

THE EVOLUTIONARY STAGES OF MANAGEMENT ACCOUNTING PRACTICES IN VIETNAMESE MANUFACTURING AND COMMERCIAL ENTERPRISES

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ABSTRACT

The objective of this study is to examine the current evolutionary stages of management accounting practices in Vietnamese manufacturing and commercial enterprises with refer to the management accounting evolution model proposed by IFAC (1998). The research employs a questionnaire survey to study the management accounting practices which are currently adopted by Vietnamese manufacturing and commercial enterprises. We received 173 answers which is equivalent to 34,6% response rate. The study shows empirical evidence that the majority (69.3%) of the Vietnamese manufacturing and commercial enterprises are in the first two stages of the IFAC model. There are few enterprises (30.7%) reached the Stage 3 and 4 which are the high developmental levels in the IFAC model. Also, it is found that the widely adopted management accounting practices in the Vietnamese manufacturing and commercial enterprises are standard costing, absorption costing, budgeting for product cost controlling, budgeting for revenue, financial ratios analysis, profitability ratio analysis, and profit analysis for products.

Key words: management accounting practices, IFAC model, Vietnamese, manufacturing and commercial enterprises.

1. INTRODUCTION

Management accounting plays a crucial role in any corporate governance system. Management accounting is the accounting division which provides financial and non-financial information to help managers plan, control, execute their companies' operations, and especially help them forecast and make decisions to build up long-term development strategies for businesses (Hornigren et al., 2011). The leadership in successful adoption of modern management accounting practices has been identified as an advantage of enterprises in the severe competitive environment.

Vietnam has been integrated widely and deeply into the global economy. The markets in Vietnam have become more and more competitive than before. Vietnamese enterprises must compete with numerous enterprises from not only Asian areas but also around the world. The Vietnamese enterprises need to enhance their internal strengths to survive in severe market competition. The solution to apply management accounting practices to enhance the management ability has been recognized as one of the best solutions to be successful in the global competition. Therefore, Vietnamese enterprises has adopted management accounting practices in their management system.

The main objective of this study is to determine the current evolutionary stages of management accounting practices in Vietnam. We focus on the Vietnamese manufacturing and commercial enterprises in this study because of the large proportion of manufacturing and commercial sectors in the Vietnamese economy. This article pursues to answer the following research questions:

1. What are the current evolutionary stages of management accounting practices in Vietnamese manufacturing and commercial enterprises?
2. What are the widely adopted management accounting practices in Vietnamese manufacturing and commercial enterprises?

We use the management accounting evolution model proposed by IFAC (1998) and a questionnaire survey to identify the evolutionary stages of management accounting practices and the most widely adopted management accounting practices in the Vietnamese enterprises.

This article is structured as follows. In section 2, we describe the IFAC management accounting evolution model (IFAC model), review prior research using this model in other countries, and examine the previous studies on management accounting practices in Vietnam. In section 3, we explain the research methodology. We examine the data collected from the Vietnamese enterprises in section 4. This section reveals empirical evidence on the evolutionary stages of management accounting practices and widely adopted management accounting practices in the Vietnamese enterprises. We summarize the results, clarify the limitation of our research, and state the future research in the final section.

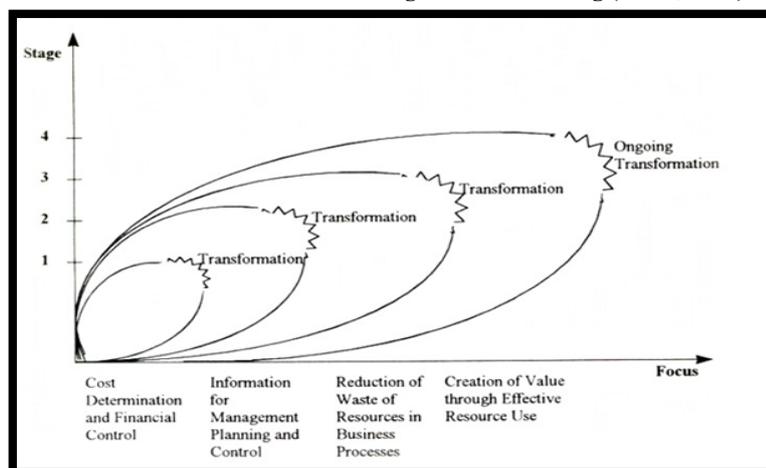
2. LITERATURE REVIEW

2.1. International Federation of Accountants (IFAC) model

In March 1998, International Federation of Accountants (IFAC) released a framework to explain the historical development of management accounting. As shown in Exhibit 2.1, IFAC describes the history of management accounting as a four-stage evolution framework. Management accounting first appeared in the United States during the nineteenth century and then

diffused to other developed countries (Johnson and Kaplan, 1987). Therefore, the IFAC model concentrates on explaining the evolution of management accounting in United States and European countries. The model is also considered as Western or Anglo-American approach by researchers (Mahfar and Omar, 2004; Abdel-Kader and Luther, 2006).

