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MODERN MANAGEMENT ACCOUNTING PRACTICES IN MALAYSIA'S SMALL MEDIUM INDUSTRIES

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INTRODUCTION

As a result of increasing globalization and liberalization as well as the rapid development of technology, especially information and communications technology (ICT), the Malaysian economy is facing greater challenges. Local industries are confronted with more intense competition arising from greater liberalization in line with the emergence of ASEAN Free Trade Area (AFTA) and World Trade Organization Agreements (WTO). The maturing of other developing economies and those in transition will also increase the intensity of global competition for Malaysia. With these, the way businesses are conducted would become more demanding and competition between companies would be more intense. It is anticipated that to enhance their competitive edge, companies will use modern techniques and technologies extensively.

Apart from the services sector, the manufacturing sector is expected to be the major contributor to growth in the Eighth Malaysian Plan (8MP) period where it is expected to grow at an average rate of 8.9% per annum, with its share to Gross Domestic Product (GDP) increasing to 35.8% by 2005. The task of realizing this growth expectation not only is in the hands of the big manufacturers but also of the SMIs. The Seventh Malaysia Plan accorded an important

role to the SMIs in supporting national industrialization efforts through forging linkages across the manufacturing sector. The 8MP continues to do this by providing a matching grant to enhance the technological capability to improve production efficiency and product quality of SMIs. The Small Medium Industries Development Plan (SMIDP) 2001-2005 outlines the challenges faced by SMIs which includes intensified global competition, new emerging technologies and changing export competitiveness. Therefore, SMIs are also expected to utilize modern techniques and technologies extensively in enhancing their competitive edge. These modern techniques and technologies include the application of modern management accounting techniques among SMIs.

In line with this, the survey is conducted to find out the current status of modern management accounting techniques applied by the SMIs. Modern management accounting techniques include activity-based costing, kaizen costing, target costing, balanced scorecard and benchmarking. Factors influencing the use or non-use of these techniques and the perception of SMIs on the effect of modern management accounting techniques would also be examined.

Past Researches on Modern Management Accounting Techniques

The emergence of advanced manufacturing technologies has changed the trend of industries from labor intensity to capital intensity thus changing dramatically the cost profile for many industries. Automation, technology and computerization have lowered the costs of production for many products, with the result that larger portions of the production costs are fixed. To add to this, the marketing and distribution costs have become a larger part of the total cost of taking a product from raw materials to consumption. Under these new conditions, the continued use of absorption costing as a basis for managerial decisions could result in inappropriate actions (Baxendale, 2001). As a result, management accounting has also changed and new techniques and computation methods have been devised to

reflect the changes. The new approaches of management accounting techniques include activity-based costing, target costing, kaizen, balanced scorecard and benchmarking.

According to Kohl and Pagano, (2000), activity-based costing has its origins in manufacturing. Baxendale (2001) stated that activity-based costing is devised as an alternative that supplements the absorption costing method required for external reporting and highly appropriate as a basis for preparing accounting information intended for tactical, strategic planning and decision-making. Activity based-costing is designed to provide the cost of "not doing" as well as the cost of doing - not just the cost of jobs where idleness of a plant is considered as an activity (Dickeson, 2001). The essence of activity-based costing is that costs are first traced to activities associated with them, and only later are the costs assigned to products.

Though numerous advantages of activity-based costing, such as it identifies the value chain, measures product profitability, provides information for internal price setting, costing for benchmarking, resource matching with activity levels and continuous process improvement, have been indicated by researchers, the usage rate of activity-based costing is not actually encouraging. Innes and Mitchell (1995) reported a low usage rate of activity-based costing in U.K. companies where only 20.0 percent of respondents' companies adopt activity-based costing and 13.0 percent rejected it. Meanwhile, according to Abdul Rahman et al. (1998), adoption rate of activity-based costing in Malaysian manufacturing companies were also low. Only 4.0 percent have adopted activity-based costing while 34.0 percent said that they are giving consideration on its usage.

