

Influence Of Factors On Responsible Accounting Organization In Enterprises: Evidence From Vietnam

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Abstract

Accountability accounting is a part of management accounting, which is done to support administrators in making appropriate economic decisions. This article focuses on the factors affecting the organization of responsible accounting in enterprises in Vietnam, from the perspective of enterprises. The analysis of 216 survey samples from managers, chief accountants, accountants in 102 enterprises in Vietnam by quantitative research and regression analysis shows that 7 major factors have a significant influence on the organization of responsible accounting in enterprises arranged in descending order, as follows: Decentralization of management; Administrator's perception of responsible accounting; Cost of responsible accounting organization; Enterprise size; Qualification of accounting staff; Characteristics of the enterprises; Application of information technology. The findings from the empirical research are the basis for the author to make recommendations and proposals to stakeholders to increase the implementation of responsible accounting in enterprises in Vietnam in the coming time.

Keywords: Management accounting, responsible accounting, Vietnam.

I. Introduction

In the current globalization trend, international economic integration is becoming an objective trend for almost all countries in the world. As a consequence, the level of competition between enterprises is becoming increasingly intense not only domestically but also on regional and world markets. At that time, enterprises wishing to survive and develop must constantly improve their internal performance to improve their competitiveness. It is necessary for each enterprise to study and apply effective management tools for decision making. One of the effective management tools, suitable for the new context, is responsible accounting.

Accountability accounting is a part of management accounting, based on the decentralization and delegation of authority to managers, departments and units in the enterprise, using the synthesis of cost accounting methods and methods of evaluating achievements to measure and evaluate achievements to provide useful information to managers at all levels, thereby controlling production and business

activities to achieve the set objectives. Accountants are responsible for providing timely information to administrators at all levels of the business, making it possible for them to make appropriate decisions while encouraging administrators to promote management capacity (Schweikart, 1986; Horngren, 1987; Atkinson et al., 1997; Garrison et al., 2003). Accountancy not only helps to improve the profitability and performance of the unit (Lin & Yu, 2002; Gharayba et al., 2011; Alshomaly, 2013; Nawaiseh et al., 2014; Sari & Amalia, 2019), but also facilitates the control of activities to achieve the organization's objectives (Maimako et al., 2018). Therefore, today many managers and researchers have acknowledged the importance of responsible accounting for the sustainable development of enterprises. Accountants have been confirming important roles and positions in economic management and have become a method of managing and controlling the performance of enterprises (Meda, 2003). However, responsible accounting has higher requirements, so when applied, it also requires

certain conditions, such as: Decentralized management at high level, i.e. associated with responsibilities and authority; attached to it is a team of managers who are suitable to implement the responsibilities entrusted or decentralized; Along with that, the requirement of administrators to provide accounting information to help them grasp the situation, evaluate the performance, report to the higher level and also the basis for higher management to evaluate the achievements of lower managers...

Worldwide, starting with research of Higgins (1952), responsible accounting has been studied and applied in businesses for over 70 years. In fact, it is pointed out that responsible accounting has made significant contributions to the success of many enterprises operating in different fields around the world such as production (Lin & Yu, 2002; Akenbor et al., 2013), banking (Pajrok, 2014), health (Nyakuwanik et al., 2012; Karasioghu et al., 2012)... but not all enterprises and countries can successfully apply responsible accounting.

In fact, in Vietnam, the knowledge of management accounting in general and responsible accounting in particular is still relatively new. Accountability accounting has only been studied and gradually applied by enterprises in the last few years. However, the number of studies is still limited, the content of applying responsible accounting in enterprises is not exhaustive. In addition, the research on the application of responsible accounting is limited to the application of each specific content of responsible accounting to each sector, field or type of enterprise without agreement and has not been summarized into specific guidelines to help enterprises understand and apply effectively. Many questions have been asked to find out, such as: What factors affect the organization's performance of responsible accounting? Is the control of factors implemented by the business and stakeholders? And if so, how is it done?

Therefore, in order to contribute to elucidating the above issues, this study was carried out to identify and measure the influence of factors on the organization of responsible accounting in enterprises in Vietnam. The research results are the basis for the author to

make recommendations and suggestions to stakeholders to promote the organization of responsible accounting in enterprises, thereby helping managers control the activities of each department and individual through information on the results of performing their tasks associated with their responsibilities in the organizational structure of the unit.

In addition, the results of the study may also be useful for enterprises in developing countries, where the business environment, legal system, management level, facilities, science and technology and the development of the accounting profession similar to Vietnam refer to the organization of accounting responsible for practical activities.

2. Theoretical background and literature review

2.1. Theoretical basis

2.1.1. Accountability

Accountability accounting has been studied and applied for a long time in the world, this is a fundamental content of management accounting, but until now, the concept of responsible accounting has been interested by domestic and foreign researchers with many different perspectives. Among them, some outstanding points can be mentioned as follows:

The first view, responsible accounting is mentioned by the authors from a control perspective. The term control refers to a system of procedures, tools, operational assessments and systems used by the unit to guide and encourage employees to achieve the objectives of the unit, specifically: According to Higgins (1952), "Accountancy responsibility is the development of an accounting system designed to control the costs incurred directly related to the individuals in the organization who are responsible for control. The control system is designed for all levels of management and as a tool to control operations and costs".

According to Atkinson et al., (1997), "Accountancy is an accounting system that collects, synthesizes and reports accounting data related to the responsibilities of each manager in

an organization, and provides information related to revenue, costs, profits and business results in each region, each region and each unit over which the manager has control. Thereby, a reporting system is created for all levels of management, including those who have control and those who have no control. ”

In addition, Venkatrathnam & Reddy (2003) argue, “Accountancy is a system of control by managers based on the principle of delegation and determination of responsibility. Delegation of authority is expressed in delegation of authority in responsibility centers. Accordingly, managers will be responsible for each area, each branch, each department...”. The view of these two authors is that the emphasis is on the control of managers over the department for which they are responsible.

