

The Scenario of Applying Techniques of Strategic Management Accounting at Manufacturing and Processing Enterprises in Hanoi, Vietnam

Thi Hanh Duyen Nguyen^a, Thi Xuan Hong Nguyen^{b*}, Thi Kim Huong Nguyen^c, Duc Tai Do^d, ^aFaculty of Economics, Vinh University, Vietnam, ^{b,c}The faculty of Accounting and Auditing, Hanoi University of Industry, ^dFaculty of Accounting, University of Labor and Social Affairs, Vietnam, Email: ^aduyenktdhv@gmail.com, ^{b*}nguyenthixuanhong@hau.edu.vn, ^cNguyenthikimhuong@hau.edu.vn, ^dtaiketoanquocte@gmail.com

This paper investigated the level of technique of strategic management accounting and its application in manufacturing and processing enterprises in Hanoi, Vietnam. Both qualitative and quantitative research methods were used. The qualitative research was conducted with 12 Directors and Chief Accountants in manufacturing and processing enterprises in Hanoi. The quantitative research was conducted by sending questionnaires to 100 manufacturing and processing enterprises. The descriptive analysis, Cronbach's Alpha, Independent T-test, and ANOVA were utilised for evaluating and measuring the situation of applying the techniques of strategic management accounting at manufacturing and processing enterprises in Hanoi. The results show that the situation of applying techniques of strategic management accounting achieved an average of 3.102 or higher; and that 100 per cent of manufacturing and processing enterprises in Hanoi have been applying techniques of strategic management accounting. The research provides an overview of the reality, and effects of strategic management accounting (SMA) on enterprises, helping enterprises understand strategic management accounting and the ways to use it effectively in the future.

Keywords: *Strategic Management Accounting (SMA), Applying, Techniques, Manufacturing and processing enterprises*

JEL codes: M40, M41, M11, L10

Introduction

During most of 2019, Vietnam's industry achieved a good growth rate of 9.3 per cent, of which the manufacturing industry is still a "bright spot" of the industry with a growth rate of approximately 10.6 per cent. The driving force behind the entire industry growth is shown clearly in the three aspects of growth rate, export turnover, and foreign investment attraction. For a country that is in the process of industrialisation like Vietnam, the manufacturing industry is considered as the main driving force for economic development. Recently, this industry has changed in a positive direction. The proportion of the manufacturing industry in gross domestic product (GDP) has increased from 13 per cent in 2010 to 16 per cent in 2018. From 2015 and up to now, the manufacturing industry has maintained a growth rate of over 10 per cent, per year (Xuan Vinh, 2019).

Despite attaining many positive results, manufacturing enterprises still have several limitations, such as the consumption index of the whole manufacturing and processing industry in 2019 decreased compared to 2018, while inventory increased. The manufacturing and processing industry of Vietnam has not kept up with other countries in the region, has not met the requirements, and the capacity to create new technologies is still very limited, among other issues.

Accounting in the accounting unit included financial accounting and management accounting (MA) (National Assembly, 2015). Although the Ministry of Finance guided the application of accounting management which was suitable to each field of activity (National Assembly 2015), the application of strategic management accounting (SMA) in enterprises was not mandatory and SMA techniques were only allowed by Vietnamese enterprises themselves. This project has been put into operation since Vietnam switched to a market economy (Doan, 2012).

Information regarding strategic management accounting would help managers to determine the strategy and strategic position of the business by related techniques which consider the external factors, such as the competitive environment (Simmonds, 1981). It also identified risks for managers to have mitigation or other action plans and allows organisations to monitor the process of implementing the strategy (Roslendera & Hartb, 2003; Ward, 1992). Applying SMA has contributed to improving the performance of enterprises (Langfield Smith, 2008).

In developed countries around the world, SMA has received much attention from researchers. Furthermore, the use of SMA technology has brought success in strategic management to help businesses control costs well, improve product quality, and meet the increasingly complex needs of customers. Therefore, SMA techniques are focussed, increasingly perfected in theory, and applied in practice (Pham & Le, 2018).

From the above reasons, researching the situation of applying SMA techniques in enterprises is both theoretical and empirical because this is the basis for managers interested in applying



SMA to improve the strategy of the business, thereby improving the results of the business, as well as expanding the size of the business.