Exhibit 1: The Evolution of Management Accounting (IFAC, 1998)



According to IFAC model, management accounting in the first stage (prior to 1950) primarily focused on the determination of product cost and internal financial control. Simple budgeting and cost accounting tools were widely adopted in this period. In the second stage from 1960 to 1965, the attention of management accounting was the provision of information for planning and control purposes. Such techniques as decision analysis, responsibility accounting, and many kinds of budgeting were widely adopted at this stage. Next is the third stage which was from 1965 to 1985. In this stage, the focus of management accounting shifted to waste reduction in using business resources. The widely adopted techniques were process analysis and cost management tools such as activity-based costing, sensitivity analysis, and quality cost analysis. The fourth stage or the current evolutionary stage of management accounting had been developed by 1995. The focus of management accounting in this stage moved to the value creation through the effective use of resources and technologies which address customer value, shareholder benefit, and organizational innovation. The widely adopted techniques were target costing, benchmarking, value chain analysis, total quality management, environmental management accounting and so on.

It is necessary to state that the four stages in IFAC model are not mutually exclusive. Each stage successively includes the concepts of the previous stages and complements additional characteristics that occurred due to the new requirements of business management. For instance, the focus of management accounting on providing information in stage 2 remains the same and is paraphrased in stage 3 and stage 4 where information becomes an increasingly critical resource along with other resources in enterprises. However, the difference between Stage 2 and Stage 3 is characterized by “waste reduction” and the difference between Stage 3 and Stage 4 is characterized by “value creation.” There is a clearer focus on the reduction of waste in stage 3 and on the creation of value in stage 4 (Abdel-Kader and Luther, 2006). Therefore, management accounting in the stage 4, the current evolutionary stage, is regarded as “an integral part of the management process” and it concentrates on the use of resources to create value for organizations.

2.2. Prior research on the evolution of management accounting practices in developed and developing countries

Chenhall and Langfield-Smith (1998) created a list of 42 traditional and contemporary management accounting practices to examine which of them are adopted and the benefits of adopted practices in Australian large manufacturing firms. Specifically, Chenhall and Langfield-Smith (1998) classified the 42 practices into five groups based on their functions: product costing, budgeting, decision support, performance evaluation, and strategic analysis. They found that the adoption rates and perceived benefits of traditional management accounting practices are higher than the contemporary practices in the enterprises. They also obtained evidence that Australian manufacturing firms have intentions to adopt management accounting practices focusing on non-financial information and strategy in the future. Although Chenhall and Langfield-Smith (1998) did not directly use IFAC model, they described the evolution of Australian management accounting practices appropriately. They created a new research approach by investigating the widely adopted management accounting practices to clarify the sophistication degree of management accounting in Australian manufacturing companies. Much research has employed this approach to investigate the adoption rates and perceived benefits of management accounting practices in other developed and developing countries such as India (Joshi, 2001), the United Kingdom (Abdel-Kader and Luther, 2006), China (Wu et al., 2007), Vietnam (Doan et al., 2011; Nguyen and Aoki, 2014).

Abdel-Kader and Luther (2008) employ a questionnaire survey and face to face interviews to study the evolution of management accounting practices in the British food and drinks industry. Based on IFAC model, they identify that many British food and drinks enterprises reached the stage 3 and stage 4 in the evolutionary stages of management accounting practices. They also find that traditional management accounting practices such as Cost-Volume-Profit analysis (CVP analysis), direct costing, conventional budgets, and product profitability analysis are widely adopted in the enterprises. Innovative management

accounting practices such as activity-based costing (ABC), product life cycle analysis, non-financial performance measures and so forth are supposed to be important but used in the enterprises at lower rate.

Terdpaopong et al.(2018) studied the evolutionary stages of management accounting practices in Thai large companies. They employed a postal questionnaire survey with 1,500 companies which elicited 205 useable responses or 13.67 % of response rate. They found that 'Budgeting for product cost controlling' was mostly adopted by the respondents. They discovered that the new and advanced practices are largely and increasingly welcome among many Thai large companies.

