Asian Economic and Financial Review
ISSN(e): 2222-6737
ISSN(p): 2305-2147
DOI: 10.18488/journal.aefr.2020.101.94.115
Vol. 10, No. 1, 94-115.

URL: www.aessweb.com

MANAGEMENT ACCOUNTING PRACTICES AMONG VIETNAMESE SMALL AND MEDIUM ENTERPRISES

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Article History
Received: 9 October 2019
Revised: 14 November 2019
Accepted: 18 December 2019
Published: 30 January 2020

Keywords
Assessing function
Controlling function
Making decisions
Management accounting
Application
Management accounting techniques
Planning function
Small and medium enterprises
Vietnam.

JEL Classification:
M10; M41.

ABSTRACT

This paper investigated the level of management accounting application in Vietnamese enterprises in relation to the management functions of planning, controlling, assessing and decision making. Both qualitative and quantitative research methods were used. Qualitative research was conducted with 23 directors and chief accountants. Quantitative research was conducted by sending questionnaires to 120 enterprises. The results showed that 100 percent of Vietnamese enterprises have been applying management accounting. The level and content of management accounting applications in enterprises varied by size, length of business operation and business sector. Small companies often applied conventional management accounting techniques while large ones used contemporary management accounting techniques such as activity-based costing, activity-based budgeting, analysis for decision making, target costing and strategic planning. The research provides an overview of the reality, effects of management accounting on enterprises, helping enterprises understand management accounting and ways to use it effectively in the future.

Contribution/ Originality: This study contributes to the existing literature by investigating the level of management accounting application in Vietnamese enterprises in relation to the management functions of planning, controlling, assessing and decision making.

1. INTRODUCTION

According to the General Statistics Office of Vietnam, there were 936,000 operating SMEs, accounting for 98.1% of total enterprises, contributing to 92% of the State budget and employing 87% of the total labor force of Vietnam. These figures show the significant role of SMEs in economic growth. In other words, SMEs is a fundamental component of the country and plays a critical role in the economy.

The globalization of international trade and financial markets along with the development of internet and e-commerce has brought many advantages as well as challenges for SMEs, especially those in emerging markets like Vietnam. During operation processes, SMEs have to face issues related to finance, resources and personnel (Nandan, 2010; Ahmad, 2012). These pressures put businesses at risk of being eliminated. Therefore, all businesses need to adapt to fast-moving environment or wind up if they fail to embrace changes. The essential changes should focus on business structures, management strategies and philosophy, changes in governance and decisionmaking processes.

According to Alsoboa and Aldehayyat (2013) for the purpose of survival and sustainable development, companies need to consider financial information as well as non-financial information. Therefore, management accounting is really important to support business functions and maintain the sustainable development of businesses (Davila and Foster, 2005; Lavia and Hiebl, 2015).

In the rapidly changing business environment, one major challenge for Vietnamese managers is to apply new management techniques flexibly and effectively. The management accounting application allows businesses to access necessary information in a timely and effective manner, supporting their decision-making processes. Vietnamese SMEs have been using management accounting, however, at a low level of application with simplified techniques and thereby facing many difficulties. Most management accounting techniques used by companies are traditional techniques with low effectiveness and small contribution to management work.

1.1. Management Accounting Techniques

Management accounting techniques are the accounting tools and techniques to collect, process, analyze and provide information required by management. Therefore, management accounting techniques have changed and developed over time to suit the information needs of management (Kaplan, 1984).

The *traditional management accounting techniques* include vouchers, accounts which are mainly detailed accounts according to management requirements, pricing, accounting books and reports. Management accounting reports are prepared in shorter terms than that of financial statements, and these reports offer flexibility in content and forms. In addition, traditional management accounting techniques are suitable for internal quantitative information.

However, Kaplan (1984) argued that traditional management accounting techniques tend to require many calculations and sometimes managers cannot determine the accuracy of information provided in the reports. As a result, traditional management accounting is suitable for internal management accounting systems to provide information for managers to perform traditional management functions.

Contemporary management accounting techniques include statistics, survey and investigation methods. By using these methods, management accounting allows managers to collect both qualitative and quantitative information from inside and outside enterprises. Contemporary management accounting along with probability and statistical methods and models used in quantitative research to analyze and predict qualitative information for management can result in a more effective management process. Reports which are presented in diverse forms including texts, tables, charts and graphs provide information systematically. As a result, the contemporary management accounting methods are suitable for external entities and provide information for managers to implement modern strategic management functions.

1.2. Contents of Management Accounting

During management processes, managers must make decisions to run the business in order to achieve their desired objectives. The decision-making process is considered the most fundamental and important function of management which is closely associated with management functions including: planning; controlling and performance assessment and decision-making (Kaplan, 1984). Decisions can be made when managers perform any management functions, therefore this study examined the content of management accounting in relation to management functions.

Management accounting serves as the basis for planning function: Information provided by management accounting is important to help managers in planning processes (Kaplan, 1983; Ahmad, 2012; Michael *et al.*, 2013). The plans given by managers are usually in form of budget reports. A budget report is an action plan that quantifies organizational objectives according to the financial objectives of the entity. Along with the function of systematizing planning, information on budget reports also provides criteria for assessing performance.

Management accounting serves as the basis for controlling function: Ahmad (2012); Kosaiyakanont (2011); Nandan (2010); Hyvönen (2007); Kaplan (1983) conducted research and pointed out that in order to help managers perform controlling functions, the managerial accountant needed to conduct specific tasks such as providing performance reports, listing all variances and evaluating performance. Management accounting analyzes variances between what occurs in reality during the course of operation and production and the plans or budgets drawn up. *Management accounting serves as the basis for assessing function:* According to Nandan (2010); Hyvönen (2007); Kaplan (1983) in order for the management to perform assessments and audits, management accounting must evaluate the effectiveness of the whole enterprise and each department in financial and operational aspects. From a financial perspective, management accounting generally uses basic financial indicators to support the assessment of corporate financial performance and applies these indicators in each department.

Management accounting serves as the basis for decision making: The techniques of management accounting help managers to: make decisions on the production volume based on the cost-volume-profit analysis (CVP); to make decisions on the selling price of products; and, to make short-term decisions based on relevant information (Kaplan, 1983; Hyvönen, 2007; Nandan, 2010; Kosaiyakanont, 2011; Ahmad, 2012; Michael *et al.*, 2013).

1.3. The Objectives of the Research

- Assessing the reality of the management accounting application of SMEs in relation to the management functions of planning, controlling, evaluating and decision making.
- Evaluating the advantages and disadvantages when SMEs apply management accounting.
- Developing the plans and roadmaps and creating methods for SMEs to apply management accounting effectively.