Literature Review

Strategic management accounting has been mentioned by many researchers, but there has not been a consistent theoretical framework and no concept of SMA has been widely accepted. Simmonds (1981) thought that SMA was the use and analysis of management accounting's information of enterprises and competitors to use in developing and monitoring the business strategies of enterprises. Bromwich (1990) stated that SMA provided and analysed financial information in the enterprise's manufacturing market, competitors' costs, cost structure, and strategic control of enterprises and competitors in the market during some periods. Langfield and Smith (2008) argued that strategic cost management was seen as part of the SMA. The author emphasised that SMA required a strategic orientation to generate, interpret, and analyse management accounting information and competitors' activities to provide important characteristics for comparison. Cadez (2006) asserted that although there were differences in opinion, the concepts related to SMA had three things in common: addressing the business landscape, long-term orientation and, using both financial and non-financial information for decision making. In Vietnam, Nguyen (2016) affirmed that SMA was a component of management accounting that focussed on the collection and processing of information for strategic management decision-making and the implementation review of these strategies.

Techniques of strategic accounting management have also been a subject of interest to researchers in Vietnam and around the world. Guilding et al. (2000) first introduced a set of strategic management accounting techniques in empirical research in three countries: New Zealand, the United Kingdom and the United States. Accordingly, this group of researchers identified 12 management accounting techniques that must be ensured, such as: environmental or marketing orientation, focussing on competitors and long-term orientation towards the future, etc. The number of collections increased when Cinquini and Tecnucci (2010) studied and applied 14 techniques. Cadez and Guilding (2008) made this number increase to 16 techniques, which were divided into five different groups in research for more than 500 large-scale enterprises in various fields in Slovenia. Environmental information also needed to be managed and became a part of the company's long-term strategy (Smith, 1997). Therefore, environmental management accounting was born as an additional piece for a set of strategic management accounting techniques, increasing the number of sets into 18 techniques, divided into six groups: cost, effective control and measurement plans, strategic decisions, competitor accounting, customer accounting, and environmental management accounting.

Cadez and Guilding (2008) gathered 16 SMA techniques from previous studies and classified them into five categories including: cost engineering group; planning technical group, controlling and making measurement; a technical decision-making technical team; a

competitor accounting technical team; and a customer accounting technical team. This classification was very popular and has been inherited by Pham and Le (2018) when studying SMA.

In Vietnam, Doan (2012) said that SMA tools included: comprehensive quality management, performance-based management, balance scorecard (BSC), product life cycle, and analysis of the value chain and value added. Bui (2019) surveyed managers, and accountants of enterprises in Ho Chi Minh City, Dong Nai, and Binh Duong. After cleaning, there were 321 satisfactory surveys which were included in the analysis. The research results showed that the SMA application had six component attributes, including: total quality management, performance-based management, balance scorecard, product life cycle, and value chain analysis and extra value. These attributes were all highly evaluated, achieving an average of 3.3/5 or higher.

Phan and Nguyen (2019), and Nguyen (2019) said that the techniques of strategic management accounting (SMA) included: (i) cost engineering, including the seven attributes of attribute costs, product lifecycle costs, quality costs, target costs, value chain costs, activity-based costs, and Kaizen costs; (ii) performance planning, control and measurement, including the two attributes of benchmarking, and integrated performance measurement; (iii) a strategic decision consisting of the three attributes of strategic management cost, pricing strategy, and brand value; (iv) competitive accounting, including the three attributes of assessment of competitor's cost, monitoring of competitor's position, and evaluation of competitor's performance; and (v) customer accounting, including the three attributes of customer profit analysis (CPA), customer long-term value assessment, and customer asset assessment. However, these two studies are limited in their research methods, as the authors used qualitative research methods with the synthesis of SMA techniques from previous studies.

Inheriting the results of previous studies, this research selects appropriate research methods to analyse, evaluate, and measure the situation of applying techniques of SMA at manufacturing and processing enterprises in Hanoi, Vietnam. The surveyed subjects are the Board of Directors, the Head of the Department, the Deputy Head of the Department, the Chief Accountant, and General Accountant in the manufacturing and processing enterprises in Hanoi. We employed both qualitative and quantitative research methodologies to evaluate the issues.

