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## Tầm quan trọng của việc áp dụng kế toán trách nhiệm trong việc nâng cao hiệu quả hoạt động của doanh nghiệp: Nghiên cứu điển hình ở Gia Lai

### TÓM TẮT

Nghiên cứu nhằm xác định ảnh hưởng của mức độ áp dụng các yếu tố của kế toán trách nhiệm đến hiệu quả hoạt động tại các doanh nghiệp – trường hợp điển hình ở Gia Lai. Dữ liệu khảo sát được thu thập từ 210 công ty trên địa bàn tỉnh Gia Lai và các phương pháp nghiên cứu định lượng kết hợp với mô hình hồi quy đa biến được sử dụng để tiến hành nghiên cứu. Kết quả nghiên cứu cho thấy tất cả các yếu tố của kế toán trách nhiệm đều ảnh hưởng tích cực đến quả hoạt động của doanh nghiệp bao gồm: Cơ cấu tổ chức (CCTC); Phân cấp quản lý (PC); Phân bổ chi phí và thu nhập (PB); Dự toán cho từng trung tâm trách nhiệm (DT); Dự toán và thực thi (ĐG); Báo cáo (BC); Khen thưởng (KT). Cụ thể, nghiên cứu cho thấy mức độ ứng dụng kế toán trách nhiệm càng cao thì hiệu quả hoạt động của doanh nghiệp càng cao.

**Keywords:** Kế toán trách nhiệm; hiệu quả hoạt động; kế toán quản trị; Gia Lai.

# **The importance of implementing the responsibility accounting features in improving firm performance: The case study in Gia Lai province**

## **TÓM TẮT**

This study aims to identify the impact of extent of applying the features of responsibility accounting on the performance in enterprises in Gia Lai province. Quantitative research methods combined with multiple linear regression (MLR) are used to conduct the research. The data was collected from 210 companies in Gia Lai province. The research results show that all factors of responsibility accounting positively influence performance include: Organizational structure (CCTC); Management decentralization (PQ); Cost and income allocation (P2); Forecast for responsibility centers (DT); Forecast and actual (ĐG); Report (BC); Reward (KT). Specifically, the study shows that the higher the level of responsibility accounting application, the higher the operational efficiency of enterprise.

**Từ khóa:** Responsibility Accounting; Performance; Management Accounting; Gia Lai.

## **1. INTRODUCTION**

Responsibility accounting is a fundamental concept in the field of management accounting. It helps manager to control and evaluate activities conducted by departments of a firm and evaluate different levels of management responsibilities. Then, this also helps manager to have valuable information in making decisions for achieving general objective, strengthen sustainable development of enterprises.<sup>1</sup> Due to difficulties in the global economy and the increasingly complicated geopolitical situation, along with a number of domestic limitations and obstacles. Responsibility accounting has become increasingly important to operational control to performance efficiency and sustainable development for Vietnamese firms. So, it is necessary for these firms to apply and implement a good responsibility accounting system. However, responsibility accounting in general is a very new content in both theoretical and practice in Viet Nam. This study was designed to investigate the importance of level of adopting the features of responsibility accounting to performance efficiency.

## **2. LITERATURE REVIEW**

### **2.1. Responsibility accounting**

RA was first developed in 1950 among large manufacturing enterprises in the US such as IBM, GM, Ford Motors, Kodak, etc.<sup>2</sup> Since then, responsibility accounting has been studied by many researchers in both theory and practice. Theoretically, there are many different views

about the responsibility accounting. Here are some perspectives:

The first concept of RA was initiated by Higgins in 1952.<sup>3</sup> He stated that responsibility accounting is an accounting system which is organized in enterprise to collect and report on expenses at the levels of management in enterprise. Each manager of organization shall be responsible to control an allocated expense.

Anthony A. Atkinson et al developed the concept responsibility accounting.<sup>4</sup> Whereby, responsibility accounting provides not only expenses information but also financial information related to both incomes and results. They defined responsibility accounting refers to an accounting system that collects, summarizes, and reports accounting data relating to the responsibilities of individual managers. A responsibility accounting system provides information to evaluate each manager on the revenue and expense items over which that manager has primary control.