In Vietnam, there is severe lack of macro-level researches on the evolution of management accounting practices in Vietnamese enterprises at present. The domestic research mainly focusses on building management accounting system for specific sector or enterprises. Nguyen (2012) studied cost management in confectionary enterprises in Vietnam. Dao (2015) studied how to enhance the system of cost management in Vietnamese steel enterprises. Also, there are some research or applying several specific type of management accounting practice such as cost management system, activity based costing and so on for a specific sector or specific enterprises.

The study conducted by Doan et al. (2011) reported that the application rates of modern management accounting practices in Vietnamese enterprises were generally very low. Less than 40% large enterprises applied modern management accounting practices, meanwhile, the rate was nearly zero in small and medium enterprises.

Nguyen and Aoki (2014) studied the evolutionary stages of management accounting practices in Vietnamese food and beverage enterprises based on the Nishimura model. This study found that among the 54 surveyed enterprises, majority of small and medium enterprises were at the Stage 1 and 2 of the Nishimura models, which are the lowest levels of the model. There are some large enterprises adopting modern methods of the Stage 3 and 4 in the Nishimura model. In general, the adoption rates of modern accounting management methods at these Vietnamese enterprises are rather low. The authors also point out several management accounting practices such as absorption costing, traditional budgeting and profitability analysis which are widely adopted in the Vietnamese enterprises.

In summary, there is a severe lack of macro level research that assesses the current evolutionary stages of Vietnamese enterprises based on international measure like the IFAC model. In addition, the numbers of research on the widely adopted management accounting practices in Vietnamese enterprises are rather modest in comparison to other countries.

3. RESEARCH METHODOLOGY

3.1. Data collection

This study employs a questionnaire survey after conducting preliminary interviews and a pilot survey with some enterprises in Hanoi, one of the two biggest manufacturing centers of Vietnam. The enterprises are selected from the following sources: Vietnamese General Statistics Office, the list of enterprises listed in Hanoi stock market and Ho Chi Minh stock market, and the List of the Vietnam top 500 largest enterprises² ranked by revenue published by Vietnam Report Joint Stock Company.

There are mandatory criteria of selecting enterprises in our survey. First, the enterprises listed in stock markets and have large revenues are in priority of the selection. Second, every answer must be authorized by enterprises to assure the reliability of data. Based on these criteria, we select 500 manufacturing and commercial enterprises from cities which are Hanoi, Ho Chi Minh City, and some in the middle of Vietnam such as Danang City, which are considered as the biggest economic centers in Vietnam.

Our survey consists of two parts, namely, general information (Part I) and management accounting system (Part II). Part I comprises questions about general characteristics of the enterprises. It includes the manufacturing field, the kind of enterprise, the year of establishment, total number of employees, total assets, and so on. Part II consists of questions concerning enterprises' management accounting practices such as accounting units, information technology (IT) application in accounting works, specific management accounting practices, barriers to applying management accounting practices, and factors influencing the application. Regarding important information, we used questions of various kinds, namely, closed-ended, open-ended and Likert scale questions to ensure the accuracy of responses.

A pilot survey was implemented with three enterprises at the beginning of May 2018 in Hanoi. Then, the initial questionnaires were revised according to the feedback of this pilot survey. Finally, we sent the google link survey through emails to the selected enterprises in the middle of May 2018. The questionnaires requested to be answered by the authorized person of the enterprises to assure the accountability and reliability of the data. At the end of June, we collected 180 answers from the 500 manufacturing and commercial enterprises. However, 7 questionnaires were incomplete due to lacking necessary information of the enterprises. Finally, 173 questionnaires met our requirements, equivalent to the usable response rate of 34.6%.

We used SPSS ver.24 for analyzing the data. The statistical description, mean, standard deviation, and Cluster analysis are employed to provide the information about the evolutionary stages of the enterprises and the widely adopted management accounting practices.

²List of the Vietnam top 500 largest enterprises is available at this URL: <http://vnr500.com.vn/bang-xep-hang?ref=vnr500-top-500-doanh-nghiep-lon-nhat-viet-nam>

4. RESULTS AND DISCUSSIONS

4.1. Overview of the sample

In our sample, there are 92 manufacturing enterprises (equivalent to 53.2%) and 81 commercial enterprises (equivalent to 46.8%). Majority of the respondents (82.7%) are from the accounting and finance departments and from the Board of Management. Table 4.1 shows the types of respondents. We regard this information as a significant point to evaluate the quality of the responses in this research.

