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**UNIVERSITI TEKNOLOGI MARA SARAWAK**

*Usaha Taqwa Mulia*

# **\*MANAGEMENT ACCOUNTING PRACTICES IN MALAYSIAN PUBLIC UNIVERSITIES**

**Corina Joseph\***

## **Abstract**

This study reports on a survey of management accounting practices in public universities in Malaysia. It aims to identify the management accounting practices adopted in the Malaysian public universities and is conducted using the questionnaire survey method. This study also attempts to investigate the relationship between the problems in applying management accounting techniques and the nature of the management accounting techniques as well as the characteristics of the practitioners themselves. The reports of this study have revealed that the management accounting practice is generally applied in the universities.

## **1.0 INTRODUCTION**

The public universities in Malaysia are facing the pressure of competition against the increasing number of private universities. In facing business complexities such as the growing trend of globalisation of business activities, the rise in importance of the service areas of our economy, the ever growing importance of information technology, rising public expectations and changing consumer needs, these universities have to equip themselves with the latest and most relevant expertise in handling the transaction, particularly in management accounting practices. Presently, there is no known published research conducted on management accounting practices in Malaysian universities, as most of the earlier research was focused on the manufacturing industry. In consequence, the author is motivated to find out the extent of management accounting practices in the Malaysian public universities and to identify the barriers to management accounting technique implementation in the universities.

### **1.1 Objectives of the study**

The general objective of this study is to determine the perception of the accounting practitioners in the universities in relation to the relevance and usefulness of management accounting practices to their present jobs. The specific objectives of the study are:

- i. To determine the extent of the management accounting techniques being practiced in the universities
- ii. To determine whether the nature of the management accounting practices themselves affect their applicability in practice.
- iii. To determine whether the characteristics of the practitioners themselves affect the application of management accounting practices

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## **2.0 LITERATURE REVIEW**

### **2.1 Definition of terms**

Management accounting is a method of providing information to management in order to assist in planning and control activities (Das, 1993). CIMA (1987) defines management accounting as “the application of professional and skill in the preparation and presentation of accounting information in such a way to assist management in the formulation of policies and in the planning and control of operations of the undertakings”.

### **2.2 Management accounting in the universities**

In relation to management accounting practices in the education sector, there has been increased awareness and use of management accounting techniques within the United Kingdom university system since early 1970s, because of its utility in counteracting diminishing financial support from the government, and also because of political pressures for accountability (Keenleside, 1984). Keenleside also highlighted that the development of management accounting in the university environment encompasses the preparation of budgets constructed as financial statement of policy, resource allocation procedures geared to performance which creates a market environment to reward achievement, and measurement of indirect costs associated with particular activities. The techniques included are cost analysis and also the setting of the performance indicators which can be grouped further into internal performance indicators, external performance indicators and operating performance indicators.

A survey of management accounting practices in higher education institutions in the United Kingdom (Cropper, 1996), revealed that the techniques applied were cost analysis, budgetary control, performance evaluation indicators and capital investment appraisal techniques.

Another related study was a survey that polled 291 university controllers on their involvement relative to other university personnel with respect to the use of 8 management accounting techniques: standard costing, budgeting, cost behaviour analysis, responsibility accounting, capital budgeting, estimation of cost and revenue, and cost benefit analysis. The study found that these controllers only made limited use of management accounting techniques, and while they were oriented toward control, they participated little in planning. They had much financial accounting ability but tended to be under-utilised in planning and decision making. Size or type of institution does not greatly affect the use of these management accounting techniques. The type of degree held is the only background variable affecting use of these techniques (Giacomino, 1980).

### 3.0 CONCEPTUAL FRAMEWORK

The study deploys the four stages of the management accounting practice evolution issued by International Federation of Accountants (IFAC 1998) as a conceptual framework. (Refer to Figure 1) In the early stage, i.e. stage one (prior to 1950), the focus was on the cost determination and financial control, through the use of budgeting and cost accounting technologies. Stage two started in 1965, whereby the focus had shifted to the provision of information for management planning and control, through the use of technologies such as decision analysis and responsibility accounting. Stage three started in 1985, whereby the intention was focussed on the reduction of waste in the resources used in the business process through the use of process analysis and cost management technologies such as ABC, ABM, JIT and MRP. Stage four, which started in 1995, had shifted the attention to the generation or creation of value through the effective use of resources, technologies that examine the drivers of customer value, shareholder value and organizational innovation.

Examples of these modern management accounting techniques are multiple regression, linear programming, target costing, Kaizen costing, continuous improvement, benchmarking and reengineering. In applying the management accounting techniques in each stage of evolution, it is believed that some problems would occur. Thus, the current study seeks to explore the causes of problems in applying the management accounting techniques in each stage of evolution.

