FACTORS AFFECTING THE ABILITY TO MEET THE NEEDS OF MANAGEMENT ACCOUNTING INFORMATION FOR COST, REVENUE, AND PERFORMANCE IN THE CONSTRUCTION COMPANIES LISTED ON THE VIETNAM STOCK EXCHANGE

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Abstract

The article focuses on clarifying the role of management accounting for cost, revenue, and performance in meeting the information needs of managers. The research model of factors affecting the ability to meet the demand of management accounting information for cost, revenue, and performance in enterprises is built based on a literature review. Data collected through surveys at construction companies listed on Vietnam Stock Exchange (VSE) is used to test the model. Based on empirical research results, the article contributes to additional recommendations and proposals to better meet the information needs of managers about management accounting for cost, revenue, and performance, to help construction companies listed on VSE better organize management accounting, enhance the ability to meet information needs for corporate governance.

Keywords: Construction companies, management accounting, management accounting information needs, Vietnam

INTRODUCTION

Management accounting for cost, revenue, and performance is a part of management accounting that collects, processes, and provides financial and non-financial economic information in both past times and forecasts to help managers in planning, controlling, evaluating performance, and making decisions (Nam, 2019). In Vietnam, when the construction industry becomes more and more competitive, in order to survive and develop, managers need to be provided with information on costs, revenues and results, help them better control, manage more effectively, contribute to making the business achieve higher performance. To do these tasks, no other department in the enterprise other than management accounting is suitable to provide information to managers such as: information on incurred costs, estimated revenue, estimated costs, recognition and reporting of revenue, expenses, construction performance results, etc.

Accordingly, the important role of management accountants in construction enterprises is to provide information (such as costs, revenues, results) to managers at all levels in the enterprise that is the basis for them to make decisions, control, evaluate performance and make plan. In the process of collecting, recording, and providing information, and making forecasts, many

factors can affect the job of meeting the information needs of managers at all levels in an organization. Based on the studies of Bernard Piercea, Tony O'Deab (2003), Orla Feeney (2007), Naser B. Ghanem, Suzana Sulaiman (2016), Carla Mendoza, Pierre-Laurent Bescos (2001), the overall quality of information is an important input to meet the needs of managers, helping them manage the business effectively. This is an important factor affecting meeting the information needs of managers through the function of management accounting. Sorin Briciu et al. (2013), and Burns and Yazdifar (2001) argue that new techniques need to be considered and applied to meet the changing requirements of users. Several other factors have also been studied that influence the job that meets the information needs of the business such as: Skills, knowledge, and capacity of management accountants (Orla Feeney, 2007), technology information, and database systems (Piercea, Tony O'Deab, 2003; Christofer Andersson and Lotta Mähönen, 2014), the coordination between departments in the enterprise (Sorin briciu et al., 2013).

However, these studies mainly approach from a qualitative perspective and consider the impact of factors individually. The comprehensive studies on the factors affecting the ability to meet the needs of management accounting information for cost, revenue, and performance in construction enterprises are limited especially in developing countries like Vietnam. Accordingly, this study was conducted with the aim of supplementing the empirical results in listed construction companies on the factors affecting the ability to meet the needs of management accounting information for cost, revenue, and performance. Based on the inheritance of previous studies on the same topic, combined with interviews with management accounting experts with experience in listed construction companies, the article builds a questionnaire to survey managers as well as accountants. Tests such as factor discovery, cronbach Alpha, linear regression were performed on the survey results to evaluate the factors affecting the ability to meet the needs of management accounting information for cost, revenue, and performance in construction enterprises listed in Vietnam. Based on the research results, the article makes some recommendations to help listed construction companies better organize management accounting, enhance the ability to meet information needs for corporate governance.

BACKGROUND THEORY, LITERATURE REVIEW, AND HYPOTHESES DEVELOPMENT

Background theory

The research is built mainly on the theory of contingency when managers are faced with a rapidly changing environment and their information systems need to adapt according to their information needs according to the change there. The application of contingency theory in research is to understand the role and impact of different factors on managers based on meeting their information needs which will help managers respond to situations unexpected situations can happen, shows that the change in focus is that the information must respond to be useful, but seek to understand contingency variables and build explanatory models that can identify the relationship between managers and information for decision-making. The environment and

