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# Factors affecting the responsibility accounting in Vietnamese firms: A case study for livestock food processing enterprises

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#### ABSTRACT

Responsibility accounting provides not only financial and non-financial information for decentralized managers but also it gives suitable responsibility for other parts or other responsibility centers to understand whether or not they work properly. Completing responsibility accounting in enterprises depends on many internal and external factors. This research uses quantitative research method to analyze the factors affecting the responsibility accounting in livestock food processing enterprises (LFPE) in Binh Dinh province, Vietnam. The results indicate that various factors affect the responsibility accounting including managerial decentralization, division the organization into responsibility centers, income and cost allocation, estimations, reality and estimation evaluation, reporting, rewarding, etc. Based on those results we offer some intuitive recommendations for firms to increase financial performance.

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#### 1. Introduction

One responsibility accounting can be applied in various organizations and it might be different under various circumstances. The responsibility accounting needs to be flexible to adapt to all changes of political environment, competition, culture, size, organization structure, technology or education level, etc. With its own characteristics, there is no need for a standard accounting system for responsibility accounting system. It depends on characteristics of each enterprise (Shields, 1995). Many researchers have indicated various factors influencing on general accounting system and responsibility accounting such as company size (Hoque & James, 2000), position of the managers (Nguyen, 2014), human resources (Horngren et al., 2010, 2012; Nyakuwanika et al., 2012), announcement and attitude (Belkaoui, 1981). As a result, in this research, the authors will first use factors built by former researchers. Then, we discover new factors by quantitative research. The data collected from LFPE in Binh Dinh province is used to test whether or not those factors are statistically significant. As responsibility accounting is constructed on decentralization, standards, measures of achievement, evaluation, reward distribution, etc., there are

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many researchers in different countries, and various fields have studied the factors affecting the responsibility accounting (e.g. Hanini, 2013). To the best of authors' knowledge, there is no research on factors affecting the responsibility accounting in Vietnam livestock food processing enterprises. This is motivation for us to conduct this research, with firms located in Binh Dinh province of Vietnam.

#### 2. Literature Review

Responsibility accounting is interested in research by domestic and foreign researchers and focus mainly in the following directions:

Firstly, researches related to the factors of responsibility accounting. For foreign studies, Garrison and Noreen (2008) detailed responsibility centres in financial institutions including investment centres, revenues centres, costs centres, and profits centres. According to authors, these centres have dialectical relationships with each other, the investment centres keep a pivotal role because if the investment centres work well, investment decisions will be made more properly and it will significantly affect revenues, costs and profits centers. Besides, Safa (2012) investigated the role of responsibility accounting in organizational structure. This study shows that responsibility accounting is designed to report and gather costs, showing the administrator's personal level. According to this research, costs are calculated for each department based on responsibilities and control tasks, respectively. This study also suggests that responsibility accounting has three basic types of responsibility centers such as cost centers, revenue centers and investment centers. On the contrary to Safa's research, Horngren (2012) suggested that responsibility accounting includes five responsibility centers such as cost centers, revenue centers, profits centers, investment centers and contribution margin centers. Accordingly, the contribution margin centers is the responsibility center where the administrator is responsible for that (contribution margin is calculated by revenue minus variable costs).

For domestic studies, Nguyen (2006) performed an investigation on cost management accounting model in Vietnamese pharmaceutical manufacturing enterprises, Hoang (2010) studied management accounting organization with strengthening management of business activities in Vietnamese construction and installation enterprises. Tran (2010) investigated the assessment report on administrative responsibilities in listed companies in Vietnam Stock Exchange, Pham (2010) studied the reporting system of accounting of evaluation of responsibility in commercial enterprises in Vietnam, Tran (2015) examined responsibility accounting in cement manufacturing enterprises in Vietnam, etc. Most authors mention responsibility centers including revenue, costs, profits and investments with responsibility reports and traditional evaluation indicators such as return on investment (ROI), return of Investment (RI), etc. These above researches have stated that they researched on responsibility accounting associated with the relationship of organizational of units on structure, management and organization. These researches revolve around the issue of the responsibility centers of organizations and units.

