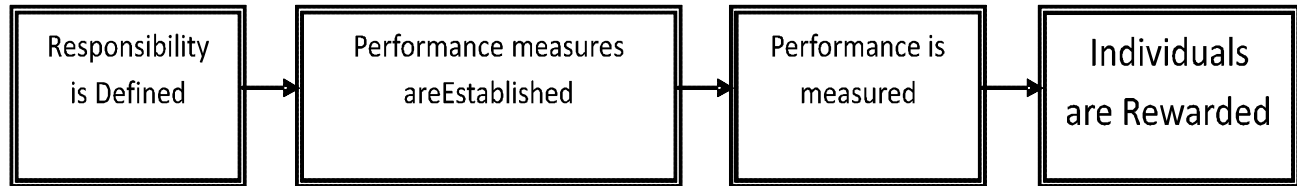
Center shall be part of the organization, where executives responsibility department operating results of its parts. Accordingly, based on the organizational structure and degree of decentralization, enterprise system centers corresponding responsibility. Currently, most researchers believe that there are 4 types of responsibility center that is responsibility for the cost center, the center is responsibility for revenue, profit center responsibility and responsibility investment center.

Considering the views and approaches of content, liability accounting has the following elements:

According to Hansen & Mowen (2005), Responsibility accounting included four essential elements [9]:

- 1) Responsibility is Defined
- 2) Performance measures are Established
- 3) Performance is measured
- 4) Individuals are Rewarded

The basic elements work together in the order of the following diagram:



**Diagram 1.1 : Basic elements of responsibility accounting**

*Source:* [9]

From 4 basic elements as above, in his study, Gharayba and colleagues [12] developed into 7 elements and other authors as Hanini [13]... used in research on accounting charge liability, responsibility accounting has the following elements:

- 1) RA shall divide the organizational structure of the enterprise to its various responsibility centers based on the specific characteristics of such enterprises
- 2) Responsibility Accounting decentralize power to the administrator at the center of responsibility with clear authority and administrator shall be responsibility for the achievement of the central responsibility. The administrator should be authorized with power matching activities at the center of responsibility and accountability necessary to make decisions related to the responsibilities of the central and executive responsibilities treatment to achieve planned results.
- 3) Responsibility accounting shall divide the costs and revenues to the central responsibility as possibilities and limits the power of the center. Also, Responsibility accounting shall determine and calculate direct costs, indirect costs, revenue and internal transfer prices between central responsibility appropriately and accurately to identify clear responsibilities.
- 4) Responsibility accounting implementation link between the estimates with actual results at the center of responsibility. Accountants are responsibility for encouraging all employees of each center are done drafting to ensure appropriate cost estimates, feasibility and can achieve the overall goals of the business.
- 5) Responsibility accounting estimator used to control and measure results through the comparison with the actual results of each responsibility center
- 6) Responsibility Accounting prepare a report to analyze the difference of actual results with the estimates to determine who shall be responsibility for the difference. All managers have to analyze the reasons for the difference between the actual results achieved and estimates made. Accounting reports shall be classified according to different levels of responsibility.
- 7) Responsibility Accounting set up an incentive system which has a close relationship with the estimation results at the center of responsibility to limit undesirable disparities and promote good differences, and determine who is responsibility for the difference in order to encourage employees to improve their achievement and the overall success of the entire enterprise

Content approach is suitable for the development of responsibility accounting. Initial accounting responsibilities have 4 primary elements (Hansen and Mowen (2005) developed into 7 elements (Gharayba and colleagues). Later, AL Hanini developed into 43 scales matching 7 elements. In the next section, researchers will use content-based approach (the approach of 7 elements) and the use of Al Hanini 43

scale was developed based on seven elements to perform analysis the application of responsibility accounting in Vietnam cement manufacturers.

## 5. RESEARCH METHODOLOGY

### 5.1. Research questions

Based on the objectives of the research, object and scope of research of the research is the responsibility accounting system in Vietnam cement manufacturers, research questions shall be built as follows:

- How is the execution level of responsibility accounting in Vietnam cement manufacturers?
- Shall the responsibility accounting impact on performance of Vietnam cement manufacturers?