Table 4.1: Respondents category

Departments	Numbers	Rate (%)
Accounting & Finance	131	75.7
Board of Management	12	7.0
General departments	22	12.7
Planning	4	2.3
Others	4	2.3
Total	173	100.0

According to Decree 56/2009/ND-CP³ issued by the Government of Vietnam in supporting small and medium enterprises (SMEs), total assets are considered as the prioritized criterion to identify the size of enterprises. Therefore, we classify the size of enterprises in this sample based on their total assets as shown in Table 4.2. Nearly half of the respondents are large enterprises (46.8%), which is regarded as a significant point of this study. The rates of medium and small enterprises respectively are 18.5% and 34.7%.

Table 4.2: Size of the enterprises

Size	Numbers		Rate (%)
	Manufacturing	Commercial	
Small enterprises	18	42	34.7
Medium enterprises	16	16	18.5
Large enterprises	58	23	46.8
Total	173		100

Note: A small enterprise has total asset equal to or less than 20 billion VND (approximately 880.000 USD). A medium enterprise has total asset in the range of 20 billion VND to 100 billion VND (the range of approximately 880.000 USD to 4.400.000 USD). A large enterprise has total asset equal to or over 100 billion VND (approximately 4.400.000 USD). These exchanges from VND to USD are referred to the exchange rate of 22.730 VND/USD at 31/12/2017.

Regarding the age of the enterprises, the average age is 18 years as shown in Table 4.3. The age of oldest enterprise is 58 years and the youngest enterprise is 1 year.

Table 4.3. Age of the enterprises

	N	Minimum	Maximum	Mean	Std. Deviation
Business age	173	1.0	58.0	17.754	12.6633

In our sample, there are 92 manufacturing enterprises and 81 commercial enterprises. Of which, there are 54 public enterprises which are already listed in the Hanoi stock market, the Ho Chi Minh stock market, or the UpCom of Vietnam. Also, majority of the enterprises (93.1%) are non-state-owned enterprises.

Table 4.4. The public enterprises

	Type of business		Total
	Manufacturing	Commercial	
Public	41	13	54
Non-public	51	68	119
Total	92	81	173

We asked the enterprises whether they have management accounting units or not. Table 4.5 illustrates the result. More than a half of the enterprises have accounting unit combined both financial accounting and management accounting (59.5%). And a low rate of the enterprises has a management accounting unit separated from financial accounting unit (9.2%). In total, 68.7% of the enterprises have the management accounting works in their accounting system, which is a key point to evaluate the development of management accounting practices in the Vietnamese enterprises.

³Decree 56/2009/ND-CP was issued by the Government of Vietnam on 30th June 2009. This decree has taken effect from 20th August 2009. It prescribes the definition, criteria to identify small and medium enterprises and policies to support the development of these enterprises.

Table 4.5: Classification of accounting unit

Classification of accounting unit	Numbers	Rate (%)
A management accounting unit separated from financial accounting unit	16	9.2
An accounting unit combined both financial accounting and management accounting	103	59.5
There is only a financial accounting unit	54	31.3
Total	173	100.0

We asked the enterprises to evaluate the roles of management accounting in their enterprises. The 5-point Likert scale was used to offer a range of answer options from one extreme attitude to another where 1 means Not important; 2 – Low important; 3 – Average; 4 – Important; and 5 – Very important. Table 4.6 shows the result. According to the respondents, the most important roles of management accounting are to use for planning and controlling and to evaluate enterprise performance (Mean are respectively=3.665 and 3.642). The respondents also considered the importance of management accounting on the aspects of determining product cost and selling prices, to make decisions on production, business or investment, and to support for financial reporting.

Table 4.6: Evaluating roles of management accounting in enterprises

Roles of management accounting	Mean	Std. Deviation
1. To determine product cost and selling prices	3.549	1.1585
2. To use for planning and controlling	3.665	1.0690
3. To evaluate enterprise performance	3.642	1.0109
17.4. Make decisions on production, business or investment	3.520	1.0432
17.5. To support for reporting financial statements	3.578	.9407
17.6. To use for waste reduction	3.029	1.1585
17.7. Improve resource efficiency	3.173	1.1979
17.8. To use for value creation by improving efficiency of resources usage	3.353	1.1849
17.9. Improve competitiveness against competitors	3.353	1.1995

Furthermore, one more important characteristic of the enterprises in this sample is the application of information technology (IT) in implementing accounting works. Table 4.7 shows that 91.9% of the enterprises apply IT in their accounting works. Only 7.5% enterprise use the combination of manual accounting and Excel. Regarding this point, many researchers have concluded that application of IT is a vital condition to develop management accounting practices. In other words, management accounting is no longer feasible without IT (Sprakman, 2010; Maria do Céu, 2010). Therefore, we consider the high proportion of IT application as an important characteristic of the enterprises.