Second, responsible accounting is seen through the revenue, cost and profit indicators in the responsibility centers, specifically: According to Higgins (1952), “Accountancy is the accounting system that is considered through the different responsibility centers in a unit and evaluates the performance of each center through the revenue and cost indicators”.

According to Hawkins et al., (2004), “Accountancy is a system that generates financial and non-financial information related to the planning of responsibility centers in an organization.” Responsibility centers are units of the organization that have managers who are responsible for the performance of the unit they are empowered to manage. Accountants have the responsibility to go into the assessment of responsibilities through the comparison between planning and implementation in the contents, such as budget estimation system, business fluctuation report, income statement...

Third, responsible accounting is considered from the perspective of providing information: According to Martin (1994), “Responsible accounting is an accounting system that provides information and results on the performance of departments and units in an organization. Accountancy is a tool for measuring and evaluating the activities of the departments related to investment, profit, revenue and expenses that each department has control

and responsibility. ” The author argues that the centers in an organization operate independently and provide specific information about profit, revenue, and cost indicators to higher-level decision makers through departmental activity reports.

In Vietnam, the concept of responsible accounting is still new and has been of interest to some authors. According to Doan Ngoc Que et al., (2011), “Responsible accounting is a system of collecting, processing and communicating information that can be controlled according to the scope of responsibility of each administrator to achieve the overall objectives of the organization”. In addition, according to Nguyen Thi Minh Phuong (2012), “Accountancy is a fundamental content of management accounting and is the process of collecting, gathering and reporting financial and non-financial information, used to control the operational processes and evaluate the effectiveness of each department in an organization. In essence, the main responsibility is to establish the powers and responsibilities for each department, individual and a system of indicators and tools to report the results of each department”. Meanwhile, the concept of responsible accounting by the author Nguyen Huu Phu (2014) emphasizes the classification of information data, “Responsible accounting is an information system that this information system classifies data (controllable information) according to the responsible departments and reports their activities according to revenue, costs and financial and non-financial resources that managers assigned in this department can control”.

Currently, there are many different views on responsibility accounting, but these views are not contradictory but they support and complement each other to show the development of responsibility accounting according to the time schedule. From the above points of view, the author generalizes the concept of responsible accounting as follows: “Accountancy is an accounting system that collects and synthesizes accounting data to measure and evaluate the performance of the departments can control and evaluate the responsibilities of each administrator”.

2.1.2. Responsible accounting organization

Starting from the above points of view of responsible accounting, combined with the view of organizing the accounting work and the organization of management accounting, it can be said that: "Responsible accounting organization is the organization of the process of collecting, processing, analyzing and providing financial and non-financial information that can be controlled according to the responsibility centers in order to evaluate the management responsibility of managers at all levels in the implementation of the general objectives of the organization."

The content of responsible accounting organization has been studied by many scholars. There are views that the responsible accounting organization includes only three main contents, such as: assigning responsibilities to managers at all levels; developing standard costs for responsibility centers; combining standard costs and an operational level to develop estimates (Corr & Parri, 1976; Harris, 1977; Allen & Skidmore, 1984). Some authors believe that the content of responsible accounting organization does not only stop at the three above contents but also includes some other contents related to the evaluation of management performance according to responsibility centers and building a reward system according to management performance (Hansen, 2005; Sollenberger, 1990; Gharayba et al., 2011; Nguyen Thi Minh Phuong, 2012; Nguyen Huu Phu, 2014).

Through an overview of the views on the content of the responsible accounting organization, it can be seen that the views of the authors do not contradict each other, each of which gives a perspective on the content of the responsible accounting organization. However, it is possible to unify into four basic contents: (i) Organization of identification and classification of responsibility centers; (ii) Organization of cost estimates development according to responsibility centers; (iii) Organization of data collection, processing and evaluation of management responsibilities, provision of information according to responsibility centers and (iv) Organization of development of reward

system according to management responsibilities.

2.2. Factors affecting the organization of accounting responsibilities in enterprises

Recently, more and more studies on management accounting in general and responsible accounting in particular have been carried out, academics and practitioners have also pointed out that the implementation of responsible accounting tools in enterprises is influenced not only by internal factors but also external factors (Mensah, 2014), specifically as follows:

2.2.1. Decentralization of management

Decentralization of management involves delegating authority to subordinates to make decisions. Decentralized management allows administrators at all levels to be more autonomous in planning and controlling activities, while attaching their responsibilities to those activities. Research by Williams & Seaman (2001) points out the inverse relationship between management hierarchy and the organization and application of management accounting. However, most other studies give opposite results: The higher the degree of decentralization, the more complex the organization and implementation of management accounting (Abdel-Kader & Luther, 2008; Soobaroyen & Poorundersing, 2008).

In addition, the research results of the authors Atkinson et al., (1997), Fowzia (2011), Al-Gharaybeh (2011), Al Hanini (2013), Ramadan (2016), all show that the application of responsible accounting in enterprises is affected by management hierarchy. Similarly, the research results of Huynh Duc Dong & Ta Thi Cong Quan (2018), Cao Thi Huyen Trang (2020)... also show that management decentralization is one of the factors affecting the application of responsible accounting in enterprises. As administrators at all levels are more delegated in enterprises, they are also more responsible for planning and controlling related activities. Therefore, administrators at all levels need to use more governance tools, including responsible accounting tools. Based on the above analysis,

the author proposes the first hypothesis, as follows:

H1: Decentralization of management has a favorable impact on the organization of responsible accounting in enterprises.