### 5.2. Research Model

With a view to obtaining goal as well as answer the research question which built above, the author carried out his research according to contents built in the model:

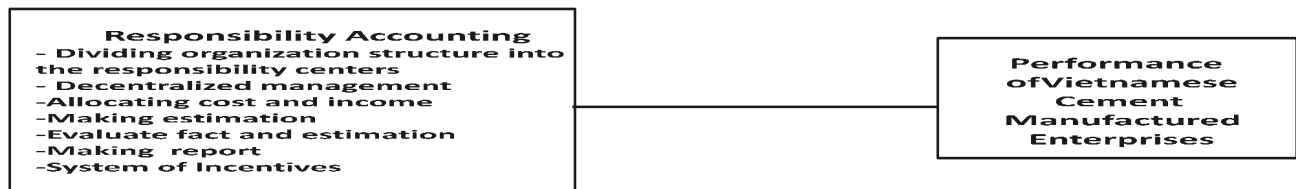


Diagram 1.2: Research Model Impact of responsible accounting on performance

Source: The author has built

Researching equation as anticipated:

$$Y = \alpha + \beta_1 * X_1 + \beta_2 * X_2 + \beta_3 * X_3 + \beta_4 * X_4 + \beta_5 * X_5 + \beta_6 * X_6 + \beta_7 * X_7 + \varepsilon$$

In which of:

- + Y: Performance of Enterprise
- + X1: Dividing the organization structure into the responsible accounting centers
- + X2: Decentralized management on the administrators
- + X3: Allocating the cost and income
- + X4: Making an estimation
- + X5: Evaluate between fact and estimation
- + X6: Making a report to analyze
- + X7: The rewarding system on achieving the target
- +  $\varepsilon$ : Accidental error



### **5.3. Measure of variances**

\* The level of application of responsibility accounting

Responsibility accounting based on the centralization, standards, measures of performance, evaluation, allocation of awards. There were many researchers come from different nations, different fields have researched on the application of responsibility accounting in different fields, such as: (Gharayba and his colleagues, in 2011) researched on the level of application of factors of responsibility accounting in industrial manufacturers; (Joda and his colleagues, 2009) researched on the level of application of responsibility accounting in Jordan hotels, (Al Hanini, 2013) researched on the level of application of responsibility accounting in banks, (AL-shomaly, 2013) researched on the level of application of responsibility accounting in medical field. ...With a view to evaluating the level of application of responsibility accounting, authors used different measures, of which, the author (Al Hanini, 2013) used 43 measures, although research in bank field but such 43 measures have been developed from 7 factors of responsibility accounting (Gharayba and his colleagues, in 2011) of research in industrial manufacturers. Moreover, through comprehensive study of research works have showed that 43 measured variables of responsibility accounting are suitable with the development from 4 factors and have been developed into 7 factors and developed into 43 measures. Through detailed research on contents of each measure showed the accordance with research contents of the project. In order to research on the level of application of responsibility accounting, the author (Al Hanini, 2013) sent questionnaire which consisted of 43 measured variables to managers. This data collection method is also suitable with objectives and the method of this research. At the same time, through preliminary survey of Vietnam cement manufacturers, these enterprises have these characteristics of responsibility accounting. Therefore, the research used the measure consists of 43 measures of variances of the level of application of responsibility accounting of Hanini (2013) [13] and further developed the new one in order to obtain objectives of the research project. With a view to researching whether these 43 measured variables and new variances are reliable, suitable with Vietnam cement manufacturers, the research shall use Cronbach Alpha to test measure.

\* Performance of enterprise

Operation of enterprise shall be measured by results or effectiveness. Business results of enterprise concerning whether specific tasks were done or obtained goals or not yet. Meanwhile, effectiveness is the more complicated concept due to effectiveness is the close combination of required costs to fulfill tasks [10], [21]. Operation of enterprise shall be measured by 5 observed variables of results and performance of enterprise, including: Return on Investment (ROI), gross profit, product quality, customer satisfaction, level of use of machine power. This measure was used by Hoque and James (2000) [27] in their research based on theory of Balanced-Scorecard of [18] and have been used by many author in their researches, such as: [6], [20].... The interviewees shall be asked about performance in their enterprises by comparison of their performance with direct competitors or based on the mean level of sector or different enterprises under the same measure on the Likert measure from 1= Weak to 5= very good.