Table 4.7: The IT application in the enterprises

IT application	Numbers	Rate (%)
Accounting software	160	92.5
To combine manual accounting and excel	13	7.5
Total	173	100.0

4.2. The evolutionary stages of management accounting practices in the Vietnamese manufacturing and commercial enterprises

To identify the evolutionary stages of management accounting practices in the Vietnamese enterprises, we summarize the rates of management accounting practices adopted by the enterprises as shown in Table 4.8. Then we examine these practices based on the IFAC model as presented in the literature review part. We also employ the Cluster analysis to classify the enterprises.

The question for investigating the adoption rates of management accounting practices in the Vietnamese enterprises is constructed based on a 5 level Likert scale where 1 means Never; 2 – Almost Never; 3 – Occasionally; 4 – Often; 5 – Always. The practices are classified based on the study of Chenhall and Langfield-Smith (1998) and Abdel-Kader and Luther (2008) where five classifications are distinguished - i) costing system, ii) budgeting, iii) performance evaluation, iv) information for decision making, and v) strategic management accounting.

Regarding the costing system, the most widely adopted practices in the manufacturing enterprises respectively are ‘Standard Costing’ (mean equals to 3.62) and ‘Absorption costing’ (mean equals to 3.207). The lowest adoption rate is ‘Activity based-costing’ (mean equals to 2.337) and ‘Target costing’ (mean equals to 2.196). This point is consistent with previous research in Vietnam such as Nguyen and Aoki (2014). For the commercial enterprises, the most widely adopted practices respectively are ‘Classifying costs based on cost behavior’ (mean equals to 2.259), ‘Standard costing, and ‘Using of predetermined overhead rate’. With similar to manufacturing enterprises, the practices, namely, ‘Activity based-costing’ (mean equals to 1.593) and ‘Target costing’ (mean equals to 1.630) are the lowest adoption practices. Therefore, in comparison with the previous studies namely, Doan et al. (2011) and Nguyen and Aoki (2014), it can be identified that traditional costing practices are still popular in Vietnam.

Regarding the budgeting system, in both manufacturing and commercial enterprises, the highest adoption rates practices respectively are Budgeting for product cost controlling and budgeting for revenue. These adoption rates (means are more than 4) are higher than the above costing practices. This finding is consistent with the evaluation of management accounting roles as shown in Table 4.6. The management accounting systems of the Vietnamese enterprises focus on planning and controlling practices. Terdpaopong et al. (2018) also found that Budgeting for product cost controlling is the most widely adopted among the budgeting practices in the Thai companies. Moreover, budgeting for cash flow planning and budgeting of financial statements are also popular in the Vietnamese enterprises. The lowest adoption rates are flexible budgeting and sensitivity analysis.

With regards to the performance evaluation methods, using financial ratios analysis is the most widely adopted practice in both manufacturing and commercial enterprises (mean respectively equals to= 3.609 and 3.235). While, the modern practices such as Balanced scorecard, benchmarking and non-financial measurements are adopted at rather low rates in both types of enterprises.

Regarding the information for decision making methods, Profitability ratio analysis is the most widely adopted method (mean = 3.609) in the manufacturing enterprises. Following are profit analysis for products and Cost-Volume-Profit analysis. For the commercial enterprises, the highest adoption rate practice is profit analysis of product (mean = 3.123) and following are profitability ratio analysis and Cost-Volume-Profit analysis.

On the topic of strategic accounting management practices, the adoption rates of these practices are lower than the above costing, budgeting, performance evaluation, information for decision making practices. In general, the enterprises almost have not used strategic accounting management practices. For the manufacturing enterprises, Target Costing Management is the most widely adopted method with mean = 2.25. For the commercial enterprises, long-range forecasting is the most widely adopted method with mean = 1.930.

In summary, the adoption rates of management accounting practices of Stage 1 and 2 of the IFAC model are higher than the ones of modern management accounting practices. The adoption rates of management accounting practices are higher in the manufacturing enterprises than in the commercial enterprises. However, there are not so different in the most widely adopted practices between manufacturing and commercial enterprises.