2. LITERATURE REVIEW

Research on the application of management accounting has been conducted in many developed countries such as Canada, England, Australia, Japan and other countries such as Malaysia, Ireland, Belgium, and in Vietnam from 1991 to 2018. Initially, management accounting is applied with the function of providing detailed information of each product, each activity, and each object to support the process of pricing products and examining the performance of each activity. Gradually, the significant role of management accounting to managers has been recognized and confirmed. Currently, management accounting examines more than just numbers on the detailed books and focuses on analyzing information and is associated with management responsibilities and the controlling functions of managers.

Afirah and Mansor (2018); Ahmad (2012); Mahfar and Omar (2004) conducted a survey on the actual situation of management accounting application of enterprises in Malaysia and pointed out that traditional management accounting techniques were more commonly used than contemporary management accounting techniques (decision making techniques, strategic management accounting) and that the application of management accounting was highly appreciated in the role of corporate management. In addition, the research showed that the application of management accounting played a supporting role in increasing the efficiency and effectiveness of corporate governance.

Lavia and Hiebl (2015); Howard and Alan (2013) conducted research on the application of management accounting in Canadian companies and proved that all surveyed enterprises used cost and price systems combined with technical tools such as financial statement analysis, budgets and variance analysis. However, analysis of these companies was not comprehensive and only focused on specific indicators. These enterprises mainly used budgets and variance analysis for planning purposes and did not focus on their role as a controlling tool. Strategic management accounting tools such as quality costing, target costing, activity-based costing or balanced scorecard were not used by companies in the research. CVP analysis and some analysis tools for decision making were hardly used. Howard and Alan (2013) conducted a study on Canadian SMEs through in-depth interviews with eleven small and medium-sized enterprises in Canada. The study found that among nineteen famous management accounting techniques mentioned in interviews, only a small percentage were used in moderation.

Michael *et al.* (2013); Abdel-Kader and Luther (2008) examined SMEs in England and found that in small companies, management accounting was applied by owner-managers and brought significant benefits for senior managers in term of reducing management time and enhancing management efficiency. The common and widely-used techniques included: indirect cost allocation, budgeting and cost control, standard cost variance analysis, cost-volume-profit analysis, and responsible centers. Enterprises used additional techniques such as capital investment appraisal techniques, short-term decision support tools and strategic management accounting.

Messner (2016); Alsoboa and Aldehayyat (2013); Sleihat *et al.* (2012) investigated SMEs in Jordan and stated that traditional management accounting practices were widely used in the management of manufacturing companies. The applications of management accounting focused on controlling information rather than supporting decision making. The smaller the size of an enterprise, the simpler the revenue budget, cost and profit budget, variance analysis, whereby, business owners usually took on management accounting responsibilities in small companies. Financial companies used temporary management accounting techniques more, especially information analysis to make strategic decisions such as long-term investment and choosing investment options.

Nandan (2010); Xydias-Lobo *et al.* (2004); Birkett *et al.* (1992) investigated the needs of applying management accounting in Australian companies. The study proved that management accounting information was critically important for managers, especially in the management of resources as well as making decisions regarding resource allocation. Commonly used techniques included: cost-volume-profit analysis, relevant information analysis, and decision making under constraints.

Sleihat *et al.* (2012); Hyvönen (2007); Scarbrough *et al.* (1991) conducted research on the application of management accounting in manufacturing enterprises and provided practical evidence on the management accounting application of enterprises, recognition of advantages of applying management accounting as well as potential development in the future. The research results indicated that financial measures such as profit margins, budgets, and cost control continue to play a significant role in the future. At the same time, the research emphasized the important role of non-financial measures such as measures of customer satisfaction and customer attitudes. The research concluded that contemporary management accounting techniques combined with modern technology can help to develop customer networks.

Davila and Foster (2007); Pierce and O'Dea (1998) implemented research on management accounting application in Irish enterprises and it was concluded that the traditional management accounting techniques and tools such as financial indicators on measuring and assessing corporate performance were selected and prevailing. However, the update of modern technical tools of management accounting such as activity-based costing, and target costing has become popular. This study also showed that temporary management accounting techniques played a complementary role but were not a substitute for traditional management accounting tools.

Bruggeman *et al.* (1996) conducted a survey on the application of management accounting in Belgian enterprises and showed that the traditional management accounting techniques were used. Management accounting mainly helped managers to manage detailed data. New management techniques such as flexible budgeting and activity-based costing (ABC) had not been applied.

Alleyne and Weekes-Marshall (2011); Birkett *et al.* (1992) provided that the needs of applying management accounting of enterprises depended on random complexity in business that companies have to confront at different times with different situations created by strategic, structural and financial changes of companies from the beginning to the end.

Scarbrough *et al.* (1991) studied the application of management accounting in Japan and proved that companies did not pay much attention to developing methods of assessing product costing and inventory. Instead, companies focused more on the improvement of cost analysis for decision making as well as controlling costs through management accounting techniques such as target costing and total quality management serving strategic systems.

Oyewo (2017) assessed the level of effectiveness of the management accounting function in Nigerian firms with six variables: firm size, age, sector, existence of management accounting department, affiliation to foreign entity and public quotation status. The results pointed out the significant influence on management accounting function's effectiveness in Nigerian firms.

2.1. Review of Studies in Vietnam

Doan (2012) conducted a survey on 220 medium and large-scaled Vietnamese enterprises and proved that the higher the level of competition and management decentralization, the more management accounting tools used by enterprises which lead to better financial and non-financial results.

In his research called "Establishment of contents and organization of management accounting for enterprises in Vietnam", Pham (2010) summarized, analyzed and presented the content and organization of management accounting in enterprises, as well as compiled experience on this matter of some Asian countries and other developed countries. The author also conducted a survey on the status of organizing and establishing contents of management accounting applied in Vietnamese enterprises, whereby, they proposed recommendations and solutions to support enterprises in organizing management accounting effectively, strengthening the provision of information for management decisions.

In the research called "Establishment of contents and application of management accounting in Vietnamese enterprises", Tran (2003) analyzed the actual situation of Vietnamese accounting system to identify limitations of organizational structures of the system. The author systematized some basic content of management accounting in accordance with the requirements and management characteristics of Vietnamese enterprises, therefore, proposing feasible solutions to quickly and effectively apply management accounting in Vietnamese enterprises' management.

In the study called "Application of management accounting in Vietnamese commercial enterprises", Pham (2001) summarized theories of management accounting as well as the actual situation of management accounting application of Vietnamese commercial enterprises. Then, the author proposed views and main content of management accounting application of Vietnamese commercial enterprises with specific models with the purpose of applying management accounting effectively in Vietnamese commercial enterprises.

In summary, previous studies in the world and Vietnam mainly focused on application of management accounting in enterprises. In addition to traditional management accounting techniques such as financial statement analysis, budgeting and variance analysis; cost-volume-profit analysis, relevant information analysis, decision making under constraints, budgeting and cost control; the contemporary management accounting techniques have been emphasized such as activity-based costing, target costing or strategic management accounting, and balanced scorecards.