### **5.4. The survey Sample**

Until 2016, there has not been any official statistics on the number of Vietnam Cement Manufacturers, so as to define the researching sample, the author used the website <http://yellowpages.vnn.vn/> [4] to define the enterprises relevant to the business production of cement that gathered 228 enterprises. The author based on the information of company's website, information posted on the stock market, contact by phone,

website of Google to eliminate the enterprises without cement production and non-operating enterprises, result gathered is 74 cement manufacturers. From the researching overview of 74 these enterprises, the author will carry out selecting the sample

Due to that cement manufacturers are allocated in all 3 regions: Northern Region, Central Region, Southern Region, including the enterprises posted on the stock exchange and no posted on the stock exchange, so let the sample sure about the representative, but still sure about the proportion of voting response so as to let the sample sure about the representative, but still sure about the proportion of voting response according to the requirement, so 74 enterprises will be numbered from 1 to 74, then it is arranged pursuant to the posting criteria on the stock exchange or and non posting on the stock exchange, in which of arranged in 3 regions (Northern Region, Central Region, Southern Region). Next, it will use the single accidental method by mean of using Excel to select 18 enterprises in order to put in the researching sample

Responsibility centers are the elements of responsibility accounting. Responsibility centers are headed by the administrators in business and responsible for managing all the operations of responsibility centers so as to reach the researching targets, researches in the world and in domestic about the responsibility accounting implemented to gather the information from the business administrators including: Member of Management Board, Board of Directors, Chief/Deputy Chief of Departments/Sections, foremen of workshop..This method of collecting data is carried out by many researchers about responsibility accounting in domestics and overseas [1], [7], [13], [25]... used in their research. In this research, after the opinion reference of experienced scientists in the field of quantitative research, scientists in mathematics and statistics, econometrics, based on the practical situation in Vietnam, to gather data, the author will send in average 15 votes to make a survey for different senior administrators to each of Vietnam Cement Manufacturers in Vietnam in researching sample

## 6. RESULTS OF RESEARCH

### 6.1. Descriptive Statistics

The 114 collected results will be through encryption, importing, cleaning, and analyzing processes. The descriptive statistic results are as below:

*About the age of the participators:* Among 114 polls, there were 35 administrators with the age of 30-39 accounted for 38.9%; 43 administrators with the age of 40-49 equivalents to 43% and the remaining 30 over-50-year-old administrators which equal to 26.3%. Generally, the administrators with the age of 40 and above were majority. This was quite compatible with the fact of manufacturers in Vietnam.

**Table 1.1**  
**The description of the sample – Age**

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	From 30-39 years	35	30,7	30,7	30,7
	From 40- 49 years	49	43,0	43,0	73,7
	More than 50 years	30	26,3	26,3	100,0
	Total	114	100,0	100,0	

(Source: The results of data processing of the author)



*About the Practical Experience of the participants:* There were 12 administrators with working experience of 5-10 years accounted for 10.5%; 53 administrators with seniority of 11 to 20 years equivalents to 46.5% and the remaining 49 over-20-year seniority which is equal to 43% among 114 results. Generally, almost all the administrators had at least 10-year working experience.

**Table 1.2**  
**The description of the sample - Practical Experience**

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	From 5-10 years	12	10,5	10,5	10,5
	From 11- 20 years	53	46,5	46,5	57,0
	More than 20 years	49	43,0	43,0	100,0
	Total	114	100,0	100,0	

(Source: Data Processing Result of the author)

*About the Education of the participants:* There was only 01 administrator with middle-level degree (0.9%); 11 administrators with college degree accounted for 9.6%; 69 with university degree equivalents to 60.5% and the remained 33 with postgraduate degree which is equal to 28.9% among 114 results collected. Generally, almost all of the administrators owned the higher education degree and upper.

**Table 1.3**  
**The description of the sample - Education**

		<i>Frequency</i>	<i>Percent</i>	<i>Valid Percent</i>	<i>Cumulative Percent</i>
Valid	1,00 Secondary graduation	1	,9	,9	,9
	2,00 College graduation	11	9,6	9,6	10,5
	3,00 Graduate	69	60,5	60,5	71,1
	4,00 graduation graduate	33	28,9	28,9	100,0
	Total	114	100,0	100,0	

(Source: Data Processing Result of the author)

## 6.2. Cronbach's Alpha measure

The collected data will be imported to SPSS 22 application with 45-scale checking of Cronbach's Alpha. The result was given as below:

**Table 1.4**  
**Reliability Statistics**

<i>Cronbach's Alpha</i>	<i>N of Items</i>
,960	45

(Source: Data Processing Result of the author)