Table 4.8: The adoption rates of management accounting practices in the Vietnamese manufacturing and commercial enterprises

Management Accounting practices	Manufacturing enterprises		Commercial enterprises		Stages
	Mean	Std.	Mean	Std.	
Costing system					
1.1. Absorption costing	3.207	1.3871	2.173	1.3303	1
1.2. Standard costing	3.62	1.2566	2.148	1.3520	1
1.3. Variable costing	2.902	1.3265	1.864	1.0926	2
1.4. Activity based-costing	2.337	1.4241	1.593	.7710	3
1.5. Use of predetermined overhead rate	2.902	1.3592	2.198	1.1115	2
1.6. Target costing	2.196	1.3687	1.630	.8433	4
1.7. Quality cost analysis	2.457	1.2615	1.741	.8628	3
1.8. Classifying costs based on cost behavior	2.902	1.3673	2.259	1.2824	2
Budgeting	Mean	Std.	Mean	Std.	Stages
2.1. Budgeting for revenue/ sales	4.261	0.7393	4.012	.7983	1
2.2. Budgeting for product cost controlling	4.272	0.7278	4.012	.7983	1
2.3. Budgeting for cash flow planning	3.935	1.0033	3.309	.9955	1
2.4. Budgeting of Financial Statements	3.717	1.0517	3.605	.9576	2
2.5. Flexible budget	2.681	1.2813	2.395	1.1584	1
2.6 Sensitivity analysis	2.402	1.1866	1.802	.9410	3
Performance Evaluation	Mean	Std.	Mean	Std.	Stages
3.1. Balanced scorecard	2.098	1.1393	1.605	.9960	4
3.2. Financial ratios analysis	3.609	1.2835	3.235	1.1861	2
3.3. Non-financial measurements related to customers – customer satisfaction	2.663	1.2069	2.222	.8367	4
3.4. Non-financial measurements related to operation and innovation such as patent, certificates, awards	2.239	1.1131	1.679	.8489	4
3.5. Non- financial measurements related to employees such as employee satisfaction, staff – turnover	2.565	1.1702	1.975	.8363	3
3.6. Benchmarking	2.652	1.1714	2.049	.8930	4
3.7. Residual income	2.772	1.3102	2.210	.9449	3
Information for decision making	Mean	Std.	Mean	Std.	Stages
4.1. Break Even Point Analysis	3.315	1.0987	2.667	1.4053	2
4.2. Cost – volume – profit Analysis	3.587	1.1498	2.988	1.1564	2
4.3. Evaluation of major capital investment based on discounted cash flow method	3.011	1.2179	2.630	1.2394	2

4.4. Evaluation of capital investments based on payback period and/or accounting rate of return	3.065	1.2822	2.494	1.1845	1
4.5. Profitability ratio analysis	3.609	1.0478	3.099	1.1358	2
4.6. Profit analysis of products	3.598	0.9728	3.123	1.0998	2
4.7. Customer profitability analysis	3.261	1.0881	2.963	1.1341	2
4.8. Using KPI for all company and/or each division	2.641	1.2803	2.025	1.0837	3
4.9. Stock control models	2.63	1.3319	2.235	1.2377	2
Strategic accounting management	Mean	Std.	Mean	Std.	Stages
5.1. Value chain analysis	2.033	1.094	1.667	.8660	4
5.2. Shareholder value analysis	2.087	1.0341	1.716	.8402	4
5.3. Life cycle analysis	2.207	1.1439	1.765	.8257	4
5.4. Target Costing Management	2.25	1.1732	1.815	.8531	4
5.5. Environmental management accounting-EMA	1.859	0.8591	1.630	.7149	4
5.6. Total quality management	2.054	1.0416	1.617	.8742	4
5.7. Just-in-time: JIT	1.685	0.811	1.519	.7265	4
5.8. The possibilities of integration with suppliers and/or customers value chains	2.0	0.9834	1.679	.8035	4
5.9. Lean accounting	1.924	0.9748	1.531	.7760	4
5.10. Long-range forecasting	2.239	1.1894	1.938	1.0410	2

In the next step, we apply the Cluster analysis technique to classify the Vietnamese enterprises into groups which are equivalent to the four evolutionary stages of IFAC model. The Cluster analysis is a technique of a collection of data objects which are similar to one another within the same cluster and dissimilar to the objects in other clusters. Therefore, based on the research of Abdel-Kader and Luther (2006a), we use the Cluster analysis to collect the enterprises into the four clusters, then we consider each cluster as a representative of a stage of the IFAC model.