According to Tho (1997), target costing is a strategic cost management tool that originated in Japan some thirty years ago due to changing business environment and growing competitiveness in the 1960s. It has been argued that the dramatic turnaround in Japanese product quality and efficiency of Japanese firms is due to target costing. A study by Scarbrough et al. (1991) on Japanese manufacturing establishment showed that nearly half of the respondents used target costing while 10% of the establishments were planning to introduce

target costing. A survey conducted by Tho et al. (1998) regarding the importance of target costing as an important strategic tool in Malaysian manufacturing companies showed that 40.0 percent of respondents have implemented target costing and 19.0 percent are considering its implementation.

Guilding and Taylest (2000) state that kaizen is closely associated with target costing. Kaizen requires that continuous efforts must be made to secure further cost savings. Guilding and Taylest (2000) views were consistent with that of Lee and Monden (1996) where they state that kaizen follows target costing in timing, since kaizen is used for cost management in the manufacturing phase. After target costing is used in the product development and design phase, there is a brief cost sustainment period of approximately three months before kaizen take effect.

The balanced scorecard provides executives with a comprehensive framework that translates a company's strategic objectives into a coherent set of performance measures (Kaplan and Norton, 1993). They explain that the scorecard presents managers with four different perspectives of performance measurement, which complements traditional financial indicators. They further argue that the information from the four perspectives provides balance between external measures and internal measures.

According to Elnathan and Lin (1996), benchmarking has become a popular management tool where managers use it to search for best practices within and across industries in the quest to improve performance and achieve competitive advantage.

Objectives of the study

The objectives of the study are:

- To determine the extent of modern management accounting techniques utilization in SMIs.
- To enumerate the factors for using and not using modern management accounting techniques in SMIs.
- To find out the perceptions of SMIs regarding the effect of

modern management accounting techniques on SMIs.

- To find out if there is any relationship between demographic profile and modern management accounting techniques.

METHODOLOGY

The purpose of this study is to find out the practice of modern management accounting techniques among SMIs in Malaysia concentrating in the Klang Valley with reference to manufacturing companies as well as those involved in providing services related to manufacturing. For the purpose of this study, companies chosen were confined to the definition of the SMIs as outlined by the Small Medium Industries Development Corporation (SMIDEC). SMIDEC classified SMI as a company with an annual sales turnover of not exceeding RM25 million and with full time employees of not more than 150. When any one of the above criteria is met, the respective companies were included in the survey. In order to achieve the purpose of this study, a field survey was carried out, where questionnaires were distributed to the target SMIs.

The study sample comprised of companies that were related to manufacturing-based activities in the Klang Valley of Malaysia. The companies covered in this study were those obtained from the SMIDEC's listing (http:// www.smidec.gov.my) and other sources. The companies were grouped into various manufacturing undertakings namely (i) electrical and electronic components (including telecommunications), (ii) machinery and engineering equipments, (iii) automobiles and transportation and (iv) resources based products.

A set of questionnaire comprising of two sections was constructed for the purpose of this study. Section 1 seeks to study the usage of modern management accounting techniques. It also seeks to find out the factors regarding the usage and non-usage of modern management accounting techniques and the perception of SMIs towards modern management accounting techniques. Demographic

questions regarding the characteristic of the respondent companies are included in Section 2. The questionnaire constructed was adapted from a previous research by Abdul Rahman et al. (1998) where major amendments were made to suit it with this study. A total of 175 questionnaires were distributed to the participants (who initially agreed to participate) and 76 questionnaires were collected back. However, only 63 questionnaires (83.0 percent) were considered as usable for the purpose of data analysis.

FINDINGS AND DISCUSSIONS

Background of respondents

The respondent companies of this survey can be categorized into four different types of industry that are located in several areas in the Klang Valley of Malaysia.

Table 1 exhibits the type of industry that the respondents are involved in while Table 2 shows the location of the respondents.

Industry type	No. of respondent	Percent
Resources based product	21	33.3
Electrical and electronic	18	28.6
Machinery and engineering equipments	12	19.0
Automobiles and transportation	12	19.0

Table 1: Industry type

Table 1 shows that 33.3 percent of companies are from the resource-based sector while 28.6 percent are from the electrical and electronic components sector. Meanwhile, respondent companies

from the mechanical and machinery sector and automobiles and transportation sector make up of 19.0 percent for each sector.