## 6.3. The utilizing level of responsibility accounting in Vietnam cement manufacturers

From the result given by elemental analysis and average value of variables, there were 7 hypotheses used to assess the utilizing level of responsibility accounting in Vietnam cement manufacturers:

- Ho1: Vietnam cement manufacturers divided itself into responsibility centers at appropriate level.
- Ho2: Vietnam cement manufacturers give administrative centralization for the administrations of the responsibility centers at reasonable level.
- Ho3: Vietnam cement manufactures distributed cost and revenue to the responsibility centers at reasonable level.
- Ho4: Vietnam cement manufactures calculated in advanced estimate at the responsibility centers at reasonable level.
- Ho5: Vietnam cement manufactures used the budgeted statements to control and assess the achievements at reasonable level.
- Ho6: Vietnam cement manufactures made analyzing reports for actual differences and forecast at reasonable level.
- Ho7: Vietnam cement manufactures used the awarding system based on the gained achievements of the responsibility center at reasonable level.

**Table 1.5**  
**One-Sample Statistics**

	<i>N</i>	<i>Mean</i>	<i>Std. Deviation</i>	<i>Std. Error Mean</i>
Struc	114	3,3421	1,01080	,09467
Dec	114	3,3596	1,11541	,10447
Allo	114	3,4596	1,14256	,10701
Est	114	3,4511	1,08707	,10181
Eval	114	3,3895	,91587	,08578
Repo	114	3,5055	,87039	,08152
Ince	114	3,4637	1,03898	,09731

(Source: Data Processing Result of the author)

For reviewing the above theory, topic used one-sample T-Test. The value of 3 was considered as the average value of 5-scale Likert, if the given result was smaller than 3 that mean the utilizing level of responsibility accounting at low level; if the result was greater than 3, that means the utilizing level is acceptable and good so the one-sample T-Test will take the value of 3 as below:

**Table 1.6**  
**One-Sample Test**

	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>	<i>Mean Difference</i>	<i>Test Value = 3</i>	
					<i>95% Confidence Interval of the Difference</i>	
					<i>Lower</i>	<i>Upper</i>
Struc	3,614	113	,000	,34211	,1545	,5297
Dec	3,443	113	,001	,35965	,1527	,5666
Allo	4,295	113	,000	,45965	,2476	,6717
Est	4,431	113	,000	,45113	,2494	,6528
Eval	4,540	113	,000	,38947	,2195	,5594
Repo	6,201	113	,000	,50548	,3440	,6670
Ince	4,765	113	,000	,46366	,2709	,6564

(Source: Data Processing Result of the author)

According to the collected data of the samples, level of utilizing on organizational structure was 3.3421, on administrative centralization was 3.3596, cost and income distribution was 3.4596, forecast making was 3.4511, forecast on control and assessment was 3.3895, statement making was 3.5055 and awarding system was 3.4637. The checking value of T with observation level were smaller than the nominal value of 0.05 that mean we can deny the hypethesis Ho in a statistic way. Based on the average value of the samples and the checking result, we could conclude that: the level of responsibility accounting utilizing at Vietnam cement manufacturers were quite widely-ranged. So, for a better business administration, Vietnam cement manufacturers should take necessary measures to leverage the utilizing the aspect of responsibility accounting.

#### 6.4. Impact of responsibility accounting on performance

To analyze the impact of the responsibility accounting to the performance of the enterprise, the study used a multiple regression model MLR (Multiple Linear Regression), results of the analysis are as follows:

**Table 1.8**  
**Model Summary<sup>b</sup>**

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>	<i>Durbin-Watson</i>
1	,828 <sup>a</sup>	,685	,664	,63215	1,989

a. Predictors: (Constant), Ince, Repo, Dec, Allo, Est, Eval, Struc

b. Dependent Variable: Perf

(Source: Data Processing Result of the author)

R<sup>2</sup> = 0.685, meaning that 68.5% of the operational differences observed was explained by change of variables in the model and linear regression models were constructed in accordance with the data set up to 68.5%.

Durbin-Watson value = 1.989 approximate to 2, that meant no autocorrelation superlative chain.