Methodology

Qualitative Research

In order to carry out qualitative research, in-depth interviews were conducted to identify the situation of applying techniques of SMA at manufacturing and processing enterprises in Hanoi, Vietnam. Specifically, including direct discussions with highly experienced experts in the field of accounting in general, and management accounting in particular. The participants in the discussions and survey included experts with experience in implementing SMA in enterprises,



such as Chief Accountants, Chief Financial Officers, General Directors, Accountants, and Senior Lecturers of management accounting in universities. Besides, 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.

The criteria for selecting companies for the interviews included that a majority of the companies participating in the interviews were large companies, such as Foreign Direct Investment (FDI) companies in the Thang Long Industrial Zone, and Noi Bai Industrial Zone.

The information was collected through questionnaires prepared in advance by the author in order to examine the participants' opinions about the actual situation of applying techniques of SMA at manufacturing and processing enterprises in Hanoi. After synthesising participants' opinions, the information was analysed, summarised, and presented in table form. Subsequently, a comparison with the research results of prior international studies 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.

Quantitative Research

Measurement attributes (scales)

The preliminary scales were built based on the research objectives and contents of the research and were combined with reference to the measurement scales of previous studies. Based on that, screening and editing were conducted to select the measurement scales which were suitable for the research objectives and characteristics of manufacturing and processing enterprises in Hanoi. A discussion with experts was undertaken to adjust the measurement scales to suit the specific characteristics of manufacturing and processing enterprises. Therefore, the measurement scales in this study were adjusted and supplemented through a qualitative research with expert consultation techniques. Subsequently, the draft measurement scales were adjusted and used for quantitative research.

Questionnaire

In order to evaluate, and measure the scenario of applying the techniques of SMA at manufacturing and processing enterprises, an expert consultation was conducted once more to check and confirm the words or terms used in the questionnaires before sending them to the manufacturing and processing enterprises. All observed variables were measured using a five-point Likert type scale, in which '1' represented 'totally disapply', and '5' represented 'totally apply'.

The questionnaire included three main segments. The first section consisted of general information of the participants. The second section sought information about the surveyed units, and the third section focussed on the application of SMA techniques in manufacturing and processing enterprises (see table 1).

Table 1: Attributes (indicators) of the Scenario of Applying Techniques of Strategic Management Accounting

Code	Scale	Sources
<i>Technical cost (C)</i>		
C1	Attribute cost	Lancaster (1979), Guilding et al. (2000), Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
C2	Product lifecycle costs	Cadez & Guilding (2008), Jagtap (2013), Nguyen & Le (2019), Phan & Nguyen (2019)
C3	Quality cost	Heagy (1991), Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
C4	Target cost	Guilding et al. (2000), Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
C5	Value chain cost	Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
C6	Activity-based cost	Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
C7	Kaizen costs	Cadez & Guilding (2008), Ojra (2014), Nguyen & Le (2019)
<i>Planning, controlling, and measuring performance (PCM)</i>		
PCM1	Benchmarking	Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
PCM2	Measurement of integrated results	Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
PCM3	Strategic control	Bromwich (1990)
<i>Strategic decisions (SD)</i>		
SD1	Cost of strategic management	Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
SD2	Pricing strategy	Simmonds (1982), Guilding et al. (2000), Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
SD3	Brand valuation	Cadez & Guidling (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
<i>Competitor accounting (CA)</i>		
CA1	Evaluation cost of competitors	Simmonds (1981), Cadez & Guilding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)

CA2	Monitoring the position of competitors	Guiding et al. (2000), Cadez & Guiding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
CA3	Evaluation of competitors' performance	Guiding (1999), Cadez & Guiding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
Customer accounting (AC)		
AC1	Customer profit analysis	Bellis-Jones (1989), Cadez & Guiding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
AC2	Assessing long-term value of customers	Dwyer (1989), Guiding et al. (2000), Guiding & McManus (2002), Cadez & Guiding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)
AC3	Assessing customer assets	Gupta & Lehmann (2003), Cadez & Guiding (2008), Nguyen & Le (2019), Phan & Nguyen (2019)

Two hundred and fifty questionnaires were distributed and 225 were returned. After screening the information of the respondents, 205 questionnaires with completed information were used for data entry and analysis. The size of this sample was consistent with study of Hair et al. (1998), that the research sample must be at least five times the total number of indicators in the scales. The questionnaire of this study included 19 indicators, and therefore, the minimum sample size to be achieved is $5 \times 19 = 95$ observations. The SPSS is a tool used to support in finding the descriptive statistics, Cronbach's Alpha, Independent T-test, and ANOVA for evaluating and measuring the situation of applying the techniques of SMA at manufacturing and processing enterprises in Hanoi, Vietnam.