type of strategy pursued by the business include the information that managers need about the volume of data, the usefulness of financial information compared to non-financial information, and the amount of historical information. Past orientation compared to future-oriented information is reflected in the overall quality of information that accountants provide to managers while studying the effects of factors in the organization such as technology, capacity, the accounting staff's resources, the usefulness of the provided accounting information, as well as the coordination between the departments, will affect how to meet the information needs of the managers to help the managers determine the accounting methods selected, information technology and accounting data or accounting information need to carry to ensure the quality of the information provided. However, the ability to meet information requirements depends on the information needs of managers and between management levels in different businesses. Therefore, it is not possible to build a model for the ability to meet the management accounting information needs on costs, revenue, and performance with a model that applies to all businesses where the application of depending on each industry, each production field, and by the goals and needs of the management levels in the business.

Besides, the theory of the cost-benefit relationship is applied to the study of the impact on the ability to meet the needs of management accounting information for cost, revenue, and performance such as investment cost. for the application of new management accounting techniques with the benefit of benefiting from the usefulness of the information provided from the application of these techniques; or the level of investment in information technology and databases to benefit from information integration across departments. For small-scale businesses, the need for simple management information, and the investment in the application of complex new management accounting tools will not be appropriate, because the benefits brought may not be suitable to match the cost. Most of the construction companies that are surveyed on the topic are medium and large enterprises. Construction businesses have been applying modern and advanced construction technologies, so the information needed from administrators will be more complicated to make decisions. Therefore, investing a compatible expense for the application of new management accounting technical tools, highly integrated information technology, and skill training for accountants to meet the needs of the future. innovation is acceptable.

The overall quality of information has an impact on the ability to meet the needs of management accounting information for cost, revenue, and performance.

The overall quality of information is an important input factor affecting the ability to meet the needs of managers through the function of management accounting (Bernard Piercea, Tony O'Deab, 2003); Orla Feeney, 2007; Naser B. Ghanem, Suzana Sulaiman, 2016; Carla Mendoza, Pierre-Laurent Bescos, 2001). Studies suggest that the more desirable change from management for the overall quality of information is relevance, accuracy, timeliness, up-to-date, wider range of information, better format, and easier to use. Orla Feeney (2007) mentions the total quality system of information needed by managers: relevance, reliability, timeliness, flexibility and adaptability, consistency, and scope of information. These factors are consistent with the views of studies by Van der Veeken and Wouters (2002), Mendoza

and Bescos (2001), Naser B. Ghanem, and Suzana Sulaiman (2016). Agreeing with the above views, the author believes that cost, revenue, and performance management accounting information should have a certain overall quality to achieve the most benefits and efficiency. assigned to the administrator. These attributes are the unique characteristics of information that make it more or less useful in the ability to meet the information needs of management at all levels of the enterprise. Accordingly, based on the above views, the following research hypothesis is proposed

Hypothesis H1: The overall quality of information has an impact on the ability to meet the needs of management accounting information for costs, revenue, and performance.

The usefulness of applying management accounting techniques affects the ability to meet the needs of management accounting information for cost, revenue, and performance.

The application of administrative accounting techniques, revenue, and performance in the enterprise will affect the ability to respond well or not demand information from the administrator, which indicates which techniques are used by the accountant and what information is used by managers. Orla Feeney (2007) and Bernard Piercea, and Tony O'Deab (2003) provide management accounting techniques suitable for the control information and decision-making needs of managers. Control techniques are covered such as cost norming, estimating, revenue and result in recognition, and performance and planning information analysis. Decision-making techniques for cost allocation, discounted cash flow, customer profitability analysis, build metrics to measure ROI, ROA... On the other hand, with the global competitive environment and increasing demand for information, managers also consider new techniques to be considered to meet the changing requirements of users (Burns and Yazdifar, 2001) such as balanced scorecards, benchmarking techniques, non-financial information, ABC costing method, target costing. However, this technical element is considered useful in its ability to meet the information needs of the administrator when it is consistent with the established goals, helping the administrator to optimize costs or eliminate activities that do not add value to the firm (Sorin briciu et al., 2013). Accordingly, based on the above views, the following research hypothesis is proposed

Hypothesis H2: The usefulness of applying management accounting techniques affects the ability to meet the needs of management accounting information for cost, revenue, and performance.