Previous studies often used either a qualitative or quantitative research method, however, this study combined both qualitative and quantitative research methods to collect information and produce more reliable and objective research results.

The content of management accounting examined in previous studies were mainly in the static state of management accounting. This study will develop such content in relation to the management functions of managers including: management accounting serving as the basis for planning function, management accounting serving as the basis for controlling function, management accounting serving as the basis for decision making, and management accounting serving as the basis for assessing function. Therefore, this study will be helpful for managers in the management process.

3. METHODOLOGY

3.1. Qualitative Research

In order to carry out qualitative research, in-depth interviews were conducted to identify factors affecting the application of management accounting in Vietnamese enterprises. Specifically, direct discussions with highly experienced experts in the field of accounting in general, and management accounting specifically were conducted with the results listed in Annex 2. Participants in the discussions and survey included experts with experience in implementing management accounting in enterprises such as chief accountants, chief financial officers, general directors, accountants, senior lecturers of management accounting in universities with the following specific criteria:

Experience requirements: Participants in the in-depth interviews had to meet at least one of the following requirements: Having at least ten years of working experience in the fields related to accounting or corporate management; Having experience conducting in-depth research on management accounting for more than ten years; Having at least five years of experience in managerial positions such as Chief Accountant, Director, General Director; or, Being responsible for or advising on the application of management accounting in enterprises.

Qualification requirements: Participants in the in-depth interviews had to meet at least one of the following qualification requirements: Holding a bachelor's degree or higher for experts working in enterprises; and/or, Holding a Ph.D. degree or higher for experts researching and teaching accounting in universities.

Criteria for selecting companies for the interviews: Companies participating in the interviews were divided into two groups. The first group consisted of large companies, joint-venture companies in Pho Noi Industrial Zone, Hung Yen and Industrial Zone in Phung town. The second group consisted of small and medium-sized enterprises in Hanoi.

Interview tools:

Information was collected through questionnaires prepared in advance by the author in order to examine participants' opinions about the actual situation of management accounting in units. After synthesizing participants' opinions, the information was analyzed, summarized and presented in table form. Next, a comparison with the research results of prior studies in the world was conducted, combined with a discussion with experts to reach a consensus on adding, adjusting and retaining the factors suitable for the characteristics of Vietnamese companies. These factors were the basis for developing the questionnaire for quantitative research.

3.2. Quantitative Research

Measurement scales: The preliminary scales were built based on the research objectives and contents of the research, combined with reference to the measurement scales of previous studies globally and in Vietnam. Based on that, screening and editing were conducted to select the measurement scales suitable for the research objectives and characteristics of Vietnamese enterprises.

Although the concepts and measurement of application of management accounting in enterprises have been studied and tested in many countries in the world, it is very difficult to develop and test the process of applying management accounting in Vietnamese enterprises. Therefore, it was essential to discuss with experts to adjust the measurement scales to suit specific characteristics of Vietnamese enterprises. Therefore, the measurement scales in this study were adjusted and supplemented through a qualitative research with expert consultation techniques. After that, draft measurement scales were adjusted and used for quantitative research.

Questionnaire: In order to measure the impact of factors on the application of management accounting in Vietnamese enterprises, expert consultation was conducted one more time to check and confirm words or terms used in the questionnaires before sending them to companies. All observed variables were measured using a five-point Likert type scale in which 1= totally disagree, 5= totally agree.

The questionnaire included three main parts. The first section was general information of participants. The second section sought information about the surveyed units. The third section examined the following:

- Contents of management accounting applied in an organization.
- Management accounting techniques applied in an organization.
- Factors affecting management accounting application in an organization.

3.3. Participant Characteristics

The non-probability sampling technique was selected for this study. Specifically, convenience sampling was used because of its speed, cost-effectiveness, and ease of availability of the sample. However, in order to achieve the research objectives and sample representativeness, participants were classified according to different criteria such as types of companies, business sectors, geographic areas, length of operation.

Questionnaires were sent to 120 companies. A total of 102 valid answers were received. Specifically, 33 answers were collected by face-to-face interviews, 30 answers were collected via online media and 39 answers were collected from the answer sheets. In each enterprise, the research expected to survey a chief accountant or a director and in some special cases both subjects were interviewed.

Table-1. Characteristics of companies.

General characteristics		Frequency	Percent	Valid Percent	Cumulative Percent
Types of companies	Joint-stock company	37	36.3	36.3	36.3
	Limited liability company	42	41.2	41.2	77.5
	Private company	15	14.7	14.7	92.2
	Joint-venture company	8	7.8	7.8	100
	Total	102	100	100	
Business sectors	Manufacturing	50	49.0	49.0	49.0
	Commercial and service sectors	15	14.7	14.7	63.7
	Services	24	23.5	23.5	87.3
	Construction	13	12.7	12.7	100.0
	Total	102	100	100	
Geographic area	Northern Vietnam	26	25.5	27.1	27.1
	Central Vietnam	27	26.5	28.1	55.2
	Southern Vietnam	26	25.5	27.1	82.3
	Other countries	14	13.7	14.6	96.9
	Others	3	2.9	3.1	100
	Total	96	94.1	100	
Length of operation	Less than 5 years	8	7.8	7.8	7.8
	From 5 to 10 years	15	14.7	14.7	22.5
	From 10 to 15 years	32	31.4	31.4	53.9
	From 15 to 20 years	10	9.8	9.8	63.7
	More than 20 years	37	36.3	36.3	100
	Total	102	100	100	

The classification of enterprises by type of enterprises, business sector, geographical area, and length of operation aimed at ensuring representativeness of the research sample. However, in the process of surveying and collecting data, there were certain variances with initial anticipation. Specifically:

Regarding types of enterprises, the results in Table 1 showed that limited liability companies and joint stock companies accounted for the largest proportion of 41% and 36% respectively, private enterprises accounted for 15% and finally, joint-venture companies accounted for 8%. In terms of business sectors, manufacturing sector accounted for the largest proportion (49%), followed by the service sector with 24%, and the commercial and service sectors took up the smallest proportion. Regarding the geographic area, the surveyed enterprises were evenly distributed in the North, the Central and the South of Vietnam, with each region accounting for similar proportion of 30-34%. In terms of length of operation, most enterprises have operated from fifteen years to over twenty years, only fifteen enterprises have operated for less than ten years and eight enterprises less than five years.

The surveyed subjects include 102 enterprises and 23 selected units which were enterprises established and operating under the Vietnamese Enterprise Law and often had line and functional organizational structure with three levels of management. Specifically, top-level management including the Board of Directors and president; middle-level management including the board of directors, the board of executives, the board of controllers, the branch directors; and, first-level management including the head/deputy head of departments and teams. The management tools of a company could include the company charter, the organizational and operational regulations of divisions, departments, and regulations on the working processes of the enterprise.

4. RESEARCH RESULTS

4.1. Level of Management Accounting Application

4.1.1. Level of Management Accounting Application by Gender

The independent T – Test was conducted to test the differences in application of management accounting (ApplyMA) by gender. The test results are shown in Table 2.