2.2.2. Administrators' perception of responsible accounting

When applying an economic management tool to an enterprise, the awareness factor of the administrator for that tool is extremely important, only when the enterprise administrator appreciates the usefulness of responsible accounting, is aware of the pressure to organize the implementation as well as the understanding of responsible accounting, they invest and implement that tool. Thus, if the enterprise manager has knowledge, understanding as well as appreciation of the usefulness of the technical tools of management accounting in which responsible accounting is located, they will have a high demand for the use of management accounting in general and responsible accounting in particular in their enterprise, or in other words will increase the feasibility of organizing the implementation of responsible accounting in the enterprise. Belkaoui (1981) affirmed that the human factor plays a very important role for the success of the enterprise in general and the accounting system of responsibility in particular because the administrator is responsible for the business performance of the enterprise. In addition, Nawaiseh et al., (2014) argue that the accounting system is responsible for the impact of cognitive factors of administrators in research on responsible accounting system in industrial joint stock companies in Jordan. This, too, was tested based on the evaluation of previous studies (Holmes & Nicholls, 1988; Nyakuwanika, 2012; Ismail & King, 2007; Abdel-Kader & Luther, 2008; Koske & Muturi, 2015). From the above insights, the author proposes the second hypothesis as follows:

H2: The administrator's perception of responsible accounting has a favorable impact on the organization of responsible accounting in enterprises.

2.2.3. Size of enterprise

The size of the enterprise is in fact the breadth of the organization (Khandwalla, 1972). According to Luther & Longden (2001), enterprise size is based on annual revenue. Meanwhile, Libby & Waterhouse (1996) suggested that the size of the enterprise based on the number of employees, or the size of the enterprise is understood to include: total revenue, total assets, total labor and total profit (Zimnicki, 2017). Thus, enterprise size can be measured by headcount, turnover, budget size, size of investment capital and other factors (Mintzberg, 1979). Therefore, enterprise size is an important factor, not only affecting enterprise structure but also influencing the use of control techniques in enterprises (Otley et al., 1995). Large enterprises will have conditions to be able to apply more complex management accounting tools than smaller enterprises (Ahmad, 2012). A large-scale enterprise often has good resources as well as a better internal governance system, which leads to a more convenient organization of management accounting (Cao Thi Huyen Trang, 2020). On the other hand, larger enterprises have to control more operations and therefore rely on more information, so it is necessary to organize management accounting in a more systematic and complex way (Abdel-Kader & Luther, 2008). Accountability accounting is both a content and a modern technique of management accounting and also an effective method of control in the enterprise, so the size of the enterprise influences the application of responsible accounting in the enterprise. The larger the enterprise size, the better the conditions for applying responsible accounting (Hutaibat, 2005; Alshomaly, 2013). Based on the above analysis, the author proposes the third hypothesis, as follows:

H3: The size of the enterprise has a favorable impact on the organization of responsible accounting in the enterprise.

2.2.4. Qualifications of accounting staff

The qualifications of accountants are reflected in the types of diplomas they possess. Since the accounting staff is the core force in the implementation and application of responsible accounting to effectively exploit this management tool, if the accounting qualification does not meet the requirements, it will make the

organization of responsible accounting in the enterprise impossible to implement or perform but ineffective. Studies by McChlery et al., (2005), Ismail & King (2007), Ahmad (2012), Nair (2017) also show that the qualifications of accounting staff are related to the responsible accounting organization in the enterprise. If qualified accounting staff, it will positively affect the responsible accounting organization in the enterprise (Ern et al., 2016) and conversely, if their qualifications, their limited awareness will hinder the implementation of responsible accounting in the unit (Nawaiseh et al., 2014). From the above insights, the author proposes the fourth hypothesis as follows:

H4: The qualification of accounting staff has a favorable impact on the organization of responsible accounting in the enterprise.

2.2.5. Application of information technology

Laudon & Laudon (2015) identified the accounting information system as a whole consisting of people, hardware, software, data storage and programs that organize data, allocate and use resources. Moorthy et al., (2012) argue that information technology can improve the performance of the accounting department and produce results in a very easy and accurate way, in a timely manner. Research by Chang (2001), Choe (2004) shows that the level of application of information technology in enterprises has a positive impact on the organization of responsible accounting in enterprises. Some Vietnamese authors have also introduced limitations of enterprises in the application of information technology, such as: Nguyen Thi Minh Phuong's study (2012) drew the conclusion in his study, that, the accounting system of responsibility in Vietnamese dairy enterprises operates inefficiently because the accounting staff make management reports on excel, do not apply the software, so the provision of information is not fast, timely, affecting the decisions of the administrator. In addition, Nguyen Huu Phu (2014) proposed solutions to improve the level of information technology application to handle many different operations of responsible accounting in construction companies. Based on

the above analysis, the author proposes the fifth hypothesis, as follows:

H5: Application of information technology has a favorable impact on the organization of responsible accounting in enterprises.