**Table 1.9**  
**ANOVA<sup>a</sup>**

<i>Model</i>		<i>Sum of Squares</i>	<i>df</i>	<i>Mean Square</i>	<i>F</i>	<i>Sig.</i>
1	Regression	92,059	7	13,151	32,910	,000 <sup>b</sup>
	Residual	42,359	106	,400		
	Total	134,419	113			

a. Dependent Variable: Perf

b. Predictors: (Constant), Ince, Repo, Dec, Allo, Est, Eval, Struc

(Source: Data Processing Result of the author)

The analytical results show that the model built with statistical meaning by testing F = 32.910, P-value = 0.000 < 0.05, reject the null hypothesis Ho:  $\hat{\alpha}_j = 0$ , the model developed in accordance with the general.

**Table 1.10**  
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-,916	,317		-2,891	,005		
	Struc	,107	,074	,100	1,445	,012	,624	1,601
	Dec	,187	,060	,191	3,121	,002	,792	1,262
	Allo	,139	,061	,146	2,268	,025	,719	1,390
	Est	,147	,064	,146	2,295	,024	,730	1,369
	Eval	,175	,082	,147	2,137	,035	,626	1,597
	Repo	,232	,082	,186	2,819	,006	,687	1,457
	Ince	,354	,064	,338	5,493	,000	,787	1,270

a. Dependent Variable: Perf

(Source: Data Processing Result of the author)

Researchers such as [2, 3, 17] and other authors have said that  $VIF > 10$  will occur multicollinearity. The independent variables in the model are  $VIF < 10$  should satisfy the condition of multicollinearity.

The model coefficients  $\beta_j$  are p-value is  $< 0.05$ , which means that disprove the hypothesis  $H_0: \beta_j = 0$ . Thus, this model is appropriate

Thus, the regression model would be:

$$Y = -0,916 + 0,107 * X_1 + 0,187 * X_2 + 0,139 * X_3 + 0,147 * X_4 + 0,175 * X_5 + 0,232 * X_6 + 0,354 * X_7$$

Thus, through the above regression model can be seen that the aspects of responsibility accounting are affected co-directionally with the performance of the business, which means that if the more we applied the aspects of responsibility accounting, the higher of the performance of the higher business will be and vice versa statistically.

## 7. DISCUSSION AND CONCLUSION

Application responsibility accounting provide information for decision-making processes of internal governance is the basis for developing internal resources, enhancing the competitiveness and improving the performance of Viet Nam firms in general and Vietnam Cement Manufacturers in particular. To build and apply successfully responsibility accounting requires the latest synergies from the business itself, government and educational institutions to promote the elements of responsibility accounting in Vietnam Cement Manufacturers. Based on the research result, the author propose the following solutions to improve level of application responsibility accounting:

Managers in Vietnam Cement Manufacturers have to carry out the structural division of the enterprises into different responsibility centers on the natural features and administrating characteristics of their own business organization

Based on the organizational structure, short-term and long-term aims of Vietnam Cement Manufacturers, the senior executives in the company should perform authorization for the managers of responsibility centers with explicit power to administrate. The manager must be responsibility for results and performance of the responsibility centers.

Vietnam Cement Manufacturers have to evaluate according to the aspects of Balanced Scorecard (BSC) including the financial and non-financial indicators to ensure comprehensiveness in effectively providing the information for administrators to improve business achievement.

Making responsibility accounting reports should use indicators according to 4 aspects of Balanced Scorecard to constitute accounting reports shall conform to the various responsibility centers.

Establishing rewarding system must also use the financial and non-financial indicators according to BSC to make a rewarding base to ensure objectivity, comprehensive system of rewarding.

The Government should soon establish full legal of accounting and accounting responsibility for the enterprises in the economic market currently.

The state should build and plan for training of accounting staff in phases 5, 10, 15 years and longer strategic.

Responsibility accounting is the most important content of management accounting. Responsibility accounting provide the information for the administrators to make business decisions timely and correctly. The research have shown the development of responsibility accounting, from 4 primary elements of Initial accounting responsibilities developed into 7 elements and developed into 43 scales matching 7 elements and 2 new items in this paper. Research have also clearly shown level of responsibility accounting application according to 7 elements of Responsibility Accounting in Vietnam Cement Manufacturers. After that, the research recommend solutions to improve level of responsibility accounting in Viet Nam firms. Since then, It is necessary for the Vietnam Cement Manufacturersto encourage to use the other modern administrative accounting methods in its business as the application of the Balanced Scorecard (BSC) to improve performance, to strengthen sustainable development of Vietnam Cement Manufacturers and Viet nam Enterprises in the context of international integration further and broadly at present.

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