Table-2. Independent samples T-Test.

Content		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Apply MA	Equal variances assumed	8.239	.005	-3.467	100	.001	-.59920	.17282	-.94207	-.25633
	Equal variances not assumed			-5.671	47.762	.000	-.59920	.10566	-.81166	-.38674

The results in Table 2 show that:

Sig. value in Levene's test = 0.005 < 0.05, and indicated that the variances of two genders were different. Sig. value in T-test = 0.000< 0.05, it proved that there was a significant difference in the means of two populations.

Thus, there was a significant difference in the levels of management accounting application between two genders. Specifically, the descriptive statistics show that the level of management accounting of male participants was higher than that of female participants.

The one way ANOVA was conducted to examine the level of management accounting application among types of companies. The value of Levene Statistic was over 0.05, and this indicated that the variances among types of companies were not different as can be seen in Annex 3. Therefore, it was concluded that there was no difference in levels of management accounting among types of companies as seen in Annex 4. The results of the management accounting application level variance among geographical locations are shown in the Table 3.

Table-3. Level of management accounting application by geographic area.

Geographic area	N	Mean	Std. Deviation	Std. error	95% Confidence interval for mean		Minimum	Maximum
					Lower bound	Upper bound		
1. Northern Vietnam	26	3.6827	.47727	.09360	3.4899	3.8755	3.00	5.00
2. Central Vietnam	27	3.1389	.58562	.11270	2.9072	3.3706	2.25	4.50
3. Southern Vietnam	26	3.3654	.65662	.12877	3.1002	3.6306	2.50	5.00
4. Other countries	14	4.0536	.75434	.20161	3.6180	4.4891	2.50	5.00
5. Others	3	3.0833	.52042	.30046	1.7905	4.3761	2.50	3.50
Total	96	3.4792	.67245	.06863	3.3429	3.6154	2.25	5.00

Table-4. Multiple Comparisons.

(I) Geographical area	(J) Geographical area	Mean difference (I-J)	Std. error	Sig.	95% confidence interval	
					Lower bound	Upper bound
Northern Vietnam	Central Vietnam	.54380*	.16629	.002	.2135	.8741
	Southern Vietnam	.31731	.16785	.062	-.0161	.6507
	Other countries	-.37088	.20062	.068	-.7694	.0276
	Others	.59936	.36901	.108	-.1336	1.3324
Central Vietnam	Northern Vietnam	-.54380*	.16629	.002	-.8741	-.2135
	Southern Vietnam	-.22650	.16629	.177	-.5568	.1038
	Other countries	-.91468*	.19931	.000	-1.3106	-.5188
	Others	.05556	.36831	.880	-.6760	.7872
Southern Vietnam	Northern Vietnam	-.31731	.16785	.062	-.6507	.0161
	Central Vietnam	.22650	.16629	.177	-.1038	.5568
	Other countries	-.68819*	.20062	.001	-1.0867	-.2897
	Others	.28205	.36901	.447	-.4510	1.0151
Other countries	Northern Vietnam	.37088	.20062	.068	-.0276	.7694
	Central Vietnam	.91468*	.19931	.000	.5188	1.3106
	Southern Vietnam	.68819*	.20062	.001	.2897	1.0867
	Others	.97024*	.38503	.013	.2054	1.7350
Others	Northern Vietnam	-.59936	.36901	.108	-1.3324	.1336
	Central Vietnam	-.05556	.36831	.880	-.7872	.6760
	Southern Vietnam	-.28205	.36901	.447	-1.0151	.4510
	Other countries	-.97024*	.38503	.013	-1.7350	-.2054

*. The mean difference is significant at the 0.05 level.

The test of the Homogeneity of the variances was conducted with a value of Levene Statistic = 0.227 > 0.05 as shown in Annex 5, and this indicated that the variances among geographic areas were not different, therefore, with the results of ANOVA of the value of Sig = 0.000 < 0.05, it meant that there was a significant difference in the levels of management accounting application by geographical area as shown in Annex 6. Table 4 shows that there is a difference in the levels of management accounting application between the North and the Central regions of Vietnam. Specifically, the descriptive statistics show that the level of management accounting of the North was higher and more frequent than that of Central Vietnam.

4.2. Actual Situation of the Application of Management Accounting

4.2.1. Management Accounting Serves as the Basis for Planning Function

In order to support planning function, management accounting is responsible for preparing budgets such as budgets for consumption, production volumes, prices, selling and administrative costs, profits, as well as budgets for strategic planning including target costing and flexible budgets. All 102 surveyed enterprises had built a short-term and medium-term plan system based on budgets. The budgets were prepared monthly, quarterly, yearly. Depending on each budget period, budgets were presented in the form of a summary or in detail.

Table-5. Management accounting serves as the basis for planning function.

Planning Function	N	Mean	Percentage					
			S1	S2	S3	S4	S5	S4&S5
1. The consumption budget	102	3.17	1	18.6	43.1	37.3	0	37.3
2. The production budget	102	4.37	2	3.9	5.9	31.4	56.9	88.3
3. The cost budget	102	4.29	4.9	1	9.8	18.6	63.7	82.3
4. Budgets for selling and administration expenses	102	3.3	1	24.5	17.6	56.9		56.9
5. The profit budget	102	3.24	4.9	16.7	20.6	55.9		55.9
6. Cost budget for business and production	102	3.42	2	9.8	32.4	55.9		55.9
7. The budget based on Target costing	102	4.24	2		16.7	35.3	46.1	81.4
8. The flexible budget	102	3.81	2	11.8	25.5	24.5	36.3	60.8

Notes: S1 (Never) and S5 (Very frequently).

4.2.2. Types of Budgets

It can be seen from Table 5 that all 102 enterprises had made budgets to support the planning function of management. Budgets for production and business expenses were used the most with a mean of 4.37, followed by the cost budget (mean = 4.29) and budgets based on target costing (mean = 4.24). The consumption budget was used at a relatively common level but at the lowest frequence with mean value of 3.17. This can be explained by the fact that the flexible budget requires accountants to make more specific calculations of the fluctuations in price and quantity. Therefore, the flexible budget is rarely used in small businesses, or stable markets. Detailed statistics show that flexible budget was used by joint-venture companies operating in industrial zones such as Dong Anh, Phung and Bac Ninh. Examining the frequency of each type of budget shows that 56.9% of companies used the production budget and 63.7% used the cost budget

By examining the opinions of respondents about the budgets of their companies, more detailed information was provided on the matter. Specifically, Anh Duong Plastic Production and Trading Co., Ltd: stated that “Budgets in the short-term and medium-term help managers at all levels to keep on track with company objectives”.

Bich San International Industrial Joint Stock Company stated that “Budgets also serve as a basis for managers to control the implementation of plans under their management and responsibilities.”