2.2.6. Expenses for responsible accounting organization

The cost of organizing the liability accounting system cannot be disregarded in the cost structure of the enterprise. Costs are always considered in a balanced manner in relation to the benefits provided by responsible accounting. Therefore, costs will be a factor to be considered when organizing the accounting system of corporate responsibility. In order to apply responsible accounting, enterprises must spend certain expenses such as the cost of investment in purchasing equipment, technology, consulting costs from organizations, experts, training costs for professional staff in finance, accounting and corporate governance, especially fostering knowledge of management accounting in general and responsible accounting in particular... At that time, enterprises will consider the correlation between benefits and costs of applying responsible accounting in the unit (Ma Van Vien & Tran Van Long, 2019). The responsible accounting organization should ensure that the principle of benefits must be greater than the cost of the responsible accounting organization. Therefore, if the cost of organizing responsible accounting in the enterprise is low, it will increase the feasibility of organizing responsible accounting (Tran Ngoc Hung, 2016). The conclusions in the research by Huynh Duc Dong & Ta Thi Cong Quan (2018), Cao Thi Huyen Trang (2020) have all demonstrated that the cost of organizing responsible accounting is a factor affecting the application of responsible accounting in enterprises. From the above insights, the author proposes the sixth hypothesis as follows:

H6: Cost of responsible accounting organization has a favorable impact on the organization of responsible accounting at the enterprise.

2.2.7. Characteristics of the enterprise

Contemporary theorists have asserted that there is no “best” organizational structure for an organization. Due to the different functional characteristics of each industry, this shows that it is not possible to build a common responsibility accounting system for all enterprises. Each enterprise has different characteristics, including the specificity of the operation of the enterprise, the complexity of the business process (Nowak, 2000) or the control system of the enterprise (Venkatrathnam & Reddy, 2003; Fowzia, 2011) or maybe related to the organizational structure of the enterprise (Tran Van Tung & Ly Phat Cuong, 2018). In order to establish responsible accounting, it is necessary to understand the characteristics of the enterprise because it is a

factor affecting the application of responsible accounting in the unit (Tran Van Tung, 2010). This has also been confirmed in the experimental study of Nguyen Ngoc Tien et al., (2019). Based on the above analysis, the author proposes the third hypothesis, as follows:

H7: The characteristics of enterprises have a favorable impact on the organization of responsible accounting in enterprises.

3. Research Method

3.1. Research models and hypotheses

From the theoretical basis and research overview, the author proposes the research model as follows:

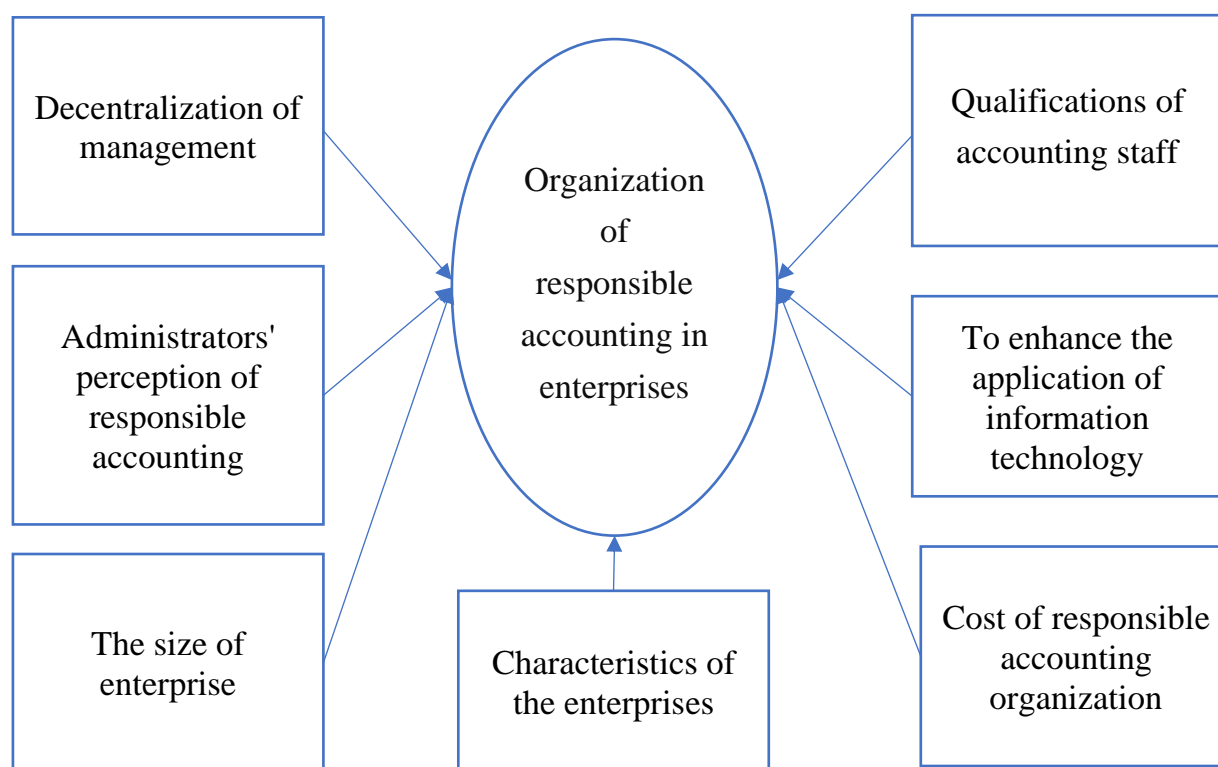


Figure 1: Models of factors affecting the organization of accounting responsibilities in enterprises
(Source: Author's suggestions)

With multiple regression model as follows:

$$KTTN = \beta_0 + \beta_1*PCQL + \beta_2*NT + \beta_3*QM + \beta_4*NV + \beta_5*CN + \beta_6*CP + \beta_7*DD + \varepsilon$$

In which:

β_1, β_2, \dots is the regression coefficient, β_0 is the blocking coefficient, ε is the residual

Dependent variable:

KTTN: Responsible accounting organization in enterprises

Independent variables, including:

PCQL: Decentralization of management

NT: Administrators' perception of responsible accounting

QM: The size of enterprise

NV: Qualification of accounting staff

CN: To enhance the application of information technology

CP: Cost of responsible accounting organization

DD: Characteristics of the enterprises

3.2. Data collection and processing

To accomplish the research objective, the author used a deductive approach, i.e. based on the theory of previous studies and qualitative research results through expert interviews to propose models. With this study, the author performs with experts from the Board of Directors, chief accountant with long experience in enterprises in many fields, such as chemicals, textiles, construction materials... and experts are lecturers of universities with knowledge of management accounting, there are studies on responsible accounting. Using qualitative research methods through interviews with experts, the author develops the selection of factors affecting the organization of responsible accounting in enterprises to include in the research model.