Secondly, researches related to the relationship between responsibility accounting and business performance. Lin and Yu (2002) studied the responsible cost control system in China. The study determined the applicability of responsibility accounting in different socio-economic conditions in China's companies and showed that companies operate in different socio-economic environments and applied various procedures in the cost control system including target costs, static cost estimates, flexible cost estimates, internal transfer pricing, performance evaluations and deviation analysis. Besides, this study also suggested that cost control systems significantly reduce production costs and enhance profits. It also documents that the influence of responsibility accounting in improving the cost control system, reducing production costs, motivating employees and helping businesses achieve the set objectives. Okoye et al. (2009) researched on the application of responsibility accounting to improve the performance of manufacturing enterprises. This research shows that there is a relationship between responsibility accounting and the achievements in manufacturing enterprises. This study also indicates that applying responsibility accounting will help enterprises control costs well, so they will improve profits and the role of managers.

Thus, responsibility accounting is an important tool to assess management responsibilities based on the performance of enterprises.

Nguyen (2013) investigated the relationship between responsibility accounting and the decentralization of management and organizational structure and evaluated the effectiveness and management responsibilities of responsibility centers associated with industry characteristics of Vietnam dairy manufacturing sector. The study mainly used traditional methods to determine costs as well as evaluate results. Additionally, the study also points out the need to apply balance scorecard or added economic value to evaluate the results. However, the research has applied incomplete, detailed and systematic proposals, mainly based on qualitative research to study, so this research only provides the level of responsibility accounting application in enterprises. Nguyen (2014) examined the responsibility accounting in construction corporations associated with the Ministry of Transportation. The study proposed orientations, established and operated the responsibility accounting organization model and proposed to use of some models to evaluate the achievements in construction corporations. However, the research also stopped at the point of providing the proposals and did not offer any modern statistical tools to assess the level of responsibility accounting factors to the results. In addition, Pham (2010) pointed out that enterprises listed on the stock market are the ones established and developed suitably in the context of the market economy, most of the listed companies often operate multidisciplinary and in large-scale. In listed companies, benefits are associated with many subjects, especially the shareholders' interests. However, in managing and operating daily tasks, there is only Board of Directors implementing the tasks assigned by shareholders. Therefore, listed companies need to have a tool to help senior managers supervise and evaluate the management responsibilities of their subordinates to their assigned jobs in order to have timely corrective actions to improve the ineffective activities aimed at achieving the common goal of the whole enterprise. Therefore, the decentralization of management greatly affects the performance. The studies suggest that the application of responsibility accounting will help enterprises control costs and it in turn improve their performance. Therefore, it is possible to rely on responsibility accounting to assess management responsibilities of managers based on the performance of enterprises.

Third, the research on factors affecting responsibility accounting. Belkaoui (1981) investigated the relationship between self-declaration and attitudes towards responsibility. In this study, the author used the quantitative research method with a sample of 55 questionnaires sent to various ministries of the Government of Canada. Observation variables measured self-declaration and attitudes including 32 observed variables. The results of this study show that self-declaration was directly associated with attitudes and responsibility accounting. Besides, the study also indicated that the assignment of responsibilities and the rewarding of managers that affect the responsibility accounting work. Similarly, Fowzia (2009) researched on responsibility accounting work in Bangladesh to show the satisfaction about a responsibility accounting system. The study investigated 88 service organizations and used regression model to evaluate the influence of factors on the responsibility accounting system. The study showed the assignment of responsibilities, the ways measure the efficiency of the responsibility accounting and the rewarding work affecting the responsibility accounting. The study did not find a statistically significant impact of the central factor of responsibility and criteria for measuring work efficiency according to the responsibility accounting system to the responsibility accounting. In addition, Nyakuwanika et al. (2012) studied the efficiency of the responsibility accounting system in the field of health and found some relationship between human factors and responsibility accounting. The research indicated that without the participation of workers in the design of the responsibility accounting system, the responsibility accounting system will not be effective.

These above studies show that factors such as assignment of responsibilities, ways to measure work performance and rewards affect the responsibility system. According to the authors the results of the above studies reflect that 3 groups of factors affecting mainly the responsibility accounting and these are not comprehensive because they do not cover all existing issues. A responsibility accounting system wants to operate effectively, it is necessary to build standards and regulations suitable to the operational

objectives of each company, legal corridor, etc. In general, the specific issues of the company are collectively referred to each company's regulations. These regulations help the responsibility accounting system develop measurement standards; thereby making the assessment of responsibilities more comprehensive.