Hoa Linh Pharma Liability Limited Company stated that “Budgets serve as a basis for senior management to assess the performance of lower-level management”.

Thygesen Vietnam Co., Ltd stated that “budgets help the company to be on the right track, follow schedules and serve as basis for assessing performance of departments and individuals”.

Regarding the budget period, the survey results showed that eight out of 102 large enterprises made budgets monthly, quarterly and yearly while nine small companies made annual budgets. There were a few companies making budgets by case. The budgets were prepared by companies at the end of the fourth quarter of the current year. Annually, based on the data of the relevant departments and actual situation, departments in charge would prepare budgets for the subsequent production and business year. However, during that year, based on actual situations of production and business of previous year and business plan of the company, the responsible department may revise and adjust the budgets to suit the situation.

The in-depth interviews showed that budgets made by businesses were highly flexible and diverse. Specifically, Endo Vietnam stated that “The overall budgets are made at the beginning of the year including revenue and profit budgets. Detailed budgets are usually made quarterly or monthly, including budgets for production volumes, revenues, expenses, profits and finance”.

Bich San International Industrial Joint Stock Company stated that “For old activities, we usually prepare budgets yearly, but for new products we make shorter-term budgets usually every month, even weekly”.

C. J. Union Vina Co., Ltd asserted that “In strategic plans, annual budgets are made. For the operation of departments, groups, budgets are made monthly or periodically depending on leader of that unit”.

AOCC Vietnam Co., Ltd stated that “When deploying a new product, budgets are made weekly. When implementing new programs, budgets are prepared by case”.

Regarding the departments in charge of preparing budgets, generally, most departments such as Accounting Department, Sales Department, Technical Department, Production Planning Department, and Directors were involved in making budgets, ranging from 69.6% to 100%. After the budgets were prepared by each department, the Accounting department was responsible for summarizing the budget reports of departments and submitting them to the management for approval.

Regarding budget techniques, the survey results showed that 51 out of 102 enterprises made budgets based on the performance of the previous year plus a certain percentage (%) of growth. In particular, the growth rate was determined by mainly considering the fluctuations of the price factor. This factor was analyzed based on the fact that input price tended to increase according to the growth rate of inflation. 35 out of 102 enterprises established budgets based on the data of relevant departments and the actual situation, and the responsible department established the budgets for the following business year. However, during the year, based on the actual situations of production and business of previous year and business plan of the company, the responsible department could revise and adjust the budgets to suit actual situations.

Through the survey, Santomas Vietnam Co., Ltd asserted that "We make budgets based on actual data of the previous year and added 30% of growth next year".

Hoa Linh Pharma Limited Liability Company stated that "We usually establish budgets based on the managers' experience and figures of the previous year."

Alpha Industries Vietnam Co., Ltd provided that "We prepare budgets based on careful consideration of fluctuations of prices in the markets".

Regarding the budgeting process, surveyed enterprises including joint stock companies and large enterprises used a top-down approach to make budgets. At the end of the year, the Board of Directors, managers and department heads discussed the financial plans for the subsequent year. Generally, the Board of Directors would establish basic targets such as revenues, production volumes, and profits. Based on these criteria, company managers considered building specific objectives, strategies and assign relevant departments to make budgets.

The Department of Economics-Planning/Sales Department would then rely on given objectives assigned by the upper level of management combined with other sources of information such as the actual production volume of the previous year, demanded consumption or production capacity of the company to estimate the level of consumption for the specified year. The Economic Planning Department/ Production Planning Department would conduct calculations considering the amount of inventory and demanded consumption to plan the amount of products needed to be produced. Based on the production plan and information of the relevant functional departments, the Accounting Department would make plans on the remaining areas regarding costs, expenses. After the budget reports were completed, the Economic Planning Department, Accounting Department were responsible for summarizing all budget reports and submitting them to the higher level of management to revise and make adjustments accordingly. The adjusted budget reports then would be used as the financial plan for the following years.

For example, in the Hoa Linh Pharma Limited Liability Company, the production budget was prepared based on the production volume of the previous year plus the growth rate established by the Board of Directors based on the annual growth rates and current production capacity. The budget for business and production expenses was made on the basis of standard costs, or by multiplying production volume by the estimated unit price. Based on estimated production volume, the Planning Department made a revenue budget. The revenue budget was prepared depending on the types of products and consumption market. Usually the estimated revenue is determined by multiplying the estimated production volume by the estimated unit price. Overall budgets were usually made for each activity and each product. Then all the budget reports were summarized for the whole company.

4.2.3. Management Accounting Serves as the Basis for Controlling Function

In order to help managers at all levels to perform the controlling function, management accounting provides reports on variance analysis monthly, quarterly and yearly. The variance analysis reports partly evaluate actual situation of organizing and controlling implementation of plans of enterprises in general and of each unit in particular. This type of management accounting helps management at all levels to follow the implementation of plans and identify the causes of variances between the plan and reality in order to make timely management decisions.

Table-6. Management accounting serves as the basis for controlling function.

Controlling Function	N	Mean	Percentage					
			S1	S2	S3	S4	S5	S4&S5
1. Tracking and collecting information for budgeting	102	4.26	8.8		2	34.3	54.9	89.2
2. Analyzing variances between reality and budgets	102	4.16	6.9	2	25.5		63.7	63.7
3. Analyzing and determining influential factors	102	4.08	3.9	5.9	29.4		60.8	60.8
4. Total quality control	102	4.07	4.9		18.6	21.6	52	73.6

Notes: S1: Never and S5: Very frequently.

The descriptive statistics in Table 6 show that the means range from 4.07 to 4.26 which was frequent application. In particular, one technique serving controling function is tracking, collection information for budgeting (4.26). Results of information collection process are reports on the implementation of budgets such as: The report on direct materials consumption, labor costs, overhead costs, revenues. This type of report was used by 100% of the companies regardless of the size or business sector. The allocation of general and administrative costs by criteria depended mainly on qualifications of accountants and the requirements of directors. Currently, for all companies except the joint-venture enterprises, the remaining enterprises chose one criterion to allocate general and administrative costs. Analyzing the variances between reality and the budgets had a mean value of 4.16. The task of analyzing variances at the simple level is comparing between reality and estimation which was conducted by all surveyed units. According to the survey results, 102 out of 102 enterprises conducted special variance analysis in the short-term. Specifically, in monthly or yearly plans, all the companies had variance analysis reports regarding variances of costs, revenues, and business activities. After analyzing the differences, accountants would continue to analyze factors influencing large variances (mean= 4.08). Variances in absolute and relative values were calculated for each criterion. After that, it was critical to identify the causes of such differences based on the analysis of prices, production volumes, and legal factors, environment, exchange rates, inflation, interest rates, markets, competitors, and consumption trends, thereby, determining what were the main and secondary causes. Finally, the variance analysis reports were submitted to managers and planning departments. Total quality control had a mean value of 4.14. According to the survey results, enterprises performed one Kaizen management system which was the "Total Productive Maintenance" by planning to prepare fixed assets.