Skills, knowledge, and competencies of accountants have an impact on the ability to meet the needs of management accounting information for cost, revenue, and performance

Orla Feeney (2007) gave important skills and knowledge of accountants to provide good information for managers. These factors include ethics, honesty, business and business understanding, information technology skills, communication skills, problem-solving and analytical skills, teamwork, defense perspective, financial expertise, and creativity. This can be interpreted that the better the skills, knowledge, and capacity of accountants in the

enterprise, the better the information needs of managers can be met. Experts also agree with the skills and competencies of accountants according to the results of research conducted by Orla Feeney (2007).

Hypothesis H3: Skills, knowledge, and competencies of accountants have an impact on the ability to meet the needs of accounting information for cost, revenue, and performance

Information technology and database systems have an impact on the ability to meet the needs of management accounting information for cost, revenue, and performance

The economic transactions arising in the enterprise may involve many participating units, complex transactions, information about costs, or revenues that need to be updated promptly. Relevant data for administrators require a complete database system. Managers believe that physical factors (including computer systems, management software, and information databases) affect the fulfillment of their information needs. They can use the advancement of information technology to process big data simultaneously from many different departments. Piercea, Tony O'Deab (2003), Christofer Andersson and Lotta Mähönen (2014), and Alina Almasan et al (2016) suggest that advances in information technology and database systems can design systems Management accountants are better suited to their roles and meet the needs of managers, rather than the need for financial reporting to outside parties. Accordingly, the more important and modern the information technology and database system is, the better it will be to meet the information needs of cost, revenue, and performance management accounting. Hypothesis H4 is built on these view points

Hypothesis H4: Information technology and database systems have an impact on the ability to meet the needs of management accounting information for cost, revenue, and performance

The coordination between departments in the business has an impact on the ability to meet the needs of management accounting information for cost, revenue, and performance.

The enhancement of working processes and information coordination between departments will positively support internal management and control (Sorin Briciu et al., 2013). Information needs are better met if the parts are well linked together, and labor resources are used rationally to maximize the elements of the construction process to achieve the intended goals. The close linkage, support, and consensus on operational goals between departments and functions play an important role in enhancing the work efficiency of each department and enhancing the overall performance of the entire department company.

Hypothesis H5: The coordination between departments in the business has an impact on the ability to meet the needs of management accounting information for cost, revenue, and performance.

Research models

Based on an overview, the research identifies factors affecting the ability to meet the information needs of management accounting information for cost revenue and performance in enterprises, along with interview results from experts. In listed construction companies,
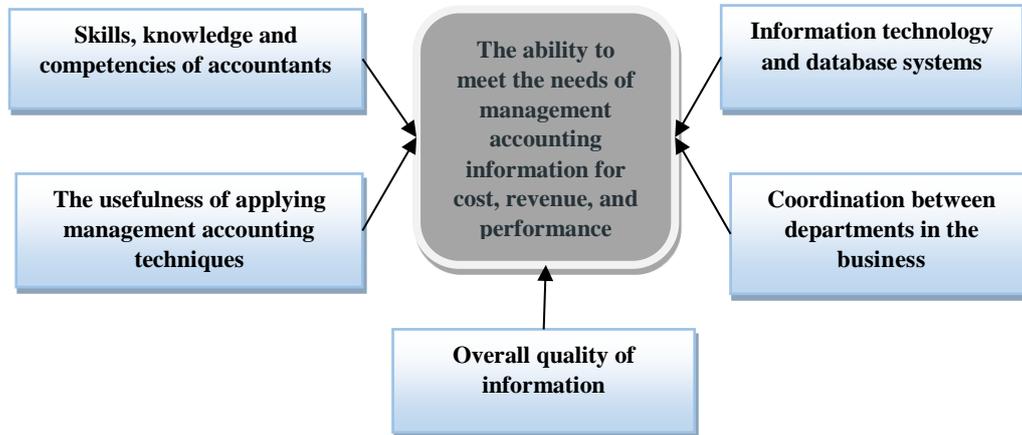
the proposed research model is as follows:

Figure 1: Research model

Source: Synthesized and proposed by the authors

RESEARCH METHODOLOGY

Research Model and Variables Measurement

The scale used in this study is based on theory and previous studies published in international journals on management accounting. The scales are adjusted and supplemented to suit the actual characteristics of Vietnamese construction companies in general and based on the results of qualitative research, and in-depth interview methods from experts. To test the study hypotheses and achieve objectives of research, following regression linear model is employed:

$$\text{MEETDE} = \beta_0 + \beta_1 \text{ OVERQU} + \beta_2 \text{ USEFU} + \beta_3 \text{ SKILL} + \beta_4 \text{ TECDA} + \beta_5 \text{ COORDI} + \varepsilon$$

In which, the variable overall quality of information (OVERQU) is measured through seven aspects, including: Timely response to information; Respond to accurate information; Flexible information response; Respond to relevant/appropriate information; Respond to wide-ranging information; Respond to information in an easy-to-understand and easy-to-use format; Responding to information ensures transparency (Orla Feeney, 2007). The variable code is set from OVERQU1 to OVERQU7.