Next, the author conducts an in-depth survey through a questionnaire with 35 observation variables to collect the opinions of managers, chief accountants, accountants on the influence of factors on the organization of responsible accounting in enterprises. The Department of Research selects the survey subjects as managers, chief accountants and accountants because they are knowledgeable about corporate accounting, the impact of responsible accounting on enterprises, directly involved in the process of implementing responsible accounting in enterprises, capable of proposing policies and solutions to organize the implementation of responsible accounting, so there will be objective and accurate assessments of the research issues.

Through the review of previous studies, to evaluate the organization of responsible accounting in enterprises (dependent variables), the author uses the Likert scale of 5 levels of

agreement, from: (1) Strongly disagree to (5) Strongly agree. Evaluating independent variable factors, the author uses the Likert scale with 5 levels of influence, from: (1). Very low to (5). Very high. The number of scales for measuring variables is presented in **Appendix 1**.

In addition, to ensure the study sample size, based on the minimum sample size requirements for EFA analysis and regression, in Bollen's view (1989), the sample size is calculated according to the formula $n = 5 \cdot i$ (i is the number of variables observed in the model), corresponding to this study, the minimum sample size required is $5 \cdot 35 = 175$.

The author uses a convenient sampling method and 216 valid votes obtained out of 546 votes sent through sending and receiving questionnaires through Google Forms and email to managers, chief accountants, accountants in 102 enterprises in Vietnam. The implementation period is from January 2022 to June 2022. Based on the collected data, the author uses quantitative techniques such as testing the reliability of the scale, exploratory factor analysis... with the use of SPSS software²² to summarize and present the basic results of the study.

4. Results and discussion

Of the 216 valid replies, 32 were from leather manufacturing enterprises, accounting for 14.81%; 33 were from garment manufacturing enterprises, accounting for 15.27%; 19 replies were from chemical manufacturing enterprises, accounting for 8.80%; 28 replies were from construction materials manufacturing enterprises, accounting for 12.96%; 29 replies were from furniture manufacturing enterprises, accounting for 13.43%; 14 replies were from metallurgical and mining enterprises, accounting for 6.48%; 32 replies were from food manufacturing enterprises, accounting for 14.81%; the remaining 29 replies were from trading and service enterprises, accounting for 13.42%.

Regarding the level of education: 187 respondents with university level or higher, accounting for 86.57%; 29 respondents with college and intermediate level, accounting for 13.43%.

About the work unit: 68 replies from managers (members of the board of directors),

accounting for 31.48%; 148 replies from chief accountants, accounting staff, accounting for 68.52%.

In terms of enterprise size: 72 replies came from large-scale manufacturing enterprises, accounting for 33.33%; 82 replies came from medium-sized enterprises, accounting for 37.96%; 62 replies came from small-scale manufacturing enterprises, accounting for 28.71%.

The sample surveyed belongs to many different subjects in terms of education level, job position, size of enterprises and industries in production and business. Thus, it is possible to ensure that the answers are reliable and of quality.

Statistical results describing the scale show that most of the observed variables have an average value around the expected average value (3.0) and there is no significant difference between the observed variables in the same group. This shows that the surveyed subjects have similar opinions and all agree with the scale of variables.

4.1. Results of testing the quality of the scale

The test results of Cronbach's Alpha for the first time for the scales of responsible accounting organization in the enterprise (7 scales with 35 observation variables) are shown in Table 1.

Table 1 Results of testing the reliability of the scale of the factors in the model

| No. | Factor | Cronbach's Alpha |
|-----|---|------------------|
| 1 | Decentralization of management | 0.899 |
| 2 | Administrators' perception of responsible accounting | 0.911 |
| 3 | The size of enterprise | 0.928 |
| 4 | Qualifications of accounting staff | 0.931 |
| 5 | To enhance the application of information technology | 0.897 |
| 6 | Cost of responsible accounting organization | 0.912 |
| 7 | Characteristics of the enterprises | 0.934 |
| 8 | Organization of responsible accounting in enterprises | 0.930 |

(Source: Results of data analysis on SPSS 22)

Thus, the model retains 8 factors to ensure good quality, with 35 characteristic variables (Cronbach's Alpha coefficient) of the whole greater than 0.6; The coefficient of correlation of variables - the sum of the observed variables is greater than 0.3.

4.2. Explore factor analysis EFA

The EFA exploratory factor analysis was performed separately for 02 groups of independent variables and dependent variables by the full-angle rotation method (Varimax). The results obtained after the first rotation are as follows:

Table 2: KMO and Bartlett test results table for independent variable

| KMO and Bartlett's Test | | |
|---|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy | 0.891 | |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2940.889 |
| | df | 379 |
| | Sig. | 0.000 |

(Source: Results of data analysis on SPSS 22)

EFA analysis results for the independent variable:

Looking at the results of EFA analysis for independent variables, it can be seen that the

results were divided into 7 groups. The criteria are evaluated as follows:

- KMO = 0.891 so the EFA analysis is consistent with the study data.

Sig. (Bartlett's Test) = 0.000 < 0.05 shows that the observed variables in the whole are correlated with each other and the data used in the EFA analysis are appropriate.