From the previous local studies of management accounting practices in other sectors, few problem causes have been identified. Out of these, the current study will categorize the causes into two types:

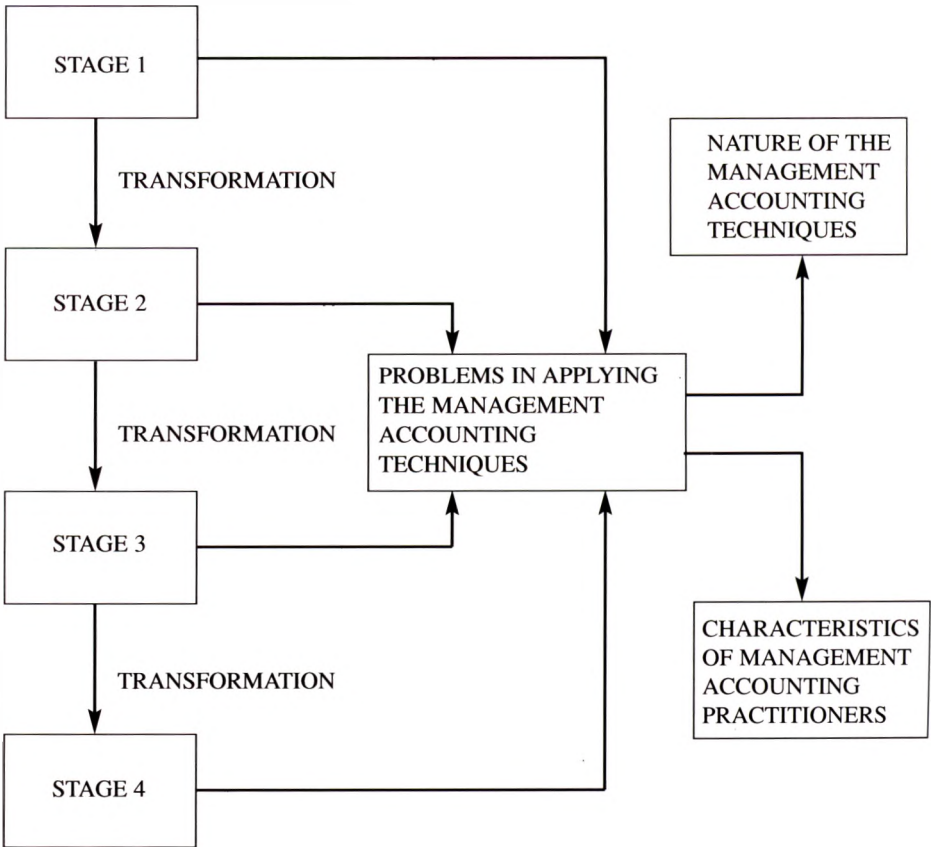
1. The nature of management accounting techniques. The problem of applying management accounting techniques is caused by the following:

- The techniques are too complex and complicated to be implemented.
- The techniques are costly.
- The techniques do not provide information for decision making, planning and control
- The techniques do not require any necessary change from the traditional technique to a more advanced technique

2. The characteristics of practitioners in using the management accounting techniques. The problem in applying the management accounting technique is caused by the following:

- Lack of support given by the top management to the application of those techniques.
- Lack of knowledge, skill and expertise in handling those techniques.
- Lack of perseverance and tendency to revert to traditional practices when difficulties arise
- General lack of knowledge among the employees on the benefits of advanced techniques
- Practitioners are sceptical and resistant to change
- Practitioners are not properly trained for the implementation of the techniques

### Management accounting techniques



**Figure 1- Conceptual Framework**

#### 4.0 PROBLEM STATEMENT

By means of an exploratory empirical investigation, this study aims at seeking some information to provide answers to the following questions:

- i. What is the extent of management accounting techniques' applicability in the universities?
- ii. Is the nature of the management accounting techniques themselves affecting the adaptability of the management accounting practices?
- iii. Are the characteristics of management accounting practitioners themselves affecting the adaptability of management accounting practices?

#### 5.0 RESEARCH METHODOLOGY

This study is designed to investigate, from the management accounting practitioners of 12 Malaysian public universities in July 2000, the management accounting practice of their organizations. The study samples constitute 12 universities in Malaysia. The list of the universities are taken from the website – [www. Yahoo.com](http://www.Yahoo.com).

Table 1 provides information on the number of questionnaires distributed to each university, which was based on preliminary telephone conversation with each representative from each university's Bursar office.

**Table 1: Distribution of questionnaires**

Universities	Number of questionnaires distributed	Number of questionnaires received
1. Universiti Teknologi Mara	20	4
2. Universiti Industri Selangor	1	1
3. Universiti Kebangsaan Malaysia	10	7
4. Universiti Pertanian Malaysia	10	4
5. Universiti Islam Antarabangsa	10	7
6. Universiti Malaya	10	1
7. Universiti Teknologi Malaysia	10	1
8. Universiti Malaysia Sabah	10	5
9. Universiti Utara Malaysia	10	2
10. Universiti Sains Malaysia	10	2
11. Universiti Malaysia Sarawak	4	2
12. Universiti Perguruan Sultan Idris	3	1
<b>TOTAL</b>	<b>108</b>	<b>37</b>

Unfortunately, only 30 questionnaires were usable for analysis purposes. This represents only 28% of the response rate, which is considered a normal rate for research conducted in Malaysia, thus cannot be used to generalize the overall scenario of the management accounting practices in the Malaysian universities. Interviews were also conducted to seek further clarification on certain matters pertaining to the study.