Location	No. of respondent	Percent
Shah Alam	38	60.3
Petaling Jaya	8	12.7
Kuala Lumpur	6	9.5
Subang Jaya	4	6.3
Klang	4	6.3
Batu Caves	2	3.2
Kajang	1	1.6

Table 2: Location of respondent companies

Details of Table 2 indicates that 60.3 percent of respondents companies come from the area of Shah Alam while 12.7 percent are from Petaling Jaya, 9.5 percent from Kuala Lumpur and the remaining 17.5 percent from Subang Jaya, Klang, Batu Caves and Kajang.

Regarding the number of employees, more than 40.0 percent of the companies have less than 50 employees while 31.7 percent employ more than 50 to 100 employees. Only 17.5 percent of companies have 100 to 150 employees and only a mere 4.8 percent employ more than 150 workers. In relation to paid-up capital and previous year sales, it is noted that 67.7 percent of companies have paid-up capital of less than RM1.5 million while 12.9 percent have paid-up capital of at least RM2.5 million. Regarding previous year sales, a high percentage of companies stated that turnover was less than RM15 million (77.8%) while only 22.2 percent have at least RM15 million. Table 3 shows the summary of the findings in terms of paid-up capital and sales information of the respondents.

Paid-up capital	Percent	Sales (previous year)	Percent
Less than RM500,000	27.4	Less than RM 5 million	44.5
RM500,000 to less than RM1,500,000	40.3	RM5 million to less than RM15 million	33.3
RM1,500,000 to less than RM2,500.000	19.4	RM15 million to less than RM 25 million	11.1
RM2,500.,0000 and more	12.9	RM25 million and more	11.1

Table 3: Paid-up capital and sales information

Utilization of modern management accounting techniques

The finding of this study shows that target costing and kaizen are the most widely used by manufacturers in the SMIs where more than half used it. The finding for target costing is consistent with the survey finding of Scarbrough et al (1991) where nearly 50.0 percent of the respondents were reported using target costing. Tho et al. (1998) also reported that 40.0 percent of Malaysian manufacturers have implemented target costing in their manufacturing concerns. The study showed that 29.5 percent of manufacturers in SMIs used activity-based costing. This is different from the finding of Abdul Rahman et al (1998), which recorded only 4.0 percent of Malaysian manufacturers using activity-based costing. This may be due to the suitability of activity-based costing being implemented in SMIs as the related activity is easier to determine. The technique that is the least implemented is balanced scorecard whereby only 18.3 percent of the SMIs used it. Perhaps this is because the balanced scorecard is still quite new in Malaysia. Details are provided in Table 4 below.

Modern management accounting techniques	No. of respondent	Percent
Target Costing	32	51.6
Kaizen (Continuous Improvement)	31	50.8
Benchmarking	20	33.9
Activity-Based-Costing	18	29.5
Balanced scorecard	11	18.3

Note: Respondents can select multiple answers

Table 4: Utilization of modern management accounting techniques

Table 5 shows the combined use of modern management accounting techniques among the respondents. It shows that in relation to target costing and kaizen, 29.5 percent of respondent used it concurrently. According to Monden and Hamada (1991), Japanese companies linked them together as their total cost management systems. It is observed that 23.7 percent of manufacturers integrate target costing and benchmarking. According to Tho (1997), an important part of the target costing is to analyze and study competitors' products and market strategies before embarking on its own product and price decisions. As benchmarking is one of the ways to analyze and study competitors' strengths and strategies, it can be inferred that this manufacturer used benchmarking as their tool in the target costing process. The Chi square test confirms there is an association between target costing and benchmarking. It is also observed that 24.1 percent of respondents use a combination of kaizen and benchmarking. Kaizen is related to cost reduction and in determining the area where cost can be reduced, comparing with the industry and competitors would be beneficial and benchmarking can be helpful. The Chi square test indicates an association between kaizen and benchmarking. It can also be seen that not many companies use these combination of techniques namely target costing and activity based costing, kaizen

and activity based costing, kaizen and balanced scorecard, kaizen and balanced scorecard and benchmarking and target costing and kaizen and activity based costing where the percentage of use is less than 15.0 percent.