The usefulness variable (USEFU) of the application of management accounting is measured by four aspects: Consistent with the objectives of the enterprise; Reducing or optimizing costs; Control and improving internal operations and processes; Eliminate activities that do not add value to the business (Orla Feeney, 2007). The variable code is denoted from USEFU1 to USEFU4.

Variable skills, knowledge, and capacity of accountants (SKILL) measured with six observations: Having professional ethics; Having expertise in finance and international

accounting; Having communication and teamwork skills; Having information technology skills; Having knowledge of business and enterprise; Ability to be creative (Piercea, Tony O'Deab, 2003; Orla Feeney, 2007). Variable codes are denoted from SKILL1 to SKILL6.

Variable information technology and a database system (TECDA) are measured by 4 aspects: A complete and up-to-date database system for information on costs, revenue, and performance; Computer systems and telecommunications networks are suitable and stable; Accounting software can connect and link with other applications to enter and retrieve data; Accounting software can be flexibly changed and upgraded according to the requirements of use and management of enterprises (Piercea, Tony O'Deab, 2003; Christofer Andersson and Lotta Mähönen, 2014). The variable code is denoted from TECDA1 to TECDA4.

Turning the coordination between departments (COORDI) in the enterprise is measured by three aspects: The departments in the enterprise have close links in providing and sharing information; The departments in the enterprise have mutual support in work; All departments in the enterprise agree on the common goals of the enterprise (Sorin briciu et al., 2013). The variable code is denoted from COORDI1 to COORDI3.

The dependent variable to meet the information demand for management accounting information for cost, revenue, and performance (MEETDE) is measured by three observations: The need for information for operational orientation; The need for control and evaluation information; The need for information to justify managerial decisions (Orla Feeney, 2007). The variable code is denoted by MEETDE1, MEETDE2, and MEETDE3 respectively.

Research sample design

Based on the volume of data to be collected, the research subjects at construction companies are listed on the Vietnam Stock Exchange. The 5-level Likert scale is familiarly used in many studies, which is a type of psychometric response scale in which responders specify their level of agreement to a statement typically in five points. Previous research also employed a five-point Likert scale (from completely agree - 5 to completely disagree - 1) as a common tool to collect perception from different group of respondents, such as: senior managers, chief accountants, and accountants. The survey was sent in many forms directly, via email, and through other communication tools to 43 construction companies listed on Vietnam Stock Exchange. The number of votes sent was 505 votes, total response received is 192 (reaching the rate of 38%), of which 13 were unsatisfactory and were excluded, the remaining 179 appropriate survey questionnaires were numbered sequentially, used to include in analysis to test research hypotheses.

Data analysis

To test the model and assess the relevance of the research model in practice, as well as analyze the impact of factors on the ability to meet the information needs of management accounting information for cost, revenue, and performance in construction companies listed on the Vietnam Stock Exchange, the research using exploratory factor analysis (EFA) and regression

analysis with the following steps: (i) Analyze the reliability of the scale by Cronbach Alpha coefficient ; (ii) exploratory factor analysis; (iii) Correlation analysis; (iv) Regression analysis.

RESEARCH RESULTS

Descriptive statistics results

Table 1: Profile of Survey Respondents

Variables	Frequency (n = 179)	Percentage
Gender		
Male	38	21.23%
Female	141	78.77%
Years or working experience		
Less than 5 years	11	6.14%
5 – 10 years	52	29.05%
More than 10 years	116	64.81%
Qualification		
Certificated	3	1.68%
Bachelor	120	67.03%
MBA	55	30.72%
PhD	1	0.57%

Of the total (Table 1), male respondents account for 21.23% and female respondents 78.77%. Most respondents have more than ten years of working experience (64.81%), while remaining percentage occupied by respondents have under ten years. In qualification, 67.03% of total respondents achieved Bachelor. Besides, the number of respondents who participated and obtained a master's degree in business administrative also accounted for more than 30%. The insignificant remaining part is that a few respondents only obtained certificates (1.68%). This result shows that the survey respondents have a certain level of qualification as well as experience.