# 3. Methodology applied for the research

## 3.1 Research design

To study whether the variables and scales are reliable, and suitable for LFPE enterprises in Binh Dinh province, the study uses the Likert with 5 scales and uses the Cronbach Alpha to test the scales and use other analytical tools to determine the impact of factors on LFPE enterprises in Binh Dinh. The research process is carried out in Fig. 1 as follows

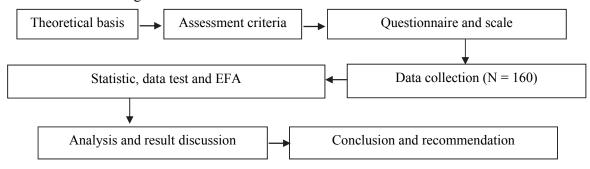


Fig. 1. The structure of the proposed study

## 3.2 Variable definition

Variables used in the research are described and defined as in Table 1 as follows,

**Table 1**Tested factor groups and scale variables

Tested factor	Tested scale variables
groups	
1. Management decentralization	Six observed variables are: Manager of the responsibility center who is announced about his duty (PQ1); Manager of the responsibility center who is eligible for doing his job (PQ2); Each job in the enterprise with clear authority and responsibility (PQ3); Employees in the responsibility center who have enough skill and background for doing their jobs (PQ4); Manager of the responsibility center who has enough time for doing his job (PQ5); Employees' accountability is in accordance with their responsibility (PQ6).
2. Divide the organization into responsibility centers	Seven observed variables include: Enterprises are divided into administrative units according to the activity's nature (PC1); Enterprises divide jobs for administrative units clearly (PC2); There is a clear description in responsibility centers (PC3); There is a clear combination and relationship between responsibility centers (PC4); There is a specialized manager for each responsibility center (PC5); Each responsibility center has each own operation style (PC6); Each responsibility center has each own particular and homogeneous activities (PC7).
3. Cost and income allocation	Five observed variables encompass: All revenue related to the responsibility center which is defined and recognized (PB1); All costs related to the responsibility center which is defined and recognized (PB2); There is a clear system to compare revenue and cost in responsibility centers (PB3); There is a clear policy in allocating indirect cost for responsibility center (PB4); There is a clear system to define and allocate cost and revenue in enterprises (PB5).
4. Estimation	Three observed variables are: Budget estimation is separately related to all responsibility centers (LD1); The enterprise trains the employees of responsibility centers and encourages them to obtain the goal (LD2); All the employees of the responsibility center join in estimating activity accordance with their job (LD3).

Source: Collected from literature review

**Table 1**Tested factor groups and scale variables (Continued)

Tested factor	Tested scale variables
groups	
5. Estimation and actual	Six observed variables include: Comparing the actual and estimated of center's employees which is convenient for information between administrative level (DG1); Comparing the actual and estimated of center's employees to evaluate employees' results (DG2); Comparing the actual and estimated of center's employees to provide suitable information at the right time (DG3); Comparing the actual complementation of employees to support for control policy (DG4); Comparing the actual and estimated of center's employees to determine the gap and who will be in charge for this (DG5); Comparing the results to determine who is responsible (DG6).
6. Report	Eight observed variables are: Report of responsibility centers prepared for measuring its performance (BC1); Responsibility centers' manager and employees join in designing performance evaluation report (BC2); The report is related to the responsibility center in financial respect (BC3); The report is related to the responsibility center in both financial and non-financial respect (such as the inner, customers, learning the BSC method) (BC4); The reports measuring each responsibility center's performance are separate (BC5); Reported information is linked with employees who are responsible for those information (BC6); The deviation mentioned in the report is analyzed and researched (BC7); Solutions for deviation will be mentioned if possible (BC8).
7. Reward	Five observed variables encompass: Managers reward material incentives for employees who are achieved goals (KT1); The rewards are suitable for employees' duty in responsibility center (KT2); Employees are satisfied with the rewarding system (KT3); To reward, enterprise objectively bases on employees' performance (KT4); There is a periodical revision for the rewarding system (KT5).
8. Legal environment	Four observed variables are: Legal frame about accounting (accounting law, accounting standards, accounting system) (PL1); Other law related to company operation (PL2); Regulation and rules of the enterprise which directly affects the accounting work (PL3); Local government policy (PL4).
9. Factors of enterprise characteristics	Six observed variables include: Accounting information users (DD1); Internal control system (DD2); IT application into accounting work (DD3); Business legal form (DD4); Diversity in business field of the enterprise (DD5); Diversity in business operation area (DD6).
10. Performance	Five observed variables encompass: Return on investment ratio (Y1); Gross profit (Y2); Product quality (Y3); Customers' satisfaction (Y4); Equipment capacity usage level (Y5).