Table 4.9 shows the cluster result for the manufacturing enterprises. Mean scores of the stages in the Cluster 2 are the lowest in comparison to other clusters. Therefore, Cluster 2 can represent the Stage 1 of the IFAC model. Next, the mean scores of the stages in the Cluster 4 are the highest among the four clusters and nearly 5- Every time in our Likert scale. This can be understood that this Cluster 4 represents the Stage 4, the highest developmental stage in the IFAC model. Similarly, we can rank that the enterprises in the Cluster 3 belong to Stage 3 of the IFAC model. Similarly, we classify the Cluster 1 representing for Stage 2. In summary, we obtain a classification of 7 manufacturing enterprises in the Stage 1, 59 manufacturing enterprises in the Stage 2, and 24 manufacturing enterprises in the Stage 3, only 2 manufacturing enterprises in the Stage 4 of the IFAC model.

Table 4.9. Cluster analysis for the Vietnamese manufacturing enterprises

VAR00001		Mean	Std. Deviation	Valid N (listwise)
1.00	Stage1	3.4104	.42415	59
	Stage2	2.9935	.52119	59
	Stage3	2.1130	.54178	59
	Stage4	1.8341	.52446	59
2.00	Stage1	2.1633	.73043	7
	Stage2	1.4725	.30586	7
	Stage3	1.2143	.23002	7
	Stage4	1.1122	.09981	7
3.00	Stage1	4.3095	.27192	24
	Stage2	3.9904	.23278	24
	Stage3	3.7431	.40223	24
	Stage4	3.0446	.57983	24
4.00	Stage1	4.7143	.20203	2
	Stage2	4.7308	.05439	2
	Stage3	4.8333	0.00000	2
	Stage4	3.8571	.40406	2
Total	Stage1	3.5784	.71460	92
	Stage2	3.1756	.81602	92
	Stage3	2.5290	.99099	92
	Stage4	2.1390	.82782	92

Table 4.10 describes the cluster result for the commercial enterprises. Mean scores of the stages in the Cluster 4 are the lowest in comparison to other clusters. Therefore, Cluster 4 can represent the Stage 1 of the IFAC model. Next, the mean scores of the stages in the Cluster 3 are the highest among the four clusters. However, the mean scores of the Cluster 3 are all less than 4-Almost Every time in our Likert scale. This indicates that the enterprises in this Cluster used the management accounting practices more than other clusters but have not reached the Stage 4 of the IFAC model. Therefore, we classify the enterprises in this Cluster 3 as the Stage 3 and nearly Stage 4 in the IFAC model. Next, we can rank the enterprises in the Cluster 2 belong to the Stage 3 of the IFAC model. Finally, the Cluster 1 represents for Stage 2 in the IFAC model. In summary, we obtain a classification of 2 commercial enterprises in the Stage 1, 52 commercial enterprises in the Stage 2 of the IFAC model, 23 commercial enterprises in the Stage 3 and 4 enterprises in the middle between Stage 3 and Stage 4 of the IFAC model.

Table 4.10. Cluster analysis for the Vietnamese commercial enterprises

VAR00003		Mean	Std. Deviation	Valid N (listwise)
1.00	Stage1	2.6401	.55616	52
	Stage2	2.2899	.59926	52
	Stage3	1.5256	.34676	52
	Stage4	1.3709	.20839	52
2.00	Stage1	3.6646	.35937	23
	Stage2	3.5084	.38092	23
	Stage3	2.5362	.42922	23
	Stage4	2.2702	.25478	23
3.00	Stage1	3.5357	.13678	4
	Stage2	3.6923	.18842	4
	Stage3	3.3333	.43033	4
	Stage4	3.5179	.17857	4
4.00	Stage1	1.0000	0.00000	2
	Stage2	1.1538	.21757	2
	Stage3	1.0833	.11785	2
	Stage4	1.0000	0.00000	2
Total	Stage1	2.9347	.74473	81
	Stage2	2.6771	.82243	81
	Stage3	1.8909	.67913	81
	Stage4	1.7231	.62253	81

5. CONCLUSIONS AND LIMITATIONS

This study provides empirical evidence on the evolutionary stages of management accounting practices in Vietnamese manufacturing and commercial enterprises based on the IFAC model.

Regarding the Research Question 1, it is found that majority (69.3%) of the Vietnamese manufacturing and commercial enterprises are in the first two stages of the IFAC model. In details, there are 7 manufacturing enterprises and 2 commercial enterprises in the Stage 1 “Cost determination and financial control” and 59 manufacturing enterprises and 52 commercial enterprises in the Stage 2 “Information for management planning and control” of the IFAC model. There are fewer enterprises (30.7%) reached the Stage 3 and 4 which are the high developmental levels in the IFAC model. Specifically, there are 24 manufacturing enterprises and 27 commercial enterprises in the Stage 3 “Reduction of resources waste in business processes” of the IFAC model. There are only 2 manufacturing enterprises reached the highest level- Stage 4 “Creation of value” in the IFAC model.