Scale Reliability

After collecting data, the study analyzed the reliability of the scales in the model by Cronbach's alpha coefficient.

Table 2: Scale analysis table

	Cronbach's Alpha	Indicator	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
OVERQU	0.890	OVERQU1	25.76	9.835	.755	.865
		OVERQU2	25.58	10.121	.778	.863
		OVERQU3	25.83	9.983	.720	.870
		OVERQU4	25.62	10.237	.721	.870
		OVERQU4	25.63	10.571	.669	.876
		OVERQU6	25.63	11.077	.534	.891
		OVERQU7	25.74	10.136	.633	.882
USEFU	0.882	USEFU1	12.77	3.720	.701	.865
		USEFU2	12.35	4.048	.581	.909
		USEFU3	12.52	3.554	.859	.805
		USEFU4	12.53	3.419	.854	.804
SKILL	0.862	SKILL1	20.25	7.695	.576	.856
		SKILL2	20.28	7.618	.696	.831
		SKILL2	20.29	7.859	.639	.842
		SKILL4	19.90	8.113	.582	.852
		SKILL5	19.96	7.874	.720	.829
		SKILL6	19.99	7.522	.740	.824
TECDA	0.749	TECDA1	11.77	2.506	.623	.648
		TECDA2	11.85	2.428	.622	.646
		TECDA3	12.27	2.692	.446	.744
		TECDA4	12.03	2.578	.496	.718
COORDI	0.742	COORDI1	6.87	1.735	.504	.732
		COORDI2	7.16	1.676	.607	.612
		COORDI3	7.20	1.633	.595	.624
MEETDE	0.716	NCKH	8.61	1.216	.535	.633
		NCKS	8.24	1.206	.517	.651
		NCQĐ	8.30	.929	.574	.589

Source: Data Analytics

Thus, all variables in the model through data collected from the official survey have large Cronbach Alpha coefficients (all greater than 0.7), reaching from 0.716 to 0.890. At the same time, all observed variables for the independent and dependent variables have a total correlation coefficient greater than 0.3 (the lowest 0.446). This shows that the scales have the necessary reliability. Through the above analysis results, all 24 observations for five independent variables and three observations for the dependent variable in the model are suitable and eligible for the next analysis steps of the study.

Exploratory factor analysis (EFA)

From the results of the reliability analysis of the scale in the above section, EFA analysis is performed with the coefficient extraction method of Component Analysis and Varimax rotation. The factor analysis was first conducted on 24 observed variables of independent variables affecting the ability to meet the needs of management accounting information for cost, revenue, and performance in construction companies listed on the Vietnamese Stock

Exchange. The results from SPSS show the KMO coefficient of $0,5 < 0,783 < 1,0$, demonstrating the appropriateness of the EFA model; The Bartlett test is significant for Sig. = 0,000; the number of extracted factors is 5, similar to the original theoretical model built, the total variance extracted is 65,705%, and the weights of all factors are greater than 0,5. Thus, the EFA analysis is appropriate for the data and the observed variables are correlated with each other in the population and should be used for the subsequent analysis.

Performing EFA analysis of the dependent variable "Meeting the demand for management accounting information for cost, revenue and performance ", the KMO coefficient = 0,675, and Bartlett's Test has Sig. = 0,000 is appropriate for the data, the variables are correlated with each other in the population. The factor loading coefficients of the scale variables are all greater than 0,5 and the extracted variance is 64,1%.

Multivariate regression analysis

After the process of testing the research scale, calculate the multiplier of the factor (values of the factors extracted in EFA analysis) by calculating the average of the observed variables belonging to the corresponding factor. The factors extracted in factor analysis were used for multivariate regression analysis to test the research model and accompanying hypotheses. All statistical hypothesis tests apply the 5% significance level.

Table 3 shows that the correlation coefficient between "MEETDE" and variables is as follows: independent variable "OVERQU" (Pearson = 0,671); independent variable "USEFU" (Pearson = 0,506); independent variable "SKILL" (Pearson = 0,544); with the variable "TECDA" (Pearson = 0,483); with the variable "COORDI" (Pearson = 0,471). Therefore, it can be concluded that the independent variables that can be included in the model are suitable to explain the need for accounting information on cost, revenue, and performance.