4.2.4. Management Accounting Serves as the Basis for Assessing Function

Techniques for assessing financial operations of enterprises included:

- Evaluating financial efficiency through financial analysis, analyzing production and business efficiency and financial indicators.
- Evaluating the performance of each department and unit through the variance analysis of responsibility centers including cost centers, revenue centers, profit centers, and investment centers.
- Assessing the performance by the balanced scorecard (with four perspectives: financial efficiency, customers, internal processes, learning and development), with means of 4.16, 3.87 and 3.72 respectively.

Table-7. Management accounting serving as the basis for assessing function.

Assessing function	N	Mean	Percentage					
			S1	S2	S3	S4	S5	S4&S5
1. Financial analysis of business performance	96	4.16			17.6	44.1	32.4	76.5
2. Effectiveness of each responsible center	97	3.87	1	7.8	13.7	52.9	19.6	72.5
3. Comparison with industry averages	99	3.84	4.9	2.9	29.4	25.5	34.3	59.8
4. Comparison with competitors	98	3.59	9.8	2.9	28.4	30.4	24.5	54.9
5. Effectiveness of the Balanced Scorecard	94	3.72	9.8	2.9	19.6	30.4	29.4	59.8

Notes: S1 (Never) and S5 (Very frequently).

These figures in Table 7 showed that these tasks were often conducted in companies during the management accounting processes to support management in managing business activities. In the evaluation process, many enterprises conducted a comparison of the actual results with the industry averages and competitors to examine their position in the market, with means of 3.84 and 3.59 respectively. In general, the results showed that management techniques are used frequently to serve as the basis for assessment functions.

4.2.5. Assessing Performance through Financial Indicators

According to the survey results, only 22 out of 102 enterprises assessed financial performance in the short-term and medium-term through evaluating and analyzing basic financial indicators such as: profitability ratios, solvency ratios, turnover ratio and inventory turnover ratio.

4.2.6. Assessing Performance through Responsibility Centers

According to the survey results, all 102 enterprises have decentralized management structures. Therefore, all companies had responsibility centers including cost centers, revenue centers, profit centers, and investment centers.

The revenue centers were used in enterprises with consumption activities. The determination of each revenue center in each enterprise was relatively diverse as each sales department, each store, and each retail unit is considered as one revenue center. The authority to make decisions on the selling prices of the products of each revenue center was very flexible. There were 35 out of 102 enterprises that allowed the freedom of deciding the selling prices of products, while 55 enterprises allowed making pricing decisions in certain price ranges and the remaining twelve enterprises did not allow making pricing decisions but sold products at their listed prices.

Regarding cost centers, the survey showed that only 80 out of 102 enterprises have relatively strict organizational structures. Each department and division was considered a cost center. These centers were usually responsible for costs such as stationery, telephone, and some other expenses such as advertising, transportation, marketing and international affairs. Particularly, the salaries of employees in departments followed the general requirements of companies, taken from the internal resources of companies.

Regarding profit centers, in large-scaled companies with subsidiaries and branches, each subsidiary or branch was considered a profit center. Every month, profit centers evaluated the performance of each center by assessing the performance of some basic financial plan targets such as revenues, expenses, gross profits, profits before tax, and profits after tax. Every six months and every year, profit centers evaluated their performance through non-financial indicators such as technical operation management, safety implementation, environment and fire prevention.

4.2.7. Management Accounting Serving as the Basis for Making Decisions

Table-8. Management accounting serving as the basis for making decisions.

Making decisions	N	Mean	Percentage					
			S1	S2	S3	S4	S5	S4&S5
1. Making decisions based on cost-volume-profit analysis (CVP)	96	4.17	4.9	3.9	6.9	33.3	45.1	78.4
2. Making pricing decisions	97	4.21	4.9	1	3.9	45.1	40.2	85.3
3. Making short-term decisions based on relevant information	99	3.95	4.9	4.9	16.7	34.3	36.3	70.6
4. Making decisions on whether to continue or stop a project	95	3.97	1	4.9	21.6	34.3	31.4	65.7

Notes: S1 (Never) and S5 (Very frequently).

Management accounting serving a decision-making function is considered in many different aspects such as short-term or long-term, content-based or functional-based, modern or classical methods. This study examined specific content such as decisions on production volume, selling prices, and revenues, selecting options, continuing or stopping certain business parts. The statistic results in Table 8 indicated that decision-making based on the cost-volume-profit analysis was used the most, accounting for more than 80% with a relatively high mean value (4.17). The decisions on production volume based on the cost-volume-profit analysis in businesses include: decisions on changing fixed costs and revenues, changing variable costs and selling quantity and setting prices for special orders with mean of 4.21. Finally, operational decisions had a mean value of 3.95 and decisions related to projects had a mean value of 3.97, including decisions to partially or completely change the business and production process, and decisions to maintain or withdraw investment.

4.3. Application of Management Accounting Techniques in Companies

Table-9. Management accounting techniques applied in companies.

Management accounting techniques	N	Mean	Percentage					
			S1	S2	S3	S4	S5	S4&S5
1. Vouchers	100	4.22		5.9	17.6	23.5	51	74.5
2. Accounts	100	4.46		2.9	8.8	26.5	59.8	86.3
3. Pricing	99	4.56			8.8	25.5	62.5	88
4. Accounting reports	102	4.53			10.8	25.5	63.7	89.2
5. Statistical analysis	100	3.73		6.9	31.4	41.2	18.6	59.8
6. Probability and statistics	102	3.03	2.9	18.6	57.8	13.7	6.9	20.6
7. Using graphs, tables	101	3.4		19.6	38.2	23.5	17.6	41.1

Notes: S1 (Never) and S5 (Very frequently).

Management accounting techniques fall under two aspects: traditional techniques and contemporary techniques. Specifically, traditional management accounting techniques together with financial accounting techniques serve the function of recording, reflecting and providing information. Techniques including vouchers, accounts, accounting books and accounting reports had relatively high mean values (over 4.0), which meant that most companies used these techniques on a regular basis as can be seen in Table 9. However, the application of such techniques in each enterprise was different. In addition to the differences in the application of techniques, these companies were different in terms of spaces, personnel, and processes of management accounting.

The use of contemporary management accounting techniques was less frequent, accounting for 50-60%, corresponding to mean values from 3.03 - 3.74. Survey results showed that contemporary management accounting techniques were used by small companies less than by large enterprises, especially joint-venture companies and listed companies on the stock market. Furthermore, the most common methods used to present information on the annual reports of listed companies were the graphs and tables.