Research Results

Descriptive Statistics

Table 2: Respondents by Gender, and Business sector

	Frequency	Percent	Cumulative Percent
Gender			
Male	73	35.6	35.6
Female	132	64.4	100.0
Business sector			
Food processing enterprises	71	34.6	34.6
Mechanical manufacturing enterprises	56	27.3	62.0
Garment enterprises	78	38.0	100.0
Total	205	100.0	

Table 2 shows that among the 205 respondents, about 35.6 per cent were male, meanwhile the remaining 132 respondents or 64.4 per cent were female. Of these, 71 respondents or 34.6 per

cent reported they were working at food processing enterprises, 78 or 38.0 per cent reported working at garment enterprises, and 27.3 per cent of the participants were working at mechanical manufacturing enterprises.

Table 3: Descriptive analysis of attributes of applying the techniques of SMA

	N	Minimum	Maximum	Mean	Std. Deviation
<i>Technical cost (C)</i>					
C1	205	1.0	5.0	3.566	1.0155
C2	205	1.0	5.0	3.532	1.0315
C3	205	1.0	5.0	3.371	1.1628
C4	205	1.0	5.0	3.463	1.0073
C5	205	1.0	5.0	3.517	0.973
C6	205	1.0	5.0	3.541	1.050
C7	205	1.0	5.0	3.400	1.003
Valid N (listwise)	205			3.484	
<i>Planning, controlling, and measuring performance (PCM)</i>					
PCM1	205	1.0	5.0	3.478	1.036
PCM2	205	1.0	5.0	3.527	0.968
PCM3	205	1.0	5.0	3.341	1.080
Valid N (listwise)	205			3.449	
<i>Strategic decisions (SD)</i>					
SD1	205	1.0	5.0	3.341	1.076
SD2	205	1.0	5.0	3.410	1.132
SD3	205	1.0	5.0	3.351	1.095
Valid N (listwise)	205			3.367	
<i>Competitor accounting (CA)</i>					
CA1	205	1.0	5.0	3.429	1.058
CA2	205	1.0	5.0	3.132	1.101
CA3	205	1.0	5.0	3.273	0.967
Valid N (listwise)	205			3.278	
<i>Customer accounting (AC)</i>					
AC1	205	1.0	5.0	3.244	1.052
AC2	205	1.0	5.0	3.102	0.987
AC3	205	1.0	5.0	3.288	0.924
Valid N (listwise)	205			3.211	

Table 3 reveals that the respondents evaluated the situation of applying the techniques of SMA where nineteen attributes were 'quite high' in the Likert five-point scale: technical cost with an average of 3.484; planning, controlling, and measuring performance with an average of 3.349; strategic decisions with an average of 3.367; competitor accounting with an average of

3.278; and customer accounting with an average of 3.211. Furthermore, all nineteen attributes were rated at an average of 3.102 or higher.

Cronbach's Alpha

The situation of applying the techniques of SMA at manufacturing and processing enterprises in Hanoi has been measured by the Cronbach's Alpha and with a coefficient of 0.760. The results of testing the Cronbach's alpha of attributes are presented in Table 4.