Table 3: Correlation analysis

Correlations		OVERQU	USEFU	SKILL	TECDA	COORDI	MEETDE
OVERQU	Pearson Correlation	1	.311**	.383**	.475**	.467**	.671**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	179	179	179	179	179	179
USEFU	Pearson Correlation	.311**	1	.645**	.280**	.300**	.506**
	Sig. (2-tailed)	.000		.000	.000	.000	.000
	N	179	179	179	179	179	179
SKILL	Pearson Correlation	.383**	.645**	1	.334**	.342**	.544**
	Sig. (2-tailed)	.000	.000		.000	.000	.000
	N	179	179	179	179	179	179
TECDA	Pearson Correlation	.475**	.280**	.334**	1	.308**	.483**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	179	179	179	179	179	179
COORDI	Pearson Correlation	.467**	.300**	.342**	.308**	1	.471**
	Sig. (2-tailed)	.000	.000	.000	.000		.000
	N	179	179	179	179	179	179
MEETDE	Pearson Correlation	.671**	.506**	.544**	.483**	.471**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	179	179	179	179	179	179
**. Correlation is significant at the 0.01 level (2-tailed).							

Source: Data Analytics

Regression analysis

After analyzing the linear correlation between the variables, the study performs the linear regression test by including the suitable independent variables in the linear regression equation test. Based on the results of data processing from the author's survey data file through SPSS, the normalized regression model shows a simple linear relationship between the variables as follows:

MEETDE = 0,385 + 0,400*OVERQU + 0,119*USEFU + 0,156*SKILL + 0,129*TECDA+ 0,092*COORDI + ε

The above equation is given from the results of the coefficients of the corresponding factors in the test results of the linear regression equation from the data collected in the study as shown in the table below:

Table 4: Coefficients in the linear regression equation

Model	Unnormalized coefficients		Normalization coefficient	t	P value	Collinearity Statistics	
	B	Standard error	Beta			Tolerance	VIF
(Constant)	.385	.245		1.569	.119		
OVERQU	.400	.057	.429	7.080	.000	.637	1.570
USEFU	.149	.050	.190	2.971	.003	.574	1.743
SKILL	.156	.059	.174	2.629	.009	.534	1.874
TECDA	.129	.054	.133	2.376	.019	.741	1.349
COORDI	.092	.045	.113	2.023	.045	.742	1.348
Model Summary[b]							
Model	R	R Square	Adjusted R Square		Std. Error of the Estimate		Durbin-Watson
1	.772[a]	.596	.584		.31882		1.947
ANOVA[a]							
Model		Sum of Squares	df	Mean Square	F		Sig.
1	Regression	25.941	5	5.188	51.044		.000[b]
	Residual	17.584	173	.102			
	Total	43.526	178				

Source: Data Analytics

The results show that the coefficient R2 (R Square) has a value of 0,596 showing that the research model with five independent variables explains 59,6% of the variation of the dependent variable. The ANOVA table shows the F statistic calculated from the R Square value of the full model, the Sig value. (0,000) less than 0,05 indicates rejection of hypothesis H_0 - assuming that all regression coefficients are zero (except constant), this means that at least one independent variable has affected the dependent variable. Thus, the above regression model fits the data set and can be used.

In addition, the VIF (Variance Inflation Factor) coefficients of the independent factors in the model are all low and less than 2,2 (from 1,348 to 1,874), according to which there is no multicollinearity among the independent variables. set up in the model. At the same time the Sig values. of the coefficients of the independent factors in the model are less than 0,05. Accordingly, it can be concluded that all five factors influence the dependent variable.

DISCUSSTION

Thus, the results show that the overall quality of information has the greatest impact on the ability to meet the needs of management accounting information for costs, revenue, and performance in construction companies listed on the Vietnam Stock Exchange. This means that when the elements of information are guaranteed to be accurate, timely, flexible, or related to the parts providing information, it will increase the ability to meet the information needs of the managers. This result is also consistent with the research of Bernard Piercea, Tony O'Deab (2003), and Orla Feeney (2007) when confirming that the quality of information is guaranteed to have great significance in the decision-making of managers.