- There are 7 factors quoted at Eigenvalues = 1.161 > 1 representing the variation explained by each factor.

- Total variance explained by factor analysis is 82.318% > 50% meet the requirements. This means that these 7 factors explain 82.318% of the data change.

The post-rotation factor matrix table will be reviewed to see which of these 7 factor groups comprise the observed variables, and whether the order of the observed variables is disturbed compared to the initially constructed scale. The analysis results show that the observed variables have been assembled into 07 groups of variables with the order of the observed variables kept the same compared to the original independent variables.

Table 3: Rotation matrix of factors Rotated Component Matrix^a

| | Component | | | | | | |
|-------|-----------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| PCQL1 | .883 | | | | | | |
| PCQL2 | .867 | | | | | | |
| PCQL3 | .836 | | | | | | |
| PCQL4 | .776 | | | | | | |
| PCQL6 | .743 | | | | | | |
| PCQL5 | .724 | | | | | | |
| NT3 | | .877 | | | | | |
| NT1 | | .808 | | | | | |
| NT4 | | .773 | | | | | |
| NT2 | | .721 | | | | | |
| QM3 | | | .762 | | | | |
| QM4 | | | .725 | | | | |
| QM1 | | | .695 | | | | |
| QM2 | | | .658 | | | | |
| NV2 | | | | .842 | | | |
| NV3 | | | | .826 | | | |
| NV4 | | | | .769 | | | |
| NV1 | | | | .778 | | | |
| CN2 | | | | | .841 | | |
| CN3 | | | | | .798 | | |
| CN1 | | | | | .788 | | |
| CN4 | | | | | .745 | | |
| CP3 | | | | | | .869 | |
| CP1 | | | | | | .812 | |
| CP2 | | | | | | .799 | |
| DD1 | | | | | | | .801 |
| DD2 | | | | | | | .786 |
| DD3 | | | | | | | .774 |
| DD5 | | | | | | | .741 |
| DD6 | | | | | | | .726 |
| DD4 | | | | | | | .701 |

(Source: Results of data analysis on SPSS 22)

EFA analysis results for dependent variables:

The indicators show the following coefficients:

- KMO = 0.846 satisfies the condition of $0.5 < \text{KMO} < 1$, so the analysis of discovery factors is suitable for actual data.
- Sig. = 0.000 satisfies Sig. ≤ 0.05 so this test is statistically significant and the variables observed are correlated with each other in the overall analysis, demonstrating that the data used in the analysis are appropriate.
- The analysis of the total variance extracted for the dependent variable shows that the percentage of variance of the whole percentage of variance = $64.386\% > 50\%$, the value of Eigenvalue = $2.226 > 1$, so the model qualifies for exploratory factor analysis and the load factor of the observation variables is greater than 0.5 so the observation variables have practical significance. So the dependent variable is kept between the original independent variable and the observed variable.

4.3. Results of regression analysis

Pearson Correlation Analysis

Table 4: Model summary table^b

| Model | R | R Square | Adjusted R Square | Durbin-Watson |
|-------|-------------------|----------|-------------------|---------------|
| 1 | .831 ^a | .768 | .712 | 2.019 |

a. Predictors: (Constant), PCQL, NT, QM, NV, CN, CP, DD.

b. Dependent Variable: KTTN

(Source: Results of data analysis on SPSS 22)

Table 5: Model ANOVA^a analysis table

| Model | Sum of Squares | df | Mean Square | F | Sig. | |
|-------|----------------|---------|-------------|--------|---------|--------------------|
| 1 | Regression | 168.528 | 7 | 24.075 | 102.680 | 0,000 ^b |
| | Residual | 34.256 | 116 | .295 | | |
| | Total | 202.784 | 123 | | | |

a. Dependent Variable: KTTN

b. Predictors: (Constant), PCQL, NT, QM, NV, CN, CP, DD.

(Source: Results of data analysis on SPSS 22)

Table 6: Linear regression results

Coefficients^a

| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. | Collinearity Statistics |
|-------|-----------------------------|---------------------------|---|------|-------------------------|
|-------|-----------------------------|---------------------------|---|------|-------------------------|

Correlation analysis was performed prior to regression analysis to check the correlation between the independent variable and the dependent variable, when independent variables not correlated with the dependent variable would be excluded from the model (if Sig. > 0.05).

The results of Pearson correlation analysis show that there is a close correlation between the dependent variable and the independent variable in the model. The independent variables in the matrix have average correlation coefficients and have Sig values. < 0.05 , this suggests that independent variables are more likely to be able to account for each other, potentially occurring polylinearities. This will be tested more accurately with Durbin - Watson and VIF coefficients.

Regression analysis

Based on the results of EFA analysis, we have an unchanged multiple regression model, the independent and dependent variables remain the same as at the beginning. The following tables show the regression results, in particular:

| | | B | Std. Error | Beta | | | Tolerance | VIF |
|---|----------|----------|-------------------|-------------|--------|------|------------------|------------|
| 1 | Constant | -1.323 | .173 | | -7.693 | .000 | | |
| | PCQL | .366 | .049 | .360 | 7.660 | .000 | .549 | 1.825 |
| | NT | .205 | .047 | .187 | 4.395 | .000 | .675 | 1.485 |
| | QM | .193 | .045 | .181 | 2.561 | .013 | .744 | 1.346 |
| | NV | .185 | .047 | .172 | 3.974 | .000 | .653 | 1.536 |
| | CN | .149 | .046 | .146 | 3.307 | .001 | .625 | 1.604 |
| | CP | .200 | .047 | .185 | 4.373 | .000 | .681 | 1.471 |
| | DD | .152 | .044 | .151 | 3.490 | .001 | .648 | 1.548 |

a. Dependent Variable: KTTN

(Source: Results of data analysis on SPSS 22)

Test the relevance of the model

Multicollinearity test: The error magnification factor (VIF) of all independent variables is less than 10, so the multicollinearity in the model is assessed as not serious.