James R. Martin focused on top-down accounting control under traditional responsibility accounting.<sup>5</sup> He stated that Responsibility accounting is an underlying concept of accounting performance measurement systems. The basic idea is that large diversified organizations are difficult, if not impossible to manage as a single segment, thus they must be decentralized or separated into manageable parts. These parts, or segments are referred to as responsibility centers. Accordingly, responsibility accounting provides not only revenues, costs,

profits information but also efficiency and investment information.

Mada stresses on communication of information at different management levels within the organization.<sup>6</sup> He defined responsibility accounting is a management method in order for design of accounting system to obtain control efficiency through the direct relationship between accounting report and the head in the organizational structure of company at all management levels.<sup>1</sup> Likewise, Sarkar and Yeshmin<sup>7</sup> state responsibility accounting is considered as an important control system and represents a source of information that facilitates decision making process in short and long ranges.

On the other hand, Rehana Fowzia emphasizes that manager should be held responsible for those items and only those items that the manager can actually control to a significant extent.<sup>8</sup> He defined responsibility accounting as a management control system designed to make various responsibility managers accountable based on the principles of delegation and location of their responsibility. The authority and responsibility are based on responsibility centers. Similarly, the responsibility accounting system is designed to report and accumulate costs by individual levels of responsibility. Each supervisory area is charged only with the cost for

which it is responsible and over which it has control.<sup>9</sup>

According to Horngren, Datar and Rajan responsibility accounting system measures plans represented by planning budgets with events and outcomes from each department or responsibility center.<sup>10</sup> Responsibility accounting as a control device emphasizes responsibility centers. These are subunits of an organization under a specific manager's control and hence have direct responsibility for its activities. Some authors have categorized responsibility centers into three types: cost, profit and investment centers.<sup>8-9,11-12</sup> Currently, most researchers believe that there are 4 types of responsibility center; namely cost center, the revenue center, profit center and investment center.<sup>13-14</sup> On the other hand, Horngren et al (2010) suggested that responsibility accounting includes five responsibility centers, contribution margin center is added.<sup>15</sup>

Furthermore, Hansen and Mowen state that the contents of responsibility accounting include four elements: (1) assigning responsibility, (2) establishing performance measures or benchmarks, (3) evaluating performance, and (4) assigning rewards.<sup>16</sup> Al-Gharaybah et al (2011) developed four basic elements into seven elements as followings:<sup>17</sup>

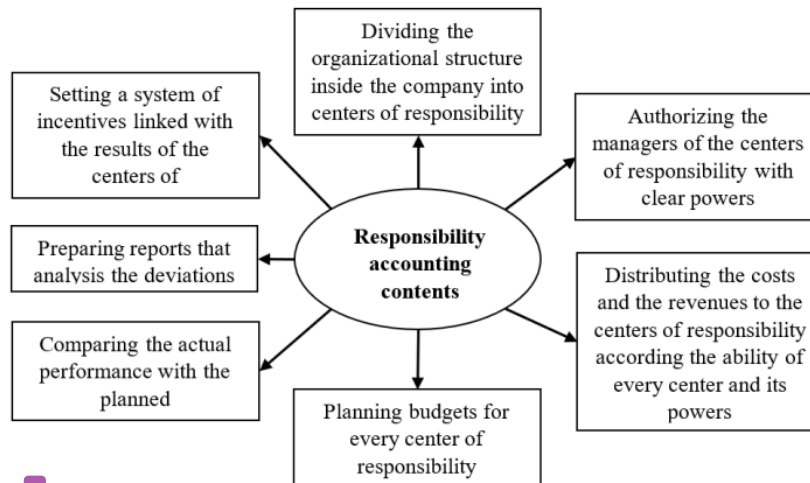


Diagram 1: The elements of the responsibility accounting system

Practically, responsibility accounting application can be suitable for all types of businesses. Therefore, there are many empirical studies on implementing responsibility accounting, such as the extent of implementing responsibility accounting features,<sup>17-18</sup> factors