Table 4: Results of Cronbach's Alpha Testing

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Applying Techniques of Strategic Management Accounting: Cronbach's Alpha: 0.760				
C1	60.741	69.555	0.367	0.762
C2	60.776	71.675	0.304	0.771
C3	60.937	70.334	0.309	0.770
C4	60.844	72.534	0.305	0.774
C5	60.790	66.284	0.391	0.746
C6	60.766	68.170	0.339	0.757
C7	60.907	68.830	0.321	0.758
PCM1	60.829	67.515	0.324	0.754
PCM2	60.780	63.849	0.558	0.734
PCM3	60.966	63.298	0.521	0.735
SD1	60.966	63.102	0.536	0.734
SD2	60.898	62.749	0.523	0.734
SD3	60.956	69.434	0.313	0.764
CA1	60.878	64.323	0.470	0.739
CA2	61.176	64.930	0.410	0.744
CA3	61.034	66.406	0.386	0.746
AC1	61.063	64.148	0.484	0.738
AC2	61.205	66.232	0.387	0.746
AC3	61.020	65.304	0.487	0.740

The data in Table 4 illustrates that the attributes of the dependent variables had a Cronbach's Alpha coefficient of higher than 0.6, and which were less than the common Cronbach's Alpha coefficient. Furthermore, the correlation coefficient of all attributes was greater than 0.3, so all the attributes of the dependent variables were viewed as statistically significant (Hair et al., 2009; Hoang & Chu, 2008).

Independent T-test

Comparing the results of applying the techniques of SMA at manufacturing and processing enterprises between men and women is presented in Table 4 below.

Table 5: Independent Samples Test

		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
Technical cost	Equal variances assumed	4.824	0.029	-4.297	203	0.000	-.25374	0.05905	-0.37017	0.13730
	Equal variances not assumed			-4.117	131.117	0.000	-.25374	0.06163	-0.37566	0.13181
Planning, controlling, and measuring performance	Equal variances assumed	0.304	0.582	-2.878	203	0.004	-.31403	0.10913	0.52920	0.09886
	Equal variances not assumed			-2.851	144.622	0.005	-.31403	0.11016	0.53175	0.09631
Strategic decisions	Equal variances assumed	2.144	0.145	-2.734	203	0.007	-0.30123	0.11018	0.51847	0.08399
	Equal variances not assumed			-2.654	136.230	0.009	-0.30123	0.11350	0.52568	0.07679
Competitor accounting	Equal variances assumed	2.837	0.094	-3.461	203	0.001	-0.36800	0.10634	0.57766	0.15833
	Equal variances not assumed			-3.279	126.963	0.001	-0.36800	0.11223	0.59007	0.14592
Customer accounting	Equal variances assumed	0.035	0.852	-0.273	203	0.785	-0.03044	0.11147	0.25024	0.18936

	Equal variances not assumed			- 0.274	150.4 04	0.784	-0.03044	0.11103	- 0.2498 3	0.188 95
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Data in the Table 5 shows that the significant value of the Levene's Test is bigger than 0.05. Therefore, the variance between the female and male participants is not different.

The significance value of the T-Test for customer accounting was greater than 0.05, meaning there is statistically no significant difference in the situation of applying customer accounting at manufacturing and processing enterprises between the two genders of males and females (Hair et al., 2009; Hoang & Chu, 2008). Meanwhile, the significant value of the T-Test for the remaining attribute groups was less than 0.05, meaning there is statistically significant difference in the situation of applying technical cost; planning, controlling, and measuring performance; strategic decisions; and competitor accounting at manufacturing and processing enterprises between the two genders of males and females (Hair et al., 2009; Hoang & Chu, 2008).

ANOVA Analysis

The ANOVA test helps us perform a comparison of the results for the evaluation of applying the techniques of SMA between the three subjects, including food processing enterprises, mechanical manufacturing enterprises, and garment enterprises in Hanoi, Vietnam.

Table 6: Test of Homogeneity of Variances Applying the Techniques of SMA

Levene Statistic	df1	df2	Sig.
<i>Technical cost</i>			
0.461	2	202	0.631
<i>Planning, controlling, and measuring performance</i>			
2.267	2	202	0.106
<i>Strategic decisions</i>			
3.244	2	202	0.041
<i>Competitor accounting</i>			
0.565	2	202	0.569
<i>Customer accounting</i>			
3.040	2	202	0.050