The usefulness factor of applying management accounting techniques is the second factor affecting the ability to meet the needs of management accounting information for cost, revenue, and performance research sample. The research results show the usefulness of applying management accounting techniques in line with business goals, optimizing costs, and eliminating activities that do not add value. The application of modern and more reasonable management accounting techniques will improve the ability to meet the needs of management accounting information for cost, revenue, and performance implementation. As a result, the ability to meet the needs of management accounting information of cost, revenue and business results will be better than the implementation of traditional management accounting techniques. This is completely consistent with the results of Orla Feeney (2007) who showed that this factor has a lot of significance in controlling information for managers, with new techniques, cost, revenue, and performance information can be analyzed and dissected more specifically and clearly, assessing the difference with currently applied techniques.

Knowledge, skills, and capacity of accountants is the third factor affecting the ability to meet the needs of management accounting information for cost, revenue, and performance. Many studies have shown that the skill and knowledge factors of accounting staff are compatible with the level of satisfaction of information needs of cost management accounting, revenue and performance in the direction that accountants have professional ethics, understanding of business characteristics, teamwork ability or financial expertise, and creativity will increase the ability to meet the information needs of managers in construction companies listing construction.

The next factor, "database and information technology" also has positive effect the ability to meet the needs of management accounting information for cost, revenue, and performance at listed construction companies. Results are consistent with studies Piercea, Tony O'Deab (2003); Christofer Andersson, and Lotta Mähönen (2014) argue that the elements of database and information technology are compatible with meeting the higher information needs when there is a complete and up-to-date database system for information. Cost, revenue, and performance or accounting software flexibly change and upgrade according to the requirements of use and management of the business. Having a secure information technology system and database will help administrators control the information they collect and integrate it with management information to make timely decisions.

The fifth factor is the coordination between departments in the enterprise which affects the ability to meet the needs of management accounting information for cost, revenue, and performance in listed construction companies. The research results show that the element of coordination between departments in the enterprise that is compatible with the ability to meet information needs will be more effective when departments have close links in providing information. And share information, have mutual support in work, or have consensus on common goals of the enterprise. This factor favorably affects the ability to meet information needs and will greatly affect the decision-making of managers in the enterprise more effectively. Thus, it can be concluded that the proposed research hypotheses are statistically accepted from the survey data.

CONCLUSIONS AND RECOMMENDATIONS

The research results show the impact of the factors on meeting the information needs of management accounting information for cost, revenue, and performance in listed construction companies. To be able to receive information on management accounting of cost, revenue, and performance in listed construction companies, requires an evaluation from many aspects:

For enterprise administrators: Managers in enterprises need to be aware of the role of management accounting information, especially information about cost, revenue, and performance. At the same time, managers need to actively participate, and propose information needs of their management to the accounting department in the process of connecting between accounting and management functions in the enterprise; ensure that managers need information; management accounting is suitable in the current accounting regime conditions of the enterprise.

Managers are also always the leading factor to be able to support Management Accountants to apply new technical methods, link the coordination of departments, and facilitating the application of the 4.0 technology revolution for the company. In addition, there are many specific operations in construction companies that require managers to regularly support and organize training, study, and experience exchange to improve the accounting team's qualifications. Thereby contributing to better meet the legal regulations, changes in current accounting regulations.

For accountants performing management accounting: The results of empirical research show that the factor "Skills, knowledge and capacity of accountants" with the coefficient Beta = 0.174 is a factor that has a large impact on accountants. the ability to meet the needs of management accountants' information for cost, revenue, and performance, shows that managers appreciate the capabilities that accountants need to meet for accounting work to increase their ability to understand and respond to information needs. Management accountants should have a combination of accounting and financial expertise, business savvy, analytical skills, and experience in the Business which means being practical and sticking to the action of the enterprise. They must also understand the economic environment to evaluate information based on its relevance to their organization.

On the other hand, today's management accountant plays the role of advising and supporting managers, so accountants must have professional qualifications and capabilities. Therefore, accountants should pursue long-term training and continuous professional development and have a high awareness of Management Accounting to apply empirical and objective solutions to accounting work. To ensure "overall quality of accounting information" and enhance "usefulness of applying management accounting techniques", management accountants need to implement a number of solutions, such as: improving expertise, increasing awareness of the necessity of applying modern management accounting techniques.

For the application of information technology: With Beta coefficient = 0.133, it shows that the factor "Information technology and database system" has a large impact on the ability to meet the needs of management accounting information for cost, revenue, and performance in listed construction companies. With the current 4.0 technology revolution, listed construction companies should proceed to apply digital technology in performing management tasks, including improving tools to support accountants in accounting. management in collecting, recording, and providing, as well as analyzing information about cost, revenue, and performance, ensuring a complete and up-to-date database system to meet higher needs from administrators.