affecting the implementation of responsibility accounting.<sup>19-22</sup> Besides, researchers also explore its role in organizations. For example, many studies measure the influence of responsibility accounting on firm performance.<sup>22-24</sup> Rehana Fowzia (2011) examines which type of responsibility accounting system is practiced in

different types of service organizations in Bangladesh and focuses on the satisfaction level of responsibility accounting system.<sup>8</sup> Safa (2012) discovers the role of responsibility accounting in organizational structure.<sup>9</sup> Al-shomaly (2013) studied the methods that are used to evaluate the performance and the extent of their relation with the responsibility accounting principles.<sup>25</sup> Hanini (2021) determine the importance of applying the features of responsibility accounting in Jordanian shareholding companies in limiting occupational fraud from the point of view of internal auditors and external auditors.<sup>26</sup>

In order to enhance the efficiency of responsibility accounting application need to build aspects of responsibility accounting system suitable to each company. Therefore, author realized that it is necessary to do more in-depth research on the impact of each element of responsibility accounting system on the performance to serve as a basis to support these enterprises in effectively applying responsibility accounting.

## 2.2. Responsibility Accounting and Managerial Performance

Responsibility accounting is widely accepted as a tool for improvement of managerial performance. It has impact on various aspects of managerial performance measures, most especially good communication and innovation and creativity skills. There are a significant and high positive relationship between responsibility accounting and managerial performance of manufacturing enterprise.<sup>23</sup> Jun and Yu (2002) also indicates that responsibility accounting help improving the cost control system, reducing production costs, motivating employees and helping businesses achieve the set objectives.<sup>27</sup> The implementation of responsibility accounting is the most powerful effect on firm performance.<sup>22</sup> Measures of managerial performance include return on

investment ratio, gross profit, product quality, customers' satisfaction; equipment capacity usage level.<sup>28</sup>

## 3. RESEARCH METHODOLOGY

Research uses quantitative research methods based on previous researches on the responsibility accounting. In order to accomplish the study objectives, a questionnaire has been prepared to collect the primary data from managers and accountants in organizations in Gia Lai Province. The questionnaire consists of two partitions. The first part investigates the characteristics of the responders and organizations. And the second part measures the extent of implementing responsibility accounting features and managerial performance. This study uses Likert with 5 scales including (1) Strongly Disagree, (2) Disagree, (3) Neither Disagree nor Agree, (4) Agree, and (5) Strongly Agree.

The sample was selected using the convenience sampling method. We survey at 213 enterprises in Gia Lai province and collect 110 valid questionnaires. After collecting data, they are entered and encoded in Microsoft Excel. Then, we use SPSS 22.0 to analyze these data. We use descriptive statistics to understand the characteristics of the survey sample, Cronbach's alpha to measure the reliability of scale, Exploratory Factor Analysis (EFA) to divide the variables into groups, and Multiple Linear Regression (MLR) to understand the impact of level of application of each element of responsibility accounting system to performance.

In this study, we inherited the measurement scale from the researches of Hanini (2013) has developed from seven elements of responsibility accounting of Al-Gharaybah, Al-D'bie and Nassar (2011).<sup>17-18</sup> Furthermore, performance is measured using 5 factors of Hoque and James (2000).<sup>28</sup> Dependent variables and independent variables are measured in Table 1 as follows:

Table 1: Summary table of observed variables of research factors

| Code                               | Observed variables  |
|------------------------------------|---|
| <b>Organizational structure</b>    |   |
| CCTC1                              | There is an organizational structure divided into administrative units according the nature of the activity |
| CCTC2                              | There is clarity in dividing the work in the administrative units   |
| CCTC3                              | There is a clear description to the centers of responsibility   |
| CCTC4                              | There is a coordination and clarity in the relation between the centers of responsibility                   |
| CCTC5                              | There is a specialized manager for each center of responsibility  |
| CCTC6                              | The operations inside the center of responsibility are characterized by homogeneity                         |
| <b>Management decentralization</b> |   |