5. DISCUSSIONS

5.1. Application of Management Accounting

5.1.1. By Gender

Although in Vietnamese enterprises, women account for the majority of employees, the usage of management accounting by men was higher than that by women. Typical opinions of men on this matter were as follows:

"We want to provide directors with flexible, useful information instead of formal reports",

"We like management accounting because it is flexible which helps us to discover more, we do not have to remember accounts rigidly",

"We have more time than women to learn and apply the contents of management accounting",

"Men communicate with managers more, because 80% of Vietnamese managers are male so we understand what they want and adapt easier than women",

"I don't know what to call it but I like business in detail, flexibility and changes, I like strategies so I get rid of the rigid numbers in the formal reports".

5.1.2. By Type of Company

In this study, there was no difference in the application of management accounting by the type of enterprise. It can be explained by the fact that management accounting depends heavily on the requirements of managers, so it was applied more in large enterprises, enterprises with a long operating period or securities companies and it does not depend on the type of enterprise.

5.1.3. By Geographic Area

There was a significant difference in the level of management accounting application by geography, with specifically, companies in the North using management accounting more and more often than other areas. This is explained by habits and the fact that companies in the North usually focus more on details and specific issues. Companies and people in the North are more strict and sophisticated so management accounting is applied more to meet management requirements.

5.2. Application of Management Accounting in Relation with Management Functions

Table 10 shows that management accounting is used in all four stages of the management process. Specifically, management accounting was mostly used to serve a controlling function with a mean value of 4.38, in which the main task was to analyze variances between estimation and reality, mostly the analysis of revenue, expenses and profit and loss. It was followed by management accounting serving as the basis for a planning function with mean of 4.24 with the main task of making budgets such as the revenue budget and cost budget. Management accounting serving as the basis for making decisions had a mean of 4.07, with decisions such as pricing decisions and short-term investment decisions.

Table-10. Management accounting in relation with management functions.

Contents of management accounting	Means	Note
1. Planning function	4.24625	
2. Controlling function	4.38753	
3. Assessing function	3.83644	
4. Making decisions	4.07523	

5.2.1. Management Accounting Serving as the Basis for Planning Function

Although management accounting was used by companies for a planning function such as setting standard costs or budgeting, certain limitations still existed. Particularly, certain types of short-term and medium-term budgets/plans lacked diversification, mainly including budgets for annual business operations presenting general plans of revenues and expenditures of organizations. Surveyed companies lacked some detailed production budgets, especially management budgets for inputs in companies having high input costs. Budgeting techniques were not flexibly applied. Specifically, companies primarily used the incremental estimation technique which could heavily depend on the personal opinions of senior management/parent company and ignore the objective factors affecting budgets and plans in the future.

5.2.2. Management Accounting Serving as the Basis for Controlling Function

Companies prepared reports analyzing variances between reality and budgets in accordance with the monthly, quarterly and yearly planning periods. However, these analysis reports only presented the absolute and relative fluctuations of actual indicators and estimated indicators and the impact of changes in output and prices of such fluctuations was not investigated. This made it very difficult for managers to make adjustments for budgets of the following period as well as make other production management decisions. The analysis of variances between the annual cumulative values of performance indicators and estimated indicators was not conducted to assess the feasibility of long-term strategic plans. As a result, strategic managers of enterprises cannot make strategic decisions on specific projects.

5.2.3. Management Accounting Serving as the Basis for Assessing Function

Regarding the assessing function of management accounting, units of enterprises failed to assess short-term and medium-term financial performance through basic financial indicators. Responsibility centers were not proactive in evaluating and developing their targets system. As a result, the cost controlling of management did not achieve expected results. Furthermore, units failed to regularly reassess the long-term financial efficiency throughout the project life cycle. This limitation led to a lack of information for strategic managers to make strategic decisions related to long-term projects.

5.2.4. Management Accounting Serving as the Basis for Making Decisions

Enterprises in the survey did not prepare reports on business options and scenarios for managers to make appropriate and timely decisions. In addition, management accounting in enterprises failed to provide information for strategic management to make strategic decisions on matters such as maintaining or selling the power plant, what improvements and reforms needed to be made to improve competitiveness and maintaining or divesting investment in certain units.

6. RECOMMENDATIONS AND CONCLUSIONS

According to the survey results, small companies often failed to apply management accounting or faced certain difficulties in implementation processes due to the adverse effects of specific factors such as size of human resources, revenues, capital of enterprises, or business owners not appreciating the usefulness as well as the role of management accounting. The fact is that small businesses usually belong to individual business households, or individuals who mainly focus on daily business activities without a clear business strategy. In these companies, it was necessary to select the appropriate content of management accounting to apply, specifically:

Management accounting serving as the basis for planning function: The estimation techniques were particularly suitable for most companies with different types and sizes, however, the level of detail and complexity of the budgets must suit the scale and requirements of management. To be more specific, managers can estimate amount of sales in the following selling period to be proactive in preparing resources and avoid passiveness in business.

Due to specific characteristics of business sectors which are mainly trading and services, small companies focused on preparing certain types of budget reports such as the sales budget, the purchase budget, and the cash flow budget. However, budgets for business performance or the cost budget were not necessary for small companies because the essential indicators that business owners were concerned with could be predicted. Although the more detailed the budgets were made and the shorter the time period, the higher the accuracy, it was not necessary for small businesses to set up detailed budgets every month or every week. Therefore, small companies could prepare quarterly or yearly budgets depending on the business sector or nature of the business operations.

Management accounting serving as the basis for controlling function: When analyzing changes in business practice, there always are differences between plans and actual results such as differences in revenues, costs or profits. The main causes of such differences could be the objective factors of business environment or subjective factors of enterprises. Since performance evaluation is the basis for incentives and bonuses, it is essential to conduct accurate analysis of causes and influential factors to simultaneously improve future business performance and help managers make better decisions. Revenue fluctuations always play the most important role in business performance because it directly affects profits of enterprises. Technically, revenue fluctuations come from three factors: selling price, sales volume and sales structure. Therefore, it is necessary to understand and evaluate fluctuations of each element which is basis for businesses to establish appropriate solutions.

Management accounting serving as the basis for making decisions: The profit-volume-cost analysis (CVP) is a popular tool of management accounting. I is suitable for small businesses as most decisions of small enterprises are of short-term nature. This technique could be used to analyze the relationship among internal factors such as selling and administrative costs, consumption volume, unit price and expected profits. In addition, with specific characteristics, small businesses could use some consumption when applying CVP analysis, specifically:

- The selling prices of certain products/service are usually unchanged with small fluctuations in revenue (except for special cases).
- The variable unit costs are almost unchanged or have small changes and fluctuations of total variable costs are insignificant.
- Some small companies with small number of products/services (for example, Airline tickets, hotels) have insignificant fluctuations in selling structures.

For the purpose of simplicity, almost all types of selling and administrative costs were classified as fixed costs, and variable costs only included the cost of goods sold and some specific costs associated with selling activities such as commission, packaging, and outsourcing freight. The report of business performance in this case could be made in the form of contribution margin so that business owners could better assess the monthly business performance of the enterprises. In addition, indicators such as output and revenue of a company at breakeven point could help managers make appropriate decisions in different business contexts at different time periods based on the internal resources of the enterprise.