Table 6a: ANOVA Applying the Techniques of SMA

	Sum of Squares	df	Mean Square	F	Sig.
<i>Technical cost</i>					
Between Groups	0.421	2	0.210	1.184	0.308
Within Groups	35.881	202	0.178		
Total	36.302	204			
<i>Planning, controlling, and measuring performance</i>					
Between Groups	0.926	2	0.463	0.797	0.452
Within Groups	117.342	202	0.581		
Total	118.268	204			
<i>Competitor accounting</i>					
Between Groups	1.398	2	0.699	1.251	0.288
Within Groups	112.865	202	0.559		
Total	114.262	204			
<i>Customer accounting</i>					
Between Groups	0.774	2	0.387	0.663	0.516
Within Groups	117.844	202	0.583		
Total	118.618	204			

Table 6b: Robust Tests of Equality of Means Strategic Decisions

	Statistic ^a	df1	df2	Sig.
Welch	3.789	2	122.995	0.025

Tables 6 and 6a show that the significant value of the Levene statistics of technical cost; planning, controlling, and measuring performance; competitor accounting; and customer accounting are more than or balance to 0.05. This indicates that the variance between the options of the qualitative variable above (different business sectors) is not different and significant values are more than 0.05, which means that there is no statistically significant difference in the level of applying technical cost; planning, controlling, and measuring performance; competitor accounting; and customer accounting between the mentioned three groups of business sectors (Hair et al., 2009; Hoang & Chu, 2008).

Furthermore, Tables 6 and 6b show that the significance value of the Levene statistic of strategic decisions is less than 0.05. This indicates that the variance between the options of the qualitative variable above (different business sectors) is different and the significance level is less than 0.05, which means that there is a statistically significant difference in the level of applying strategic decisions between the mentioned three groups of business sectors (Hair et al., 2009; Hoang & Chu, 2008).



Discussion and Administrative Implications

The situation of production and business of manufacturing and processing enterprises

The agricultural processing industry has helped agriculture to change dramatically from being self-sufficient to exporting, such as processing cashew nuts, coffee, shrimp, catfish, milk, etc. Agricultural export turnover increased sharply by an average of 8–10 per cent, and in 2019, it reached a record of USD \$41.3 billion (speech of Minister of Agriculture and Rural Development Nguyen Xuan Cuong). However, most businesses have not been proactive in supplying raw materials in terms of the quantity and quality. The processing technology level is generally at an average level (vegetables and meat can only process 5–10 per cent) and is mainly preliminary processing with low added value and large post-harvest losses (10–20 per cent). In addition, mechanisms and policies are not attractive enough to invest in processing agricultural products. Therefore, localities and ministries need to listen, acquire, and dismantle, and create favourable conditions for farmers, cooperatives, and firms to support input, output, improve transparency, create market development funds, and invest in research, among others.

Currently, seafood processing enterprises lack the materials for processing. Especially when meeting the requirements for large orders, Vietnam's raw material prices often rise 15–20 per cent higher than many countries in the region (speech of Mr. Nguyen Hoai Nam - Deputy Secretary General of Vietnam Association of Seafood Exporters and Producers [VASEP]). Therefore, it is necessary to have a policy of land accumulation, creating a premise for large farms, and a large commodity production industry. At the same time, the Government should direct the State Bank to have a more open credit policy for agriculture, including by reviewing the assigned agricultural projects. With inefficient and abandoned projects, it is necessary to remove and build new projects. Attention should be given to encourage farm production and the scale of processing raw materials to expand processing capacity to receive investment from China to Vietnam and to make better use of it.

The mechanical engineering industry of Vietnam has made remarkable progress. The mechanical engineering industry plays an especially important position for socio-economic development, which is both a foundation and a driving force for the development of many different professions in society. However, the mechanical engineering industry has not met the requirements of the industrialisation and modernisation of the country, and people's expectations and aspirations. Therefore, in addition to the company's continuous efforts to innovate, there must be a tangible hand of State represented by a consistent system of policies to build and develop a sustainable mechanical industry for the country (Phan Phuong, 2019).