|  |   |
|--|---|
|  | <b>1</b>  |
| PQ1  | The manager is told his duties in the center of responsibility  |
| PQ2  | The manager of the center is granted appropriate authorities to do his work.  |
| PQ3  | There is a description and identification of the responsibilities and the authorities of every job organization.  |
| PQ4  | The employees of the center of responsibility have the needed expertise to do their work in the center  |
| PQ5  | The manager of the center is given enough time to do their work.  |
| PQ6  | The employees' accountability suits their responsibilities.   |
| <b>Cost and income allocation</b>          |   |
| PB1  | All the revenues regarding the center of responsibility are identified and recorded.  |
| PB2  | All the costs regarding the center of responsibility are identified and recorded.   |
| PB3  | There is clarity in the system of comparing the revenues with the costs of the center of responsibility in organization.  |
| PB4  | There is a clear policy regarding the indirect costs' distribution to the centers of responsibility.  |
| PB5  | There is a clear and identified system of the costs distribution and the revenues in the organization.  |
| <b>Forecast for responsibility centers</b> |   |
| DT1  | A clear and a realistic objective is identified for every center of responsibility and complies with the performance standards                                      |
| DT2  | Necessary adjustments on the estimated budgets of the centers are carried out wherever there is a need.   |
| DT3  | The estimated budgets are prepared regarding every center separately  |
| DT4  | The firm trains the employees of the centers and encourages them to achieve these centers' objectives.  |
| DT5  | All the employees of the center participate in preparing the center's budget according to their job.  |
| <b>Forecast and actual</b>                 |   |
| DG1  | Comparing the employees' actual performance with the planned one in every center facilitates the communication between the administrative levels                    |
| DG2  | Comparing the employees' actual performance with the planned one in every center helps in evaluating the employees' performance                                     |
| DG3  | Comparing the employees' actual performance with the planned one in every center provides appropriate information in the proper time                                |
| DG4  | Comparing the actual performance of the employees supports the policies of control  |
| DG5  | Comparing the employees' actual performance with the planned one in every center aims to identify the deviations and consequently identifies who is the responsible |
| <b>Report</b>                              |   |
| BC1  | Reports of the center of the responsibility is prepared to measure the center's performance.  |
| BC2  | The manager and the employees of the center of responsibility participate in designing the form of the performance report   |
| BC3  | The reports regarding the center of responsibility care of the financial aspects.   |
| BC4  | The reports regarding the center of responsibility care of the non-financial aspects.   |
| BC5  | The reports measure the performance of each center separately.  |
| BC6  | The information of the reports is linked with employees who are responsible for them  |
| BC7  | The deviations mentioned in the report are analyzed and studied.  |
| BC8  | Methods to treat the reasons of the mentioned deviations in the reports are set where it is possible.   |
| <b>Reward</b>                              |   |
| KT1  | The bank's administration grants incentives to the employees who achieved the objectives of the planned objectives  |
| KT2  | The bank's administration grants moral incentives to the employees who achieved the objectives.   |
| KT3  | The incentives suit the employee's responsibility in the center.  |
| KT4  | The incentives contribute in increasing the employees' efficiency who work in organization.   |

|                    |  |
|--------------------|--|
| KT5                | There is a satisfaction by the employees towards the incentives system.            |
| KT6                | The employees are rewarded and motivated regarding objective basis and efficiency. |
| KT7                | There is a periodical reconsideration of the system of incentives                  |
| <b>Performance</b> |  |
| HQ1                | Return on investment (ROI)   |
| HQ2                | The margin on sales  |
| HQ3                | Product quality  |
| HQ4                | Customer satisfaction  |
| HQ5                | Capacity utilization   |

## 4. RESEARCH RESULTS

### 4.1. Descriptive statistics

Descriptive statistics results show general information of a data set, including gender,