Techniques	No. of companies	Percent	Chi-square test result
Target costing and Kaizen	18	29.5	0.250
Target costing and Benchmarking	14	23.7	0.022 *
Kaizen and Benchmarking	14	24.1	0.019 *
Target costing and Activity based costing	9	14.8	0.804
Kaizen and Activity based costing	7	11.7	0.307
Kaizen and Balanced scorecard	6	10.0	0.833
Kaizen and Balanced scorecard and Benchmarking	2	10.5	Not valid
Target costing and Kaizen and Activity based costing	3	9.7	Not valid

Note: * There is association at 5.0 percent level

Table 5: Combine use of multiple modern management accounting technique

Reasons for using modern management accounting techniques

The reasons given by respondents for using Modern management accounting techniques are shown in Table 6. Some of the reasons given include "save cost", "easy to use", "increase production and "required by customers".

Reason	TC	KZ	BM	ABC	BS
(N)	32	31	20	18	11
Follow competitors	3.1	6.5	25.0	11.1	9.1
Save time	6.3	12.9	5.0	16.7	9.1
Save cost	31.3	48.4	15.0	16.7	-
Easy to use	21.9	9.7	20.0	50.0	27.3
Increase production	25.0	35.5	20.0	-	9.1
Required by customers	6.3	19.4	20.0	5.6	18.2
Only method knows	6.3	-	-	-	-
Others	6.3	16.1	15.0	16.7	18.2

Note: (i) The figures are in percentage
(ii) Respondents can select multiple answers
(iii) TC= Target Costing, KZ= Kaizen, BM= Benchmarking, ABC= Activity Based Costing, BS= Balanced Scorecard.

Table 6: Reasons for using modern management accounting techniques

Reasons for not using modern management accounting techniques

The major reasons given by manufacturers in the SMIs for not using modern management accounting techniques are ”no need”, “not suitable” “ too difficult” and “costly”. Meanwhile for balanced scorecard, a considerable percentage (34.7 percent) indicates that they have never heard of it. This may be because balanced scorecard is a new technique in Malaysian manufacturing environment. Table 7 shows the reasons for not using modern management accounting techniques among the respondents.

Reason	BS	BM	TC	KZ	ABC
(N)	49	39	30	30	43
No need	16.3	23.1	13.3	20.0	18.6
Costly	2.0	5.1	6.7	6.7	4.7
Not suitable	24.5	38.5	43.3	30.0	34.9
Never heard	34.7	10.3	10.0	10.0	18.6
Too difficult	12.2	12.8	13.3	10.0	14.0
Employees object	-	-	-	13.3	-
Others	14.3	12.8	13.3	10.0	14.0

Note: (i) The figures are in percentage
(ii) Respondents can select multiple answers
(iii) TC= Target Costing, KZ= Kaizen, BM= Benchmarking, ABC= Activity Based Costing, BS= Balanced Scorecard.

Table 7: Reasons for not using modern management accounting techniques

Future plan to implement modern management accounting techniques

Apart from finding out the current status of modern management accounting techniques, future plan for implementation is also examined. The most popular technique that respondents want to implement is kaizen (42.9 percent). Generally it is observed that the response for all the techniques is positive where respondents state there are plans to implement them. The majority of respondents when asked for the reasons for wanting to implement modern management accounting techniques cites "saves cost" as their main reason followed by "increase production". Some plan to implement modern management accounting techniques because they need to "follow competitors". Quite a few states "save time" and "required by customers" as their reasons. Table 8 shows the future plan to implement modern management accounting techniques among the respondents.

Modern management accounting techniques	No. of respondent	Percent
Kaizen (Continuous Improvement)	12	42.9
Activity-Based-Costing	12	27.3
Benchmarking	10	27.0
Target Costing	7	24.1
Balanced scorecard	7	15.2

Note: Respondent can select multiple answers

Table 8: Future Plan to implement modern management accounting techniques

Table 9 shows the reasons for planning to implement modern management accounting techniques among the respondents.

Reason	BS	BM	TC	KZ	ABC
(N)	7	10	7	12	12
Follow competitors	-	20.0	28.6	-	16.7
Save time	14.3	10.0	-	-	16.7
Save cost	42.9	10.0	42.9	25.0	41.7
Easy to use	-	10.0	14.3	-	8.3
Increase production	28.6	30.0	14.3	58.3	16.7
Required by customers	-	10.0	14.3	8.3	-
Only method knows	-	-	-	-	-
Others	14.3	10.0	-	-	-

Note: (i) The figures are in percentage
(ii) Respondents can select multiple answers
(iii) TC= Target Costing, KZ= Kaizen, BM= Benchmarking, ABC= Activity Based Costing, BS= Balanced Scorecard.