Over the years, Vietnam's textile industry has always been successful in promoting exports to countries, with export turnover growing from 8–10 per cent. However, in the domestic market, businesses have yet to dominate the home market and foreign fashion firms are holding the upper hand. The greatest difficulty of the garment industry is raw materials because up to 90

per cent of the fabric materials used by businesses have to be imported from abroad. The fabrics made in Vietnam are also more expensive than imported fabrics, especially from China and Korea, so many businesses have chosen imported fabrics as the main source. Therefore, domestic enterprises have been constantly investing, improving techniques, increasing prototyping to increase the added value on each product, and meeting the increasing demands of consumers. In addition, garment enterprises need to be proactive in sourcing domestic raw materials, and need to build a distribution network strategy, especially small businesses which are also more active in conquering consumers by investing in design, increasing product quality, and restructuring price accordingly. Functional departments needed to possess policies to plan and encourage the textile and dyeing industry to develop raw materials, and build industrial zones with waste water treatment, and must call for investment in factories on yarn weaving and dyeing to complete the chain of fabric material production, serving the textile industry. (Hang Tran, 2019).

Applying the SMA Technique in Manufacturing Enterprises

Technical Cost

Attribute cost

The attributes include satisfaction, reliability, warranty method, and degree of completeness, as well as after-sales service elements, product differentiation and attribute combination of products with consumers' tastes, and identifying a company's market share (Guilding et al., 2000). The manufacturing enterprises have holistically applied these attributes in the process of production and business. Numerous garment enterprises have launched many multi-style fashion products with a variety of materials and designs following the trends of Vietnamese and international fashion, bringing their own characteristics which are close to nature and are not harmful to the environment and users. Many garment enterprises have changed their service methods, catching up with fashion trends, among others, to be responsible for the same products and to create customers' trust.

Product lifecycle costs

Jagtap (2013) stated that the product lifecycle cost (LCC) was a method of estimating the total costs associated with procurement, maintenance, and product handling throughout the product life cycle. The assessment depends not only on the annual cost, and the time frame related to the cost lifecycle, but also on each stage of the product's life cycle.

Quality cost

Guilding et al. (2000) suggested that the quality of products or the quality of services could be a competitive advantage. Therefore, product quality has become a prerequisite to compete in the market. According to Heagy (1991), this technique classified and monitored costs and

supported the pursuit of quality. Manufacturing enterprises have applied this technique to improve product quality to meet increasing consumers' demands.

Target cost

The target cost (TC) was determined for the product and is implemented primarily in the development and design of manufacturing process processes (Guilding et al., 2000). Through accurate product design, costs must be determined to achieve the target cost.

Value chain cost

The value chain cost (VCC) is a cost-allocation technique for activities that help companies evaluate, develop business strategies, and analyse competitive costs, among others.

Activity-based cost

The activity-based cost (ABC) is a costing method that includes the costing of the main support activities and the indirect costs of each activity. The ABC technique has been applied to enhance the accuracy of product cost analysis. Manufacturing businesses apply ABC in order processing, material handling, production planning, and freight transport, among others.

Kaizen costs

Ojra (2014) stated that Kaizen costs accumulated a strategy to reduce costs for each production stage and until the improvement goal of the product cycle was achieved. When the Kaizen cost technique is combined with the target cost (TC), it will achieve the highest goal of the current management accounting. By applying Kaizen cost techniques, manufacturing and processing enterprises have improved production processes, and invested in machinery and equipment to reduce costs in each production process.

Planning, Controlling, and Measuring Performance

Benchmarking

This technique involved identifying the best practices and comparing the results of enterprises with a given standard for improvement purposes (Cadez & Guilding, 2008). Manufacturing enterprises apply this technique by looking at the reality of another successful enterprise, then reviewing, and identifying influential factors and finally making improvements at the enterprise to improve results.

Measurement of integrated results



Based on the balanced scorecard (BSC), administrators can evaluate the performance of businesses with four aspects: finance, customers, internal processes and training, and develop. There is a connection among these four aspects, when internal processes, and training and development are well implemented, businesses will grow, improve business processes better, leading to increased value for customers, and increased financial results for businesses and related parties. Manufacturing and processing enterprises apply this technique to evaluate performance. External entities, such as investors and shareholders, can also evaluate the results of enterprises based on this technique. Thus, manufacturing enterprises use this technique to contribute to improving financial efficiency, so the Board of Directors of enterprises should disseminate and create conditions for all enterprises to use this technique in particular, and other SMA techniques in general.