**Table 2:** The description of the sample

| Job title          | N   | Portion | Practical experience        | N   | Portion |
|--------------------|-----|---------|-----------------------------|-----|---------|
| Board of director  | 02  | 1%      | Under 5 years               | 60  | 28,6%   |
| Board of managers  | 33  | 15,7%   | From 5-10 years             | 75  | 35,7%   |
| Head of department | 74  | 35,2%   | From 11-20 years            | 61  | 29%     |
| Accountants        | 101 | 48,1%   | More than 20 years          | 14  | 6,7%    |
| Total              | 210 | 100%    | Total                       | 210 | 100%    |
| Age                | N   | Portion | Types of business           | N   | Portion |
| From 20-29 years   | 53  | 25,5%   | Joint stock company         | 88  | 41,9%   |
| From 30-39 years   | 102 | 48,6%   | Joint venture company       | 2   | 1%      |
| From 40-49 years   | 49  | 23,3%   | limited liability companies | 113 | 53,8%   |
| More than 50 years | 6   | 2,9%    | sole proprietorships        | 7   | 3,3%    |
| Total              | 210 | 100%    | Total                       | 210 | 100%    |

### 4.2. Cronbach Alpha

evaluated Cronbach's Alpha coefficient and Item—Total Correlation based on collected research data to test the reliability of each scale and eliminate inappropriate observed variables in the research model. By using Cronbach's Alpha to test reliability, items with corrected-item total relation value less than 0.3 were removed and Cronbach's Alpha of the scale greater than 0.6.

**Table 3:** Cronbach's Alpha result

| Factors                     | Number of observations | Number of valid observations | Cronbach's Alpha | Corrected Item Total Correlation (Min) |
|-----------------------------|------------------------|------------------------------|------------------|--|
| Organizational structure    | 6                      | 6                            | .851             | .593                                   |
| Management decentralization | 6                      | 6                            | .862             | .562                                   |
| Cost and income allocation  | 5                      | 5                            | .835             | .531                                   |
| Forecast                    | 5                      | 5                            | .842             | .586                                   |
| Forecast and actual         | 5                      | 5                            | .838             | .611                                   |
| Report                      | 8                      | 8                            | .887             | .600                                   |
| Reward                      | 7                      | 6                            | .859             | .554                                   |
| Managerial Performance      | 5                      | 5                            | .825             | .518                                   |

### 4.3. Exploratory factor analysis (EFA) analysis

After analyzing Cronbach's Alpha, appropriate variables are used in analyzing EFA.

education level, age, working position, working experience, and types of business in the sample data. The results will be shown in Table as follows:

46/47 observed variables of 8 factors in the research model meet the standard. Variable KT7 does not meet the standard (Item—Total Correlation less than 0.3) and is eliminated in the research model. Additionally, the coefficients of Cronbach's alpha of all factors are greater than 0.6, so it can be concluded that the scale ensures reliability. Results from Cronbach Alpha test are shown as followed:

Research used the Principal Component Analysis method with Promax rotation and the breakpoint to extract factors with Eigenvalue > 1 to analyze for the scales in the research model. Furthermore,

the minimum value for Factor Load<sup>32</sup> is 0.3 to ensure the significance level of EFA, 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.<sup>29</sup>

KMO and Bartlett's Test (Table 4) shows that KMO = 0.864, which satisfied the condition of  $0.5 < \text{KMO} < 1$ , so EFA was deemed appropriate and Bartlett's test with Sig.<0.05 (Sig. = 0.000) proves that all variables have linear correlation with the represented factors.<sup>25</sup>

**Table 4:** KMO and Bartlett's Test

|  |                    |          |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .864     |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 4025.277 |
|  | df                 | 780      |
|  | Sig.               | .000     |

Meanwhile, at the first rotation, the factor loading coefficients of the variables PB5 less than 0.5 so it is removed in the research model. At the second rotation, factor loading coefficients of all observed variables are greater than 0.5 and only uploaded for 1 factor.<sup>14</sup>

Also, at Eigenvalue = 1.571 > 1 (Table 5) extracted from 7 factors from 40 observed variables with a total variance extracted is 61,037% (>50%) and no new factors have been formed compared to the proposed research model.