Source: Collected from literature review

#### 3.3 Data and collection

To conduct this study, the authors took a convenient sampling and survey at 32 LEPE enterprises in Binh Dinh province with 139 valid questionnaires in total 160 questionnaires distributed (valid rate: 86.87%). To collect data for the study, the authors use predesigned questionnaires. The final questionnaire is based on 3 phases:

- Stage 1: Prepare draft questionnaires: Based on the theory of responsibility accounting and preliminary collection practice, authors conducted survey questionnaires with two parts: General information on survey subjects and survey information about factors affecting responsibility accounting.
- Stage 2: Consult expert opinion: In this stage, we conducted a direct interview on the questionnaire that was designed in phase 1 and discussing the idea of research for experts to consult whether the questionnaire is appropriate yet. Does this questionnaire need to be supplemented or adjusted to suit the situation factors affecting responsibility accounting?
- Stage 3: Official questionnaire design: Based on the interview results in stage 2, we synthesize and give the final complete questionnaire to send to the subjects such as members of the board of directors, the board of members, department heads and deputy accountants, manager of the production workshop, etc. at 32 livestock food processing enterprises in Binh Dinh province, Vietnam.

To serve the process of questioning and answering survey forms, we use the scale in the question section to investigate, this assessment is largely measured through the Likert (5 scales) and the scale of identification with questions and answers which have one or many variables. Survey questions also have openended questions to collect more information from the survey subjects.

#### 3.4 Methods for data analysis

First, Cronbach Alpha is used to check whether the observed variables of the questionnaire are reliable. Second, Exploratory Factor Analysis (EFA) is performed to look for the similarities with other groups of factors affecting responsibility accounting at livestock food processing enterprises in Binh Dinh province. In other words, it is to discover new groups of factors affecting the responsibility accounting at livestock food processing enterprises in Binh Dinh province. Finally, Regression aims to understand the impact of new exploratory factors (found in EFA) on responsibility accounting. In regression, the value of the regression Beta indicates how significant the factors affects the responsibility accounting. Moreover, it is important to figure out which factors have the strongest or weakest influence on responsibility accounting.

# 4. Analysis results/Findings

## 4.1 Cronbach Alpha

Results from Cronbach Alpha test are represented as followed

**Table 2**Tested factor groups and scale

Tested factor groups	Number of Items	Cronbach's Alpha
Management decentralization	6	.940
2. Divide the organization into responsibility centers	7	.968
3. Cost and income allocation	5	.913
4. Estimation	3	.929
5. Estimation and actual	6	.935
6. Report	8	.949
7. Reward	5	.934
8. Legal environment	4	.903
9. Factors of enterprise characteristics	6	.937
10. Performance	5	.925

Source: collected from research results

Test results show that Cronbach Alpha of factor groups are all greater than 0.7. Thus, all observed variables of group factors are satisfied and will not be eliminated, which means all scales are consistent and reliable, which is statistically significant for using EFA in LFPE enterprises in Binh Dinh province.