The Durbin - Watson coefficient used to test the correlation of the residuals shows that the model does not violate when using multiple regression, since the Durbin - Watson value obtained is 2.019 (range 1 to 3). In other words, the model has no correlation of the residuals.

The assessment of model suitability is based on the Analysis of Variance (ANOVA) table. ANOVA test results with a significance level of Sig. = 0.000 shows that the multiple linear regression model has been constructed in accordance with the data set and used, or in other words that this model is significant to derive broadly for the whole.

Evaluate the level of interpretation by the independent variables in the model

The coefficient of R^2 correction = 0.712 > 0.5 means that the independent variables explain 71.2% of the change of the dependent variable "Organization of accounting responsibilities in enterprises", while 28.8% is due to random errors or other factors outside the model.

Independent variables Management hierarchy; Administrator's perception of responsible accounting; Enterprise scale; Qualification of accounting staff; Application of information technology; Cost of responsible accounting organization; Corporate characteristics all have statistically significant impacts (due to Sig.<0.05) to "Responsible accounting organization in enterprises".

Independent variables Decentralized management; Administrator's perception of responsible accounting; Enterprise scale; Qualification of accounting staff; Application of information technology; Cost of responsible accounting organization; Enterprise characteristics all have a coefficient $\beta > 0$ proving to have a favorable influence on the dependent variable "Responsible accounting organization in enterprises". Therefore, accepting the initial hypothesis (H1, H2, H3, H4, H5, H6 and H7), are independent variables that are linearly related to the dependent variable and perfectly fit the model. From there, we have the regression equation with normalized beta coefficient as follows:

$$\text{KTTN} = 0.360 \cdot \text{PCQL} + 0.187 \cdot \text{NT} + 0.181 \cdot \text{QM} + 0.172 \cdot \text{NV} + 0.146 \cdot \text{CN} + 0.185 \cdot \text{CP} + 0.151 \cdot \text{DD}$$

From the results of testing the research model, there are 7 factors that have a favorable influence on the organization of responsible accounting in enterprises in Vietnam. This result is similar to the results verified by the predecessor studies, in particular:

For the factor of management decentralization: This is the factor that has the strongest impact on the organization of responsible accounting in enterprises, this result is completely similar to the research results of Al-Gharaybeh et al., (2011); Al Hanini (2013); Ramadan (2016). The results of the study show that the clearer and more transparent management decentralization of responsibilities and powers, the more successful the organization of responsible accounting in the enterprise.

For the second factor of managers' perception of responsible accounting: this group of factors has a second strong impact on the

organization of responsible accounting in enterprises, this result is consistent with the study of Fowia (2011); Abdel-Kader & Luther (2008); Ahmad (2012) when pointing out that there is a close correlation between the administrator's perception of responsible accounting with the organization of responsible accounting.

For factors Cost of responsible accounting organization: this is the third factor that has a strong impact on the responsible accounting organization in enterprises, the research results are similar to the predecessor research results, such as Ma Van Vien & Tran Van Long, (2019); Cao Thi Huyen Trang (2020).

With the factor of enterprise size: this group of factors has a fourth strong impact on the organization of responsible accounting in enterprises, this result is consistent with the research results of Ahmad (2012); Nair (2017) when showing that the larger the enterprise size, the more successful the organization of responsible accounting.

With the factor of accounting staff qualifications: this is the fifth group of factors that have a strong impact on the organization of responsible accounting in enterprises, this result is fully consistent with the research of McChlery et al., (2005); Ismail & King (2007); Ahmad (2012) when showing that the effectiveness of responsible accounting depends on the qualification of human resources.

With factors Characteristics of enterprises: This is a factor that affects the organization of responsible accounting, because each enterprise has its own characteristics, so there is not a common pattern of responsible accounting applicable to all enterprises in different industries. Research results are similar to results in predecessor studies, such as: Venkatrathnam & Reddy (2003); Fowzia (2011).

Factors Application of information technology: The application of information technology in enterprises saves time, handles many different issues quickly, collects information, gives timely responsibility reports to administrators and ensures the usefulness of information. The results of this study are consistent with the research of Chang (2001); Choe (2004); Nguyen Huu Phu (2014).

5. Conclusion and Recommendation

Through analysis of 216 survey samples from managers, chief accountants, accountants in 102 enterprises in Vietnam. The regression results show that the factors have a positive influence on the "Organization of accounting responsibilities in enterprises" in descending order, as follows: Management hierarchy; Awareness of administrators on responsible accounting; Cost of responsible accounting organization; Enterprise scale; Qualification of accounting staff; Enterprise characteristics; Application of information technology.

The findings from the empirical study are the basis for the author to make a number of recommendations and in this study, the author focuses on the recommendations for enterprises themselves:

For the factor of management decentralization: The results of the study show that if there is a higher management decentralization in the enterprise, it promotes the organization of responsible accounting in the unit. Therefore, in the coming time, enterprises in Vietnam need to further improve management decentralization in their units in the direction of: (i) clearly delineating the functions and tasks of each center, avoiding overlap; (ii) having clear task assignment and resource allocation mechanisms; (iii) having coordination mechanisms among the responsibility centers; (iv) comprehensive evaluation of achievements in both financial and non-financial aspects and (v) material and spiritual encouragement.