**Table 5:** Total Variance Explained

| 19<br>Component | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings |               |              |
|-----------------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
|                 | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
|                 |                     |               |              |                                     |               |              |                                   |               |              |
| 1               | 8.959               | 22.397        | 22.397       | 8.959                               | 22.397        | 22.397       | 4.636                             | 11.589        | 11.589       |
| 2               | 4.515               | 11.286        | 33.683       | 4.515                               | 11.286        | 33.683       | 3.613                             | 9.033         | 20.622       |
| 3               | 2.674               | 6.685         | 40.368       | 2.674                               | 6.685         | 40.368       | 3.563                             | 8.909         | 29.531       |
| 4               | 2.543               | 6.357         | 46.725       | 2.543                               | 6.357         | 46.725       | 3.282                             | 8.204         | 37.735       |
| 5               | 2.122               | 5.304         | 52.029       | 2.122                               | 5.304         | 52.029       | 3.131                             | 7.827         | 45.562       |
| 6               | 2.032               | 5.081         | 57.110       | 2.032                               | 5.081         | 57.110       | 3.122                             | 7.805         | 53.367       |
| 7               | 1.571               | 3.927         | 61.037       | 1.571                               | 3.927         | 61.037       | 3.068                             | 7.670         | 61.037       |
| 8               | .956                | 2.390         | 63.427       |                                     |               |              |                                   |               |              |

Extraction Method: Principal Component Analysis.

In terms of the managerial performance variable (5 observation variables), KMO and Bartlett's Test (Table 6) shows that KMO = 0.817 <sup>3</sup> 0.5 so EFA analysis is proper. Meanwhile, Bartlett's Sig value is 0.000 < 0.05 (table 7), which means the variables correlated in overall.

Table 7 shows that at Eigenvalue = 2.959 > 1 only 1 factor<sup>3</sup> can be built and the total variance is 59.180% > 50%, which means 59.180% of the data variance is explained by this factor. The component matrix shows as table 8.

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

|  |                    |         |
|--|--------------------|---------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. |                    | .817    |
| Bartlett's Test of Sphericity                    | Approx. Chi-Square | 365.497 |
|  | df                 | 10      |
|  | Sig.               | .000    |

**Table 7:** Total Variance Explained

| Component | Initial Eigenvalues |               |              | Extraction Sums of Squared Loadings |               |              |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|--------------|
|           | Total               | % of Variance | Cumulative % | Total                               | % of Variance | Cumulative % |



|  |       |        |         |       |        |        |
|--|-------|--------|---------|-------|--------|--------|
| 1  | 2.959 | 59.180 | 59.180  | 2.959 | 59.180 | 59.180 |
| 2  | .744  | 14.883 | 74.063  |       |        |        |
| 3  | .537  | 10.732 | 84.795  |       |        |        |
| 4  | .398  | 7.964  | 92.759  |       |        |        |
| 5  | .362  | 7.241  | 100.000 |       |        |        |
| Extraction Method: Principal Component Analysis. |       |        |         |       |        |        |

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

|  | Component |
|--|-----------|
|  | 1         |
| HQ5  | .818      |
| HQ3  | .802      |
| HQ2  | .774      |
| HQ1  | .765      |
| HQ4  | .680      |
| Extraction Method: Principal Component Analysis. |           |
| a. 1 components extracted.                       |           |

Thus, factor analysis was extracted 1 factor of management performance and 7 factor of extent of implementing responsibility accounting features.