As the fixed costs and product structures of small companies are relatively simple and unfluctuating, business owners could fully apply CVP analysis to calculate indicators such as breakeven revenue or the targeted revenue and combine it with cost estimation techniques to have a clear picture of business performance.

Establishing standard costs: standard costs bring many advantages in which, one of the most important benefits is supporting planning and controlling function. In planning and controlling, standard costs are understood as standards of costs for each activity in each period of business. Based on these standards combined with variance analysis, managers could determine which activities are not being performed well compared with plans and expectations. Managers can make timely decisions to improve performance and achieve desired objectives.

Every year, actual standards of materials consumption must be determined to produce a unit of product. The establishment of standards must be based on desired standards provided by manufacturers considering the actual operation of the latest periods. It is critical to avoid the case of establishing actual standards based entirely on statistics. Improving the quality of budget for input materials is necessary to set the standards for unit prices of monthly materials.

Building budgeting system: In addition to common budgets, companies should consider two types of budgets which are accounts payable and account receivable budgets and flexible budget. Specifically, accounts payable and account receivable budgets should be prepared depending on frequency such as on a quarterly or monthly basis and in accordance with the information needs of management. In addition, large companies need to consider flexible budgets.

A flexible budget is a series of budgets prepared for various levels of activities, revenues and expenses. Flexible budgets get modified during the year for actual sales levels, changes in cost of production and virtually any other change in business operating conditions. In the variance analysis, a flexible budget is the budget made at the actual capacity level, calculated by multiplying actual volume and standardized unit price ($Qa \times Pb$). After making a flexible budget for fuel costs, management accounting identifies variances.

In this study, information about practical application of management accounting in Vietnamese enterprises was collected through interviews and questionnaires. The results showed that all surveyed companies were aware of the importance of management accounting and used management accounting in their operation processes. Traditional management accounting was mainly used in small companies, while contemporary management accounting was used in large corporations, securities companies, and listed companies.

The research results show that there was a significant difference in management accounting application by gender, particularly, men used management accounting more than women. There was a difference in management accounting usage. Specifically, management accounting was applied more and more frequently by companies in the North of Vietnam. However, there was no difference in management accounting use by type of companies. Further research may investigate factors affecting the usage of management accounting.

Funding: This study received no specific financial support.
Competing Interests: The authors declare that they have no competing interests.
Acknowledgement: All authors contributed equally to the conception and design of the study.

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Annex 1

QUESTIONNAIRE

I. General information of a company

1. Name:
2. Headquarter :
3. Information of participant:

   Full name:

   Male/female:

   Year of birth:

   Position:

   Email:

   Qualifications:

   Phone number:

4. What type of company are you working for? Company size?
5. What is the management structure of your company?

II. Main section

1. Information on standard system and budgeting
   - Does the company implement standard costing and budgeting in its production and business activities?
   - What type of standards does the company establish?
   - What budgets does the company establish?
   - When does the company make budgets? (beginning of the year, month, quarter, not fixed.
   - How budgets are made? (for each department, unit, each cost item)
   - What types of budgets are prepared by the companies?
2. Information for assessment and making decisions
   - Who collect managerial reports? (director, head of department, chief accountant)
   - How do you evaluate completion level of budgets (plans)? Comparing with budgets, previous periods, business sector, competitor…
   - What decisions do you make in the management process based on management accounting information? (decisions on prices, production volumes, expanding business locations, producing or outsourcing…)
3. In your opinion, which factors affect the design of management accounting system in your organization?
4. Are you willing to establish the management accounting system in your organization systematically and in more detail?
5. In your opinion, what solutions can help to build the best management accounting system?

Annex-2. List of interviewed companies

No.	Company name	Interviewee	Address
1	Anh Duong plastic production and trading Co., Ltd	Director	No. 04, lane 25/107 Thuy Ung street, Phung town, Dan Phuong district, Hanoi
2	Bich San International Industrial Joint Stock Company	Director	No. 74, Thuy Ung district, Phung town, Dan Phuong district, Hanoi
3	CJ.Union Vina Co., Ltd	Chief accountant	Det may Pho Noi B Industrial Park, Nghia Hiep village, Yen My town, Hung Yen province
4	Aron Staff Co., Ltd	Chief accountant	Det may Pho Noi B Industrial Park, Nghia Hiep village, Yen My town, Hung Yen province
5	AOCC Vietnam Co., Ltd	Chief accountant	Det may Pho Noi B Industrial Park, Nghia Hiep village, Yen My town, Hung Yen province
8	Thygesen Vietnam Co., Ltd	Chief accountant	Det may Pho Noi B Industrial Park, Nghia Hiep village, Yen My town, Hung Yen province
9	Alpha Industries Vietnam Co.,Ltd	Chief accountant	Thang Long I.P, Hanoi
10	Enplas Vietnam Co., Ltd	Chief accountant	Thang Long I.P
11	Vietnam Iritani Co., Ltd (Thai)	Chief accountant	Thang Long I.P, Hanoi
13	Dai Viet Pharmaceutical and Medical Equipment Co., Ltd	Chief accountant	No. 20 Nguyen Ngoc Nai street, Khương Mai ward, Thanh Xuan district, Hanoi
14	Hoa Linh Pharma Liability Limited Company	Director, Chief accountant	B19 D6 – New urban area Cau Giay, Dich Vong ward, Cau Giay district, Hanoi
15	APS Company Limited.	Chief accountant	Industrial Area of P□ung, Phung Town, Dan Phuong District, Hanoi
16	Nam Ha Pharmaceutical Joint Stock Company	Branch director	No. 76, Thai Ha street, Dong Da district, Hanoi
17	Noda (detached from Kyoei Ditech for nearly 2 years)	Chief accountant	Lot N1 Thang Long IP, Dông Anh Dist, Hanoi
18	Endo Vietnam	Chief accountant	No 13, Lot P-7, Thang Long IP, Hanoi
19	Santomas Vietnam Co., Ltd	Chief accountant	No. 5C, Plot D-Thang Long Industrial Park
20	Sato Vietnam Co., Ltd	Chief accountant	Plot B-2, Thang Long I.P, Dong Anh District

Annex-3. Test of homogeneity of variances_types of company.

Levene statistic	df1	df2	Sig.
.701	3	98	.554

Annex-4. ANOVA_types of company.

Group	Sum of squares	df	Mean square	F	Sig.
Between Groups	2.351	3	.784	1.795	.153
Within Groups	42.785	98	.437		
Total	45.135	101			

Annex-5. Test of Homogeneity of Variances_geographic area.

Levene statistic	df1	df2	Sig.
1.441	4	91	.227

Annex-6. ANOVA_geographic area.

Group	Sum of squares	df	Mean square	F	Sig.
Between groups	9.629	4	2.407	6.573	.000
Within groups	33.329	91	.366		
Total	42.958	95			