## 6.0 DATA ANALYSIS

The data obtained from the questionnaire was analysed by using the Statistical Package for Social Science (SPSS) version 8.0. A descriptive analysis was used to give an overview of the extent of the management accounting techniques' application in the universities; a mean test was used to identify the; extent of applicability of other aspects of management accounting techniques and finally a chi-square test was used to test the null hypotheses to meet the second and third specific objectives. The null hypotheses are:

- H1- there is no significant relationship between the nature of the management accounting techniques and the application of the management accounting techniques
- H2- there is no significant relationship between the characteristics of practitioners and the application of the management accounting techniques

## 7.0 DISCUSSION OF RESULTS

### 7.1 Cost analysis

**Table 2 : Calculation of cost per student**

<b>i. Calculation of cost per student by organization</b>	<b>Frequency</b>	<b>Percent (%)</b>
Yes	26	86.7
No	4	13.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>ii. Calculation of cost per student by area of:</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>a. Science and technology</b>		
Yes	23	76.7
No	7	23.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>b. Management science</b>		
Yes	22	73.3
No	8	26.7
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>c. Social science</b>		
Yes	23	76.7
No	7	23.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>d. Others</b>		
Yes	6	20.0
No	24	80.0
<b>Total</b>	<b>30</b>	<b>100.0</b>

Table 2 shows that more than 70% of the total respondents calculated cost per student as a whole, cost per student by area and cost per student by level of program. It can be concluded that the cost information system is inadequate because it does not encompass calculation of cost per student by a faculty or program.

**Table 3: Cost behaviour**

<b>i. Classification of cost by behaviour *</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>a. Fixed cost</b>		
Yes	18	60.0
No	12	40.0
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>b. Variable cost</b>		
Yes	16	53.3
No	14	46.7
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>c. Semi variable cost</b>		
Yes	14	46.7
No	16	53.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>ii. Cost behaviour in the Cost Volume Profit (CVP) analysis</b>	<b>Frequency</b>	<b>Percent (%)</b>
Yes	12	40.0
No	18	60.0
<b>Total</b>	<b>30</b>	<b>100.0</b>

\* - Respondents were permitted to give more than one answer

Table 3 reveals that 60% of the respondents classified costs into Fixed Cost, 53.3% of the respondents classified costs into Variable Cost and only 46.7% of the respondents classified costs into Semi Variable Cost. The cost classification is believed to enable the management accountant to provide appropriate cost data to the managers who needed it. It was also observed that Cost Volume Profit (CVP) analysis is not really applied in the universities as signified by the classification of cost by behaviour. This is in line with the objective of the public universities, which is not profit driven.



## 7.2 Budgetary control and control reporting

**Table 4: Budgeting control and control reporting**

<b>i. Budgeting Control</b>	<b>Frequency</b>	<b>Percent (%)</b>
Yes	29	96.7
No	1	3.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>ii. How to deal with high cost estimate budget</b>	<b>Frequency</b>	<b>Percent (%)</b>
Automatically reduced by a fixed %	10	33.3
The budgets are revised by the top management as deemed appropriate	19	63.3
Top management and the responsible managers would revise the budget through negotiation	0	0
Not available	1	3.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>iii. Investigation report</b>	<b>Frequency</b>	<b>Percent (%)</b>
Yes	14	46.7
No	12	40.0
Not available	4	13.3
<b>Total</b>	<b>30</b>	<b>100.0</b>

From Table 4, it can be noted that budgeting control and control reporting are practiced by 96.7% of the total respondents. This is obviously in line with the requirement by the Treasury for all the government agencies to prepare a statement of receipt and payment every year. It was also highlighted from Table 4 that the top management as deemed appropriate reviews the high cost estimates. There was also no response on the negotiation on the high estimate budget by top management and the responsible managers, which indicates that there is a possibility that strict budgets are being applied in the universities. With regard to the preparation of the investigation report, the process of investigation will be much easier with the set up of Internal Audit Department (IAD), Quality Assurance Department (QAD) and Centre For Total Quality Education (CTQE).

### 7.3 Capital investment appraisal techniques and payback period decision

**Table 5 : Capital investment appraisal techniques and payback period decision**

<b>i. Techniques</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>a. Payback method</b>		
Never	18	60.0
Rarely	1	3.3
Often	9	30.0
Always	2	6.7
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>b. Internal rate of return</b>		
Never	22	73.3
Rarely	4	13.3
Often	4	13.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>c