**Table 9:** ANOVA<sup>a</sup>

| Model   |            | Sum of Squares | df  | Mean Square | F      | Sig.              |
|---|------------|----------------|-----|-------------|--------|-------------------|
| 1   | Regression | 33.326         | 7   | 4.761       | 63.329 | .000 <sup>b</sup> |
|   | Residual   | 15.186         | 202 | .075        |        |                   |
|   | Total      | 48.511         | 209 |             |        |                   |
| a. Dependent Variable: HQ                             |            |                |     |             |        |                   |
| b. Predictors: (Constant), KT, CC, PQ, DT, PB, DG, BC |            |                |     |             |        |                   |

**Table 10:** Model Summary<sup>b</sup>

| Model   | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|-------------------|----------|-------------------|----------------------------|---------------|
| 1   | .829 <sup>a</sup> | .687     | .676              | .27418                     | 2.278         |
| a. Predictors: (Constant), KT, CC, PQ, DT, PB, DG, BC |                   |          |                   |                            |               |
| b. Dependent Variable: HQ                             |                   |          |                   |                            |               |

**Table 11:** Coefficients<sup>a</sup>

| Model |            | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig. | Collinearity Statistics |       |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|-------|
|       |            | B                           | Std. Error | Beta                      |       |      | Tolerance               | VIF   |
| 1     | (Constant) | .478                        | .157       |                           | 3.049 | .003 |                         |       |
|       | CCTC       | .093                        | .033       | .122                      | 2.820 | .005 | .834                    | 1.199 |
|       | PQ         | .179                        | .030       | .260                      | 5.946 | .000 | .812                    | 1.232 |
|       | PB         | .163                        | .032       | .234                      | 5.098 | .000 | .736                    | 1.359 |
|       | DT         | .123                        | .032       | .185                      | 3.853 | .000 | .673                    | 1.485 |

#### 4.4. Regression analysis

We used the regression analysis method to analyze and evaluate the effect level of independent variables: Organizational structure (CCTC), Management decentralization (PQ), Cost and income allocation (PB), Forecast for responsibility centers (DT), Forecast and actual (DG), Report (BC), Reward (KT) to dependent variable: Managerial Performance (HQ). The result of regression analysis is as follows:

The results of the F statistics from the ANOVA table (Table 9) show that Sig. is 0.000 < 0.05, so the regression model is meaningful. R-square (R<sup>2</sup>) value of the model is 0.676 (Table 10). Thus, independent variables can explain 67,6% the variability of dependent variable.

|                           |    |      |      |      |       |      |      |       |
|---------------------------|----|------|------|------|-------|------|------|-------|
|                           | ĐG | .075 | .031 | .115 | 2.443 | .015 | .700 | 1.429 |
|                           | BC | .115 | .031 | .177 | 3.683 | .000 | .673 | 1.485 |
|                           | KT | .198 | .032 | .277 | 6.133 | .000 | .762 | 1.312 |
| a. Dependent Variable: HQ |    |      |      |      |       |      |      |       |

Table 11 shows that Sig value of all dependent variables is less than 0.05 so dependent variable (Managerial Performance) is affected by all independent variables. Furthermore, the VIF variance coefficients are less than 5 (at the level multicollinear is diagnosed to be exist) so the multi-collinear problem does not appear in the model. Based on the regression results, the standardized regression equation of impact of extent of responsibility accounting application to performance is as follows:

$$HQ = 0.122 \cdot CCTC + 0.26 \cdot PQ + 0.234 \cdot PB + 0.185 \cdot DT + 0.115 \cdot \text{ĐG} + 0.177 \cdot BC + 0.277 \cdot KT + \varepsilon$$

Standardized beta coefficient shows that reward (KT) has the strongest effect on performance (Standardized Beta Coefficient is 0.277), followed by management decentralization (PQ) and cost and income allocation (PB) that standard beta is 0.260 and 0.234 respectively. Forecast and actual (ĐG) has lowest effect on dependent variable (Standardized Beta Coefficient is 0.115). Meanwhile, forecast for responsibility centers (DT), Report (BC) and Organizational structure (CCTC) have almost the same effect.

## 5. DISCUSSION AND CONCLUSION

### 5.1. Discussion

After Cronbach Alpha, EFA and regression analysis, the study's findings indicated that the variables all had positive effects on the performance, but their magnitude of influence varied. More specifically, as follows:

Reward has the most substantial influence on the performance in enterprises in Gia Lai province in this study. Research result is similar with results of previous researches. Organizations that have grants and moral incentives to the employees who achieved the objectives and reward system suit the employee's responsibility in the center can actually encourage their employee. The more efforts of employee, the better efficiency and performance they can get. Therefore, they contribute more to the organization's success.