Listed construction companies should proceed to apply accounting software that integrates with the software of other management departments (HR, engineering...) to ensure coordination with other departments other in the business. The software not only ensures flexibility, but is also suitable for construction characteristics, and ensures close linkage with other applications to import, and export data in controlling and providing, sharing information. Communicate with departments so that the information provided is more relevant and faster. At the same time, the integrated software should have the stability of the computer system and telecommunications network to work integrated into online mode between departments.

For the coordination between departments in the enterprise: This is also an affirming factor that has an impact on the ability to meet the information needs of managers about cost, revenue, and performance with the system. Beta = 0.113 in the above test model. To best control the costs incurred, revenue and business results determined, support decision making, managers at all levels need to ensure that all departments in the business have close links in providing and sharing information, supporting each other in work, and having a consensus on common goals of the enterprise.

References

1. Alina almasanet al (2016), Management accounting information from the perspective of managers: the case of Poland and Romania, Zeszyty Teoretyczne Rachunkowości tom 90 (146), 2016, s. 41 – 64.

2. Bernard Piercea, Tony O'Deab (2003), Management accounting information and the needs of managers Perceptions of managers and accountants compared, The British Accounting Review 35 (2003) 257–290.

3. Belkaoui, A., 1980. Conceptual foundations of management accounting. Don Mills Ontario: Addison-Wessley Publishing Company.

4. Burns, J. and H. Yazdifar, 2001. 'Tricks or Treats'. Financial Management. March, pp. 33-35.

5. Bruns Jr., W., and S. McKinnon (1993), Information and managers: A field study. Journal of Management Accounting Research (5): 84-108.

6. Carla Mendoza, Pierre-Laurent Bescos (2001), An explanatory model of managers' information needs: implications for management accounting, The European Accounting Review 2001, 10:2, 257–289.

7. Christofer Andersson and Lotta Mähönen (2014), Managerial use of accounting information, Master thesis - Spring 2014.

8. Drury, C., 2004. Management and Cost Accounting. 6th edition, London: International Thomson Business Press.

9. Emmanuel, C., D. Otley and K. Merchant, 1991. Accounting for Management Control. London: Chapman & Hall.

10. Hopper, T. A., 1980. 'Role conflicts of management accountants and their position within organisational structures'. Accounting Organisations and Society, Vol. 5, No.4, pp. 401-411.

11. Naser B. Ghanem, Suzana Sulaiman (2016), Management accounting system, information quality and organizational performance: Evidence from Libya, Asia-Pacific Management Accounting Journal, Volume 11 Issue 2.

12. Lehtonen, T.W (2001), Performance measurement in construction logistics, International Journal of Production Economics, 69(1):107-116.

13. Simon, H. A., 1960. The New Science of Management Decisions. New York: Harper & Row.

14. Simon, H. A., H. Guetzkow, G. Kozmetsky and G. Tyndall, 1954. Centralisation vs. Decentralisation in the Controller's Department. New York: Contollership Foundation.

15. Sorin BRICIU (2013), The impact of accounting information on managerial decisions – Empirical study conducted in the hospitality industry entities in Romania, Theoretical and Applied Economics Volume XX (2013), No. 9(586), pp. 27-38.

16. Stede, W. V. D. (2011), "Management accounting research in the wake of the crisis: some reflections", European Accounting Review, 20(4), 605-623. 14.

17. Orla Feeney (2007), Management Perspectives on the Role of the Management Accountant as an Information Provider, A dissertation submitted to Dublin City University Business School.

18. Otley, D., J. Broadbent and A. Berry, 1995. 'Research in Management Control: An Overview of its Development'. British Journal of Management, December, Special Issue S31-S44.

19. Nam, P.H. (2019), Completing the calculation of revenue, expenses, and business results in foreign-owned enterprises, PhD thesis of Academy of Finance.

20. Van der Veeken, H. and J. F. Wouters, 2002. 'Using accounting information systems by operations managers in a project company'. Management Accounting Research, No. 13, pp. 345-370.

Tables with caption

Table 1: Profile of Survey Respondents

Table 2: Scale analysis table

Table 3: Correlation analysis

Table 4: Coefficients in the linear regression equation