For the factor of the administrator's perception of responsible accounting: In this aspect, the administrator needs to have the knowledge and understanding of responsible accounting to realize the effectiveness in modern corporate governance that responsible accounting tools bring. When enterprises have organized responsible accounting, administrators need to pay close attention to the inspection and evaluation of the performance of each department through the responsibility reports of the responsibility centers.

For the factor Cost of responsible accounting organization: When building a

responsible accounting system, corporate administrators need to consider between the cost spent and the benefits obtained. These costs are for the equipment of information systems, machine systems, maintenance and repair of systems, operating staff costs and training costs to improve the qualifications of the staff...Therefore, it should not be wasted to build a responsible accounting system that does not promote high efficiency or when the administrators find it unnecessary for their business.

With the factor of Enterprise size: A lot of research on responsible accounting organization in enterprises in the world has shown that the larger the enterprise size, the easier it is to succeed when the accounting organization is responsible. The results of the survey conducted in this study confirm that once again. For large-scale manufacturing enterprises, it is easy to organize responsible accounting. Small and medium-sized manufacturing enterprises can also refer to the ways and experiences of large enterprises. Because, in the future, when enterprises grow in size, it is necessary to learn and organize the implementation of responsible accounting.

With the factor of accounting staff qualifications: the main accountant is the core force in the implementation and organization of responsible accounting to effectively exploit this management tool. Accountability is a new accounting technical tool, so it requires management accountants to regularly update, learn and continuously improve their qualifications through specialized courses in domestic accounting such as chief accountant, financial director and international certification courses such as ACCA, CMA. Moreover, the development of the science and technology revolution 4.0 makes traditional management accounting work and techniques will gradually be replaced by Blockchain technology, artificial intelligence, Big Data... This leads to a major change in the work of management accountants, aiming at the new requirements of the digital economy in terms of strategic governance, risk management, value chain management. Therefore, management accounting staff in

enterprises in Vietnam must always have a willing attitude to access to new responsible accounting techniques.

Factors Characteristics of the enterprise: Each enterprise needs to understand the objectives, structure, environment, culture and production and business activities of its enterprise to build the most appropriate responsible accounting organization. Therefore, the accounting system responsible for construction must be appropriate, simple, easy to understand, depending on the qualifications and characteristics of each specific enterprise.

Factors of information technology application: The results of the research show that the factors of information technology have a similar impact on responsible accounting organizations. The current application of information technology to responsible accounting is very important for enterprises. Therefore, enterprises need to equip modern information systems, specialized responsible accounting software to serve the management accounting in general and responsible accounting in particular to collect and process information quickly and effectively, produce timely responsible reports for management, and ensure the usefulness of information.

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Appendix 1: Attribute coding of factors affecting the organization of responsible accounting in enterprises

| No. | Factor | Number of scales | Source |
|-----------------------------|--------|---|--|
| Independent variable | | | |
| PCQL | PCQL1 | Manager competent to perform the work | Al-Gharaybeh et al., (2011); Al Hanini (2013); Ramadan (2016). |
| | PCQL2 | Managers have enough time to do the job | |
| | PCQL3 | Managers are informed of their duties | |
| | PCQL4 | Managers with the right professional competencies | |
| | PCQL5 | Employee accountability aligned with their responsibilities | |
| | PCQL6 | Each job in the enterprise is described and defined its responsibilities and rights | |

| | | | |
|---------------------------|-------|--|--|
| NT | NT1 | Administrators appreciate the usefulness of responsible accounting | Ismail & King (2007); Abdel-Kader & Luther (2008); Ahmad (2012). |
| | NT2 | The administrator is knowledgeable about the technical tools of responsible accounting | |
| | NT3 | The administrator has a need to organize responsible accounting | |
| | NT4 | The administrator accepts the costs in investing in the application of responsible accounting | |
| QM | QM1 | Average capital source | Hutaibat (2005); Ahmad (2012); Nair (2017). |
| | QM2 | Number of departments and branches | |
| | QM3 | Revenue | |
| | QM4 | Number of Employees | |
| NV | NV1 | Accounting qualifications from vocational secondary schools and colleges | McChlery et al., (2005); Ismail & King (2007); Ahmad (2012). |
| | NV2 | Accounting qualifications from bachelor degree or higher | |
| | NV3 | Have professional accounting certificates in the country | |
| | NV4 | Holds international professional accounting credentials | |
| CN | CN1 | Enterprise equipped with information infrastructure | Chang (2001); Choe (2004). |
| | CN2 | Enterprise equipped with software | |
| | CN3 | Data Governance | |
| | CN4 | Network system connection | |
| CP | CP1 | Requirements for technology investment for responsible accounting organization | Ma Van Vien & Tran Van Long, (2019); Cao Thi Huyen Trang (2020). |
| | CP2 | Requesting consultancy expenses from professional organizations for the accounting organization's responsibility | |
| | CP3 | Request human resource training expenses for responsible accounting organization | |
| DD | DD1 | Information users | Venkathnam & Reddy (2003); Fowzia (2011). |
| | DD2 | internal control system | |
| | DD3 | The application of information technology in production | |
| | DD4 | Legal form of the enterprise | |
| | DD5 | Diversity in the business lines of the enterprise | |
| | DD6 | Diversity in the area of operation of the enterprise | |
| Dependent variable | | | |
| KTTN | KTTN1 | Organization of identification and classification of responsibility centers | Hansen (2005); Gharayba et al., |

| | | | |
|--|-------|---|---------------------------------|
| | KTTN2 | Organize the development of cost estimates according to responsibility centers | (2011); Nguyen Huu Phu, (2014). |
| | KTTN3 | Organize data collection, processing and evaluation of management responsibilities, provide information according to responsibility centers | |
| | KTTN4 | Organize the development of reward system under management responsibility. | |