#### 4.2. Exploratory Factor Analysis EFA

We have the results are representing in the following tables:

Table 3
KMO and Bartlett's Test result

TELLO WILL DWILLOW D TOOL TOOM!	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.800  df = 1176
Bartlett's Test of Sphericity Approx. Chi-Square	8808,890 Sig000

**Table 4**Total Variance Explained

		•								
		Initial Eiger	ıvalues		Loadings			Rotation Sums of Squared Loadings		
		% of	Cumulative		% of	Cumulative		% of	Cumulative	
Component	Total	Variance	%	Total	Variance	%	Total	Variance	%	
1	12.616	25.746	25.746	12.616	25.746	25.746	6.628	13.527	13.527	
2	7.583	15.476	41.222	7.583	15.476	41.222	5.584	11.395	24.922	
3	6.105	12.459	53.681	6.105	12.459	53.681	5.253	10.721	35.644	
4	3.793	7.741	61.423	3.793	7.741	61.423	4.629	9.447	45.091	
5	3.079	6.284	67.707	3.079	6.284	67.707	4.323	8.822	53.913	
6	2.218	4.526	72.232	2.218	4.526	72.232	4.238	8.649	62.562	
7	1.834	3.742	75.975	1.834	3.742	75.975	3.998	8.158	70.720	
8	1.707	3.483	79.458	1.707	3.483	79.458	2.961	6.044	76.764	
9	1.415	2.888	82.346	1.415	2.888	82.346	2.735	5.582	82.346	

Extraction Method: Principal Component Analysis.

Source: collected from research results

According to the KMO and Bartlett's Test, we have a KMO coefficient = 0.800> 0.5 (which is greater than the required minimum to ensure proper EFA analysis) and the Bartlett's Sig value is 0.000 which is smaller than 0.05, which means the variables correlated in overall. Therefore, EFA analysis is meaningful. At the same time, the analysis results show that in the above covariance table, if consider that the criterion of Eigenvalue is greater than 1, we can build 9 groups of factors. The total variance is 82.346% (higher than the standard, which is 50%), which means 82.346% of the data variance is explained by 9 factors. According to Hair et al. (2010), to ensure the significance level of EFA, the minimum value for Factor Loading is 0.3, if the Factor Loading is greater than 0.4 then it can be considered important, and if this indicator receives value of greater than 0.5 it is considered to be of statistically significant. As a result, when using the Varimax rotation to obtain the best Factor Loading, we obtain 9 groups of factors, namely, report (consisting of 8 variables), dividing the organization into responsibility centers (including 7 variables), factors of enterprise characteristics (including 6 variables), management decentralization (including 6 variables), reward (including 5 variables), estimation and reality evaluation (including 5 variables), cost and income allocation (including 5 variables), legal environment (including 4 variables) and estimation (including 3 variables). Table 5 demonstrates the results of the survey.

Table 5

Rotated Component Matrix<sup>a</sup> Source: collected from questionnaire Component BC5 877 BC1 875 BC3 .866 BC2 864 .847 BC4 BC8 .806 BC6 .798 .678 BC7 .874 PC6 PC2 .843 PC1 .813 PC7 807 PC3 .806 PC4 .736 PC5 .675 DD6 926 DD4 860 DD2 843 DD5 820 DD1 761 DD3 682 .880 PO6 PQ5 .857 PQ3 .842 PQ2 .804 766 PO<sub>1</sub> PQ4 .547 KT5 .936 KT2 .855 849 KT3 KT4 .833 KT1 .777 946 DG5 879 DG4 DG2 863 DG3 .844 DG1 .771 950 PB5 864 PB2 PB4 .832 PB3 .795 PB1 .748 PL4 868 PL3 PL1 768 PL2 .540 .712 LD3 .951 902 LD2 LD1 .827

In terms of the performance variable (5 observation variables), the results of factor analysis are summarized in Table 6 and Table 7.

**Table 6** KMO and Bartlett's Test

]	Kaiser-Meyer-Olkin Measure of Sampling Adequacy.				
]	Bartlett's Test of Sphericity	Approx. Chi-Square	589.275		
		df	10		
		Sig.	.000.		

Source: collected from research results

According to the KMO and Bartlett's Test, we have a KMO coefficient = 0.873 > 0.5, which is greater than the required minimum to ensure proper EFA analysis and the Bartlett's Sig value is 0.000 < 0.05, which means the variables correlated in overall. Then, EFA analysis is really meaningful.

**Table 7**Total Variance Explained

Total Vallance Explained							
_		Initial Eigenval	ues	Extraction	on Sums of Squa	red Loadings	
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
1	3.888	77.770	77.770	3.888	77.770	77.770	
2	.431	8.612	86.382				
3	.389	7.785	94.166				
4	.184	3.677	97.843				
5	.108	2.157	100.000				

Extraction Method: Principal Component Analysis.