Management decentralization has the second level of impact on the performance in

enterprises in Gia Lai province in this study. This means that the clearer management decentralization enterprises, the higher operation efficiency. Its similar with results of previous researches conducted by Hanini (2013); Ramadan (2016); Nguyen et al (2019) and contradicts with research by Luru et al (2018). Decentralization happens when there is the delegation of authority by the top management to the middle and lower levels of management in an organization. Responsibility accounting systems function most effectively in an organization that is decentralized. The manager's duties in the center of responsibility and granted appropriate authorities to do his work and their accountability suits their responsibilities. It can really motivate managers to be more responsible with their tasks.

Cost and income allocation has the third level of impact on the performance in enterprises in Gia Lai province in this study. Organizations which have accounting systems complete and accurate records cost and income regarding the center of responsibility and there is a clear policy in allocating indirect costs and revenues to these centers, help top-level managers to accurately compare, evaluate performance of responsibility centers. This would improve organization performance. This result is the same as the research of Tran et al (2022), Nguyen et al (2019) and contradicts with Luru et al (2018).

Forecast for responsibility centers has the fourth level of impact on the performance in enterprises in Gia Lai province in this study. Planned budgets which reflect organization's future objectives are used as a reference and a standard to judge the actual performance. So, it should be prepared regarding every center separately based on a clear and a realistic objective and all the employees of the center participate in preparing the center's budget according to their job. Because when employees are involved in this process, they feel that they are part of creating that goal. This was an incentive them to commit, initiative and responsibility to implement it. Previous studies also have the same result, such as Nguyen et al (2019), Tran et al (2022), Luru et al (2018).

Report has the fifth level of impact on the performance in enterprises in Gia Lai province in this study. Responsibility report is the product of responsibility accounting system. It is prepared to measure the responsibility center's performance in both financial and non-financial aspects. In addition, the deviations mentioned in the report are analyzed and studied and methods to treat the reasons of these deviations are set to enhance operational efficiency. Research result agrees with previous researchers Nguyen et al (2019); Tran et al (2022); Luru et al (2018).<sup>21-22, 24</sup>

Organizational structure has a relatively low level of impact and ranks sixth among the factors affecting the performance in enterprises in Gia Lai province in this study. Responsibility accounting and management accounting focus on the part rather than the whole. So, organizational structure plays a very crucial role in responsibility accounting system. It increases the overall efficiency of organization by dividing the large organization into small controllable segments and each of these segments were assigned to the managers. This result agrees with results of previous researches conducted by Nguyen et al (2019), Tran et al (2022), Luru et al (2018), Ramadan (2016).<sup>21-22, 24, 30</sup>

Forecast and actual has the lowest impact on the performance in enterprises in Gia Lai province in this study. However, it still has a significant effect, so this factor cannot be ignored. By comparing the actual performance with the planned and identify the deviations, manager can make the necessary adjustments to business operations. So, it is important for them to control, evaluate, improve operations for organization. This is also consistent with previous studies such as by Nguyen et al (2019), Tran et al (2022), Luru et al (2018), Ramadan (2016).<sup>21-22, 24, 30</sup>

## 5.2. conclusion

This study aims to identify the impact of level of application of each element of

responsibility accounting system to performance. The above results show that the implementation of responsibility accounting plays a significant role in operational efficiency. In order to strengthen the operational efficiency, companies need to fully apply the elements of responsibility accounting, including dividing organization structure into responsibility centers, managerial decentralization, cost and income allocation, forecast for responsibility centers, comparing the actual performance with the planned, preparing reports that analysis the deviations; setting a system of incentives. This result has answered the research questions and met the research objectives initially set. However, the study still has several limitations. Specifically, research use convenient sampling method and the results of this survey is limited to a region in Vietnam so the representativeness is not high. Hence, the authors suggested the next research may widen the research area and use the probabilistic sampling method to increase the representativeness and reliability of the study.

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