Table 9: Reasons for Planning to Use Modern Management Accounting Techniques

The majority of the respondents that did not plan to implement modern management accounting techniques state that they believe that the techniques are "not suitable". Quite a number of respondent cite "no need" for the techniques. This finding raises issues regarding the relevancy of modern management accounting techniques in SMIs and the level of exposure to modern management accounting techniques knowledge among SMIs. Table 10 shows the reasons for not planning to implement modern management accounting techniques among the respondents.

Reason	BS	BM	TC	KZ	ABC
(N)	39	27	22	16	32
No need	23.1	29.6	27.3	37.5	25.0
Costly	2.6	11.1	9.1	6.3	9.4
Not suitable	30.8	37.0	50.0	31.3	34.4
Never heard	12.8	7.4	4.5	-	9.4
Too difficult	23.1	11.1	4.5	6.3	15.6
Employees object	-	-	-	6.3	-
Others	12.8	7.4	9.1	12.5	9.4

Note: (i) The figures are in percentage
(ii) TC= Target Costing, KZ= Kaizen, BM= Benchmarking, ABC= Activity Based Costing, BS= Balanced Scorecard.

Table 10: Reasons for Not Planning to Use Modern Management Accounting Techniques

Effect of Changes in Cost and Management Accounting System

The adoption of modern management accounting techniques has to a certain extent changed the organization's cost and management accounting system. It is found that significant changes have occurred in the product costs accumulations, performance measurement and cost control as indicated by 60.0 percent to 70.0 percent of the companies. Adoption of modern management accounting techniques is said to have an impact on the allocation of overheads. It is observed that traditional methods, which are simple and easier, that depends on direct labor hours/cost are still very much used by the SMIs. Meanwhile "material consumed" and "units of outputs" followed closely (68.5 percent each) as the overhead absorption rate methods used. These are followed by "machine hours" (51 percent), "cost driver – activity based costing " (30 percent) and "Cell/throughput

time" (25.5%).

Competition faced by SMIs

Every business faced some type of competition and the SMIs are of no exception. The study found that 83.3 percent of respondents feel that competition has changed during the last five years. Meanwhile 69.0 percent of respondents anticipate they will be facing a high level of competition when the implementation of AFTA takes place by 2003. According to Adler et al. (2000), today's highly competitive business environment has produced new approaches in management practices, which in turn impact the design and operations of organization systems. In this study, it was found out that 70.0 percent of respondents agree that changes in competition have affected their cost and management system.

Future Impact on Management Accounting Systems

More than half believe that greater emphasis will be given to non-financial measures for decision-making. A high percentage agree/strongly agree that management accountants will be more involved in contributing to cost control and product costing at the planning/product design stage as well as there will be a move from batch/job costing to process costing systems. In addition, it is noted that nearly 60.0 percent agree/strongly agree that there will be a shift from standard costing to actual costing.

On the other hand, nearly 70.0 percent of them disagree that management accounting will decline in importance. Furthermore, approximately 70.0 percent agree/strongly agree that management accountants will be more involved in contributing to cost control and product costing at the planning/product design stage.

It is observed that the emphasis on non-financial measures (50.9 percent) and financial measures (45.8 percent) did not differ significantly and this may indicates that respondents consider both non-financial and financial measures in measuring performance. The

findings are consistent with that of Foong and Zainal (1998) when they found out that manufacturing firms, as a whole, place about the same emphasis on both type of measures. Table 11 shows the impact on management accounting systems as perceived by the respondents.