Source: collected from research results

At the same time, in the above covariance table, when the criteria of *Eigenvalue is larger than 1*, only 1 factor can be built. The total variance is 77.770%, which is higher than the standard number of 50%, which means 77.770% of the data variance is explained by this factor. The matrix is drawn as follow:

**Table 8**Component Matrix<sup>a</sup>

	Component 1
Y5	.954
Y2	.910
Y3	.894
Y4	.828
Y1	.815

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Source: collected from research results

Thus, the results of the factor analysis show that we derive 1 factor of performance, and 9 factors influencing performance and they are statistically significant.

#### 4.3. Regression analysis

To perform the regression analysis, the authors calculated the mean values of the affected groups and perform regression analysis. The goal of regression analysis is to analyze and evaluate the effect level of independent variables: PQ, PC, PB, LD, DG, BC, KT, PL, DD to dependent variable Y. The result of regression analysis is as follows:

**Table 9**Coefficients<sup>a</sup>

Cocinci		TT	1 1: 1.0	G: 1 1: 1				
		Unstanc	lardized Co-	Standardized				
		eff	ricients	Coefficients			Collinearity S	Statistics
Model		В	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	450	.217		-2.071	.040		
	BC	.074	.031	.115	2.378	.019	.598	1.673
	PC	.174	.043	.241	3.999	.000	.387	2.584
	PQ	.326	.040	.437	8.238	.000	.499	2.003
	DD	.158	.039	.205	4.085	.000	.559	1.787
	PB	.095	.032	.129	3.012	.003	.760	1.315
	KT	.141	.036	.178	3.906	.000	.679	1.473
	PL	.067	.036	.086	1.888	.061	.670	1.492
	LD	.102	.026	.168	3.924	.000	.765	1.308
	DG	.129	.035	.158	3.708	.000	.772	1.296

a. Dependent Variable: Y

Source: collected from research results

From the results of Table 9, we can see that all independent variables affect the dependent variable Y when the level of significance is one percent. The multi-collinear problem (a model defect) does not appear in the model. Specifically, the VIF variance coefficients are less than 10 (at the level, multi-collinear is diagnosed to be exist).

**Table 10** Model Summary R<sup>2</sup>

				Std. Error of the
Model	R	R Square	Adjusted R Square	Estimate
1	.905ª	.819	.806	3368
a Predictors: (Cons	stant) DG PL DD LD PR	KT BC PO PC		Source: collected from research results

**Table 11**The results of the Anova<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	66.092	9	7.344	64.731	.000 <sup>b</sup>
	Residual	14.635	129	.113		
	Total	80.726	138			

a. Dependent Variable: Y

R-square ( $R^2$ ) value of the model is 81.9%, which indicates that independent variables can highly explain the variability of dependent variable (noise factors only account for 9.1%). The results of the regression function through the F statistics from the ANOVA table also show that the model is suitable (with Sig. is 0.000). Thus, based on the regression results, the regression of the factors affecting responsibility accounting in LFPE enterprises in Binh Dinh province is as follows:

$$Y = -0.450 + 0.074 \times BC + 0.174 \times PC + 0.326 \times PQ + 0.158 \times DD + 0.095 \times PB + 0.141 \times KT + 0.067 \times PL + 0.102 \times LD + 0.129 \times DG.$$

Furthermore, through the standardized beta column, we can see that PQ has the strongest effect on the dependent variable Y (standard beta is 0.437), followed by PC and DD (standard beta is 0.241 and 0.205 respectively). PL has the lowest effect on dependent variable (standard beta is 0.086). Other factors, such as BC, PB, KT, LD, DG, have almost the same effect.

b. Predictors: (Constant), DG, PL, DD, LD, PB, KT, BC, PQ, PC

#### 5. Recommendations for responsibility accounting from factors analysis

From the regression result, all factor groups (PQ, PC, PB, LD, DG, BC, KT, PL, DD) have influenced on Y. Meanwhile, PQ shows the strongest effect, followed by PC, DD, KT, DG and LD while other factor groups such as BC, PB and PL pose unimportant impacts. Therefore, the authors recommend several solutions for completing responsibility accounting as follow:

## - Managerial decentralization

Based on the organizational structure, senior managers in LFPE in Binh Dinh Province should authorize the center managers. The managers are also responsible for the results and performance of their centers. Managers should be authorized suitably with the basis of the activities in responsibility centers. It is to make decisions regarding the responsibilities and the management responsibility for the results of their responsible centers.