Regarding the Research Question 2, the widely adopted management accounting practices in the Vietnamese manufacturing and commercial enterprises are standard costing, absorption costing, budgeting for product cost controlling, budgeting for revenue, financial ratios analysis, profitability ratio analysis, and profit analysis for products.

This article cannot avoid inherent limitations such as sample size, volume and interpretation of questions. Time, financial factors, and non-response bias may influence the findings. In addition, the response rate of the survey remained rather low because of time and financial limitations. However, this research would bring numerous benefits if we understand the fundamental principles of questionnaire survey method and apply them appropriately (Van der Stede et al., 2005). For further research, we would like to analyze the barriers and factors influencing the evolution of management accounting practices in Vietnamese manufacturing and commercial enterprises.

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REFERENCES

1. Abdel-Kader, M.G., & Luther. R. (2006). Management Accounting Practices in the British Food and Drinks Industry. *British Food Journal*. 108 (5): pp 336-357.
2. Abdel-Kader, M.G., & Luther, R. (2008). The impact of firm characteristics on management accounting practices: A UK-based empirical analysis, *British Accounting Review*, 40 (1): pp 2-27.
3. Chenhall, R. H., & Langfield-Smith, K. (1998). Adoption and Benefits of Management Accounting Practices: An Australian Study. *Management Accounting Research*. 9 (1). 10.1006/mare.1997.0060.
4. Dao, T. H. (2015). Enhancing the system of cost management at Vietnamese steel enterprises. *Doctoral thesis*. National Economics University Vietnam. (In Vietnamese)
5. Doan, N.P.A., & Nguyen. D.T., & Lockman. M. (2011). Western Management Accounting Practices in Vietnamese Enterprises: Adoption and Perceived Benefits. *Pacific Accounting Review*.23 (2): pp.142-164.
6. Horngren, C. T., & Datar. S. M., & Rajan. M.V. (2011). *Cost Accounting: A Managerial Emphasis, 14th Edition*. Edinburgh Gate, Harlow, England: Pearson Education Limited.
7. International Federation of Accountants (IFAC). (1998). *International Management Accounting Practice Statement: Management Accounting Concepts*, New York.
8. Joshi, P.L. (2001). The International Diffusion of New Management Accounting Practices: The Case of India. *Journal of International Accounting, Auditing & Taxation* .10 (1): pp. 85-109.
9. Johnson, H. T., & Kaplan, R. S. (1987). *Relevance lost: the rise and fall of management accounting*. Boston: Harvard Business School Press
10. Maria do Céu, F. G. A. (2010). Management Accounting and Information Technology-some Empirical Evidence. In *Performance Measurement and Management Control: Innovative Concepts and Practices (Studies in Managerial and Financial Accounting, Volume 20)*. Emerald Group Publishing Limited.
11. Nguyen, T. P. D., & Aoki.M. (2014). The Evolution of Management Accounting Practices in Vietnam: a Survey Research on Vietnamese Food and Beverage Enterprises. *The Keizai Gaku, Annual Report of the Economic Society*, Tohoku University. 74 (4), March 3/2014: pp 167-184.
12. Nguyen, H. (2012). Building cost management accounting system in Vietnamese confectionary enterprises. *Doctoral thesis*. National Economics University Vietnam. (In Vietnamese)
13. Spraakman, G. (2010). *The Impact of Information Technology on Management Accounting Practices*. Working paper, Available at <http://ssrn.com/abstract=1734052>
14. Terdpaopong, K., & Visedsun. N., & Nitirojntanad. K., & Sandhu. K. (2018). *The Advancement of Management Accounting Practices of The Large Thai Manufacturing Companies*. Proceedings of Asia-Pacific Management Accounting Association (APMAA) 2018 Conference, Waseda University, Tokyo, Japan, 29 October- 1 November 2018.
15. Van der Stede, W., & Young A., S. M., & Chen, C. X. (2005). Assessing the Quality of Evidence in Empirical Management Accounting Research: The Case of Survey Studies. *Accounting, Organizations and Society*. 30 (7-8): pp. 655-684.
16. Wu, J., & Boateng. A., & Drury. C. (2007). An Analysis of the Adoption, Perceived Benefits, and Expected Future Emphasis of Western Management Accounting Practices in Chinese SOEs and JVs. *The International Journal of Accounting*.42 (2): pp.171-185.

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