	Disagree/ Strongly Disagree	Uncertain	Agree/ Strongly Agree
Greater emphasis on non-financial measures	11 (18.6%)	18 (30.5%)	30 (50.9%)
Move from batch/ job costing to process costing systems	4 (6.9%)	16 (27.6%)	38 (65.5%)
Shift from standard costing to actual costing	9 (16.1%)	15 (26.8%)	32 (57.1%)
Less emphasis on financial performance measures	27 (45.8%)	17 (28.8%)	15 (25.4%)
Management accounting will decline in importance	39 (66.1%0	13 (22.0%)	7 (11.9%)
Management accountants will be more involved in contributing to cost control and product costing at the planning/product design stage.	5 (8.5%)	13 (22.0%)	41 (69.5%)

Table 11: Impact on management accounting systems

Accounting system changes: Past and Future

Despite the variety of reasons stated by respondents for not wanting to change, significant change has occurred and there is also plan to change. A total of 77.6 percent of respondents state that changes have been made to their cost and management accounting system during the past 5 years where 44.8 percent of these changes have occurred within the last 2 years. For the future, 50.0 percent of respondents plan to change their cost and management accounting systems within the next 2 years. This trend of changes by SMIs is quite similar with the trend of New Zealand manufacturers. According to Adler et al. (2000), 80.0 percent of New Zealand manufacturers have made changes to their cost and management accounting systems during the past 5 years and 62.0 percent will be revising their system over the next 3 years.

Associations between modern management accounting techniques with the type of industry

Chi-square test is performed to examine the relationship between the usages of modern management accounting techniques with the type of industry. It was observed that there is preference for using target costing by manufacturers in the electrical and electronic components sector as compared to the other sectors. The result of the Chi Square test shows that using target costing depends on the sector type as shown by a significant value of less than 0.05.

It is observed that a high percentage of manufacturers in the automobiles and transportation components industry use kaizen as compared with the other type of industry. This may be due to the nature of the automobiles and transportation industry where the products life cycles are short hence new and improvised products are always needed. To cope with this need manufacturers have to be alert and improve continuously (kaizen). The result of the Chi Square test, indicated that the use of kaizen is associated with the type of industry as the significant value is less than 0.05.

Associations between modern management accounting techniques with sales

For the purpose of determining the association of modern management accounting techniques with sales, the sales figures are categorized into two groups namely less than RM15 million and more than RM15 million. It is observed that the proportion of companies using target costing is much higher for companies with sales volume of less than RM15 million. An association between target costing and sales was demonstrated when the Chi Square test showed a significant value of less than 0.05. There was also not much difference between the 2 sales groups either for using kaizen. The results of the Chi Square tests also indicated there were no association between sales and kaizen.

CONCLUSION

This paper provides empirical evidence about the use of modern management accounting techniques among SMIs. The findings indicate that the modern management accounting techniques frequently used by manufacturers in SMIs are target costing and kaizen. This study also shows a positive trend towards implementation of modern management accounting techniques by the SMIs.

The reasons given for the use of modern management accounting techniques is related to the operational aspects of manufacturing activities namely time and cost saving, easy to use and production increase. On the other hand, manufacturers are reluctant to use modern management accounting techniques because they feel that technology and techniques are not suitable hence not needed.

The study also shows that to a certain extent manufacturer's feel that their cost/management system changes as a result of modern management accounting techniques. Findings of the study also indicate an association between the usages of target costing, kaizen with types of industry. An association between target costing and

sales value is also revealed by the study. However, the study also shows that modern management accounting techniques and the level of sales are not related.

Some of the problems encountered are regarding the size of the sample, area and the types of industry. As the sample size is small, some statistical tests for determining associations of variables are not possible to be carried out. The sample for this study was taken from manufacturing concerns based in the Klang Valley and in particular from Shah Alam. As a result, the findings and conclusions cannot be generalized to manufacturing concerns in other areas outside of Klang Valley. The sample for the study was taken from only four types of industry namely the electrical and electronic components, machinery and engineering equipments, automobiles and transportation and resources based product. Therefore, any findings and conclusion can only be generalized for the abovementioned industry.

In conclusion, it can be said that the use of modern management accounting techniques would enhance the ability of manufacturers to be more competitive. However, this study shows that the implementation of modern management accounting techniques involved a high cost where SMIs could not afford it. Therefore, ways and means should be formulated to reduce costs hence SMIs could afford to use it. The study also indicates that SMIs feel that the techniques are not suitable and do not need it. Academicians along with professionals and professional bodies could play a role in promoting the importance of technologies and techniques to SMIs.

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