Strategic control

Manufacturing enterprises apply this technique as follows: conducting the inspection, measurement, and adjustment of operations of enterprises, as well as parts of enterprises, to obtain information to confirm the goals and solutions to achieve them are still being reached. Manufacturing enterprises conduct hypothetical control (check business environment conditions and projections), a conformity test (between the strategy and target system, as well as strategic solutions between strategies and short-term plans), control the implementation process (evaluate whether the implementation is taking place as it should and the results lead to a need for adjustments), and special control (conduct a quick review of the strategy when unexpected events occur).

Strategic Decisions

Cost of strategic management

The cost of strategic management is the explicit use of cost information in the stages of strategic management, including building a strategy; communicating strategies to the entire enterprise; developing and implementing tactics to implement strategies; and developing, implementing, and controlling to track the success of the goals.

Pricing strategy

The pricing strategy focusses on defining a pricing strategy that takes into account the action, and reaction of competitors, the elasticity of prices, the growth of market forecasting, and the economic benefits by scale and experience in the valuation process (Guilding et al., 2000; Cadez & Guiding, 2008). The Board of Directors of manufacturing enterprises apply this

technique by establishing uniform pricing policies and procedures, in accordance with the strategic goals of the business.

Brand valuation

Cadez and Guidling (2008) argued that the financial valuation of brands through brand strength assessment included factors such as leadership, stability, marketing, internationalisation, trends, support, and protection combined with the brand's historical returns. Manufacturing enterprises are always improving to maintain their brand, identify the brand as one of the important resources for enterprises, and to be considered as a competitive advantage.

Competitor Accounting

Simmonds (1981) asserted that competitor accounting (CA) focusses on the cost structure of competitors, including forecasting regular updates of competitors' costs on each product, and developing a systematic approach when assessing costs of competitors. In addition to evaluating the production facilities of competitors, it also takes into account the economy, scale, product technology design, and relationships with the State. Accessible sources, such as having the same suppliers, the same customers, former employees, and published accounting data, were all used to analyse competitor costs.

Monitoring the position of competitors

This technique was formed by providing information about competitors, including sales, market share, volume, and unit costs (Guidling et al., 2000; Cadez & Guidling, 2008). Manufacturing enterprises analysed competitors by identifying and measuring competitors' strengths and weaknesses in order to plan a successful competition strategy. Businesses assessed their position to their main competitors' and built models of how competitors could react based on their goals, assumptions, capabilities, and current situation.

Evaluation of competitors' performance

The evaluation of competitors based on published financial statements was an analysis of published information and data as a part of evaluating the competitive advantages of competitors (Guidling, 1999). By applying this technique, manufacturing enterprises evaluated sales trends, profit levels, and assets and fluctuations of competitors, among others.

Maintaining the competitive advantage of businesses compared to the competitors has been an interest of manufacturing enterprises. Therefore, it is necessary to raise the awareness of managers about the role and significance of competitors accounting in particular, and applying SMA in general.



Customer Accounting

Customer profit analysis (CPA)

According to Bellis-Jones (1989), CPA was introduced as one of the important techniques to provide solutions for measuring customer profits and could be used as a means to support a customer-focussed strategy. Manufacturing enterprises applied this technique to measure the profitability of different customer groups and customer care and was based on the value that customers achieved in order to help customers and businesses achieve their goals.

Assessing long-term value of customers

Dwyer (1989) defined the customer long-term value assessment (CLV) as the present value of expected profits and reducing costs from customers. CLV is an advanced development of customer profit analysis (Guilding & McManus, 2002).

Assessing customer assets

This technique involved calculating the value of customers for businesses (Cadez & Guilding, 2008). Therefore, classifying customers as assets made customers a part of company value (Gupta & Lehmann, 2003). Manufacturing enterprises always identified customers as 'king', considering customers as one of the prerequisites for the existence and long-term success of enterprises.

Conclusion

SMA technology is one of the modern management tools that are increasingly applied by businesses. Using SMA technology contributes to improving the results of businesses. Therefore, SMA techniques should be encouraged for use and dissemination widely to businesses. In order to do this, it is necessary to have the participation of businesses in accepting and popularising SMA throughout the enterprise, universities in teaching SMA modules for students, and cooperating with enterprises to organise training courses on SMA for businesses, as well as professional associations to organise seminars to analyse the advantages of using SMA.



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