#### - Dividing organization structure into responsibility centers

Based on the strategy - vision, short-term and long-term goals; managers in LFPE in Binh Dinh province need to divide the organizational structure into different responsibility centers based on business characteristics and administrator's style. Responsibility centers may include revenue centers, cost centers, profitability centers and investment responsibility centers. Specifically, cost center can be LFPE workshops, revenue centers can be sales branches, sales offices, shops, representative offices, etc. selling products of the business. The profit center may be enterprise level or its branches or factories level; and the investment center may be a board of directors, or a board of directors.

## - Cost and earnings allocation

Responsibility accounting allocates costs and earnings to responsibility centers according to the capacity and power limits of the center. This defines the responsibilities of each center with direct costs, indirect costs, revenues and internal transferred price between centers to limit the responsibility inclusion and to calculate cost to be more accurate.

#### - Planning for responsibility centers

Based on the strategy, LFPE in Binh Dinh Province will link estimations with previous or current business results in order to set up business budget. Responsibility accounting encourages all employees of each responsibility center to make estimation to ensure the feasibility of overall goal.

#### - Evaluating the estimations and actual results

To evaluate the achieved results as well as managers' responsibility in enterprise centers, responsibility accounting should use the budget to control and measure enterprise achievement. As we know, evaluating actual results against estimations is important for executives to make business decisions. Therefore, LFPE in Binh Dinh province should evaluate the actual results against the estimations regularly to provide the information for operating managers in time.

## - Reporting responsibility accounting

Based on comparing the results achieved between actual and estimated norms at the responsibility centers; managers should prepare reports to analyze the difference between the actual and estimated result to determine the causes and to see who is responsible for all those differences. Then, all executives must analyze the reasons for all those differences, and all responsibility centers have to measure the achieved

results against the estimated in order to report in time.

### - Rewarding

When there are responsibility accounting reports, managers need to establish a reward system, and timely incentive which are consistent with the achieved results. The systems will be effective when the reasons for the difference between the actual and the estimated results are clarified. At the same time, the reward system should use non-financial indicators such as the use of balance scorecard, KPI, etc. to ensure its objectivity and comprehensiveness. Then, the reward system will limit unwanted disparities and encourage good disparities. Moreover, the reward system also needs to determine which executives are responsible for those differences to reward good disparities, which encourage employees to improve their performance.

## - Legal environment:

The legal framework for accounting in Vietnam is gradually improving in recent years and in the near future. Therefore, based on the legal framework on accounting such as the Accounting Law, Accounting Standard, Accounting Regime and other relevant legal regulations we need to issue rules and regulations to ensure being suitable with the enterprise structure, and local policies whether the enterprise is head-quartered or its branches.

## - Enterprises characteristics

The design of a responsibility system depends on the information needs of managerial level in the enterprise, internal control system, application level of information technology in the accounting work, form of the business and diversity of the area, etc. Therefore, we need to use enterprise characteristics to design the responsibility accounting system that is suitable and effective when operating to control the activities and obtain the planned objectives.

## 6. Conclusion

This paper has shown that responsibility accounting in LFPE was affected by Managerial decentralization, Dividing organization structure into responsibility centers, Cost and earnings allocation, Planning for responsibility centers, Evaluating the estimations and actual results, Reporting responsibility accounting, Rewarding, Legal environment, Enterprises characteristics. In out our survey, the most important factor groups are Managerial decentralization, Dividing organization structure into responsibility centers, Enterprises characteristics, Rewarding, Evaluating the estimations and actual results. The authors have also provided recommendations as solutions. However, the results of this survey is limited to a small region in Vietnam and cannot be necessarily generalized. Hence, the next research orientation may widen the research area for all LFPE in Vietnam and add-in outer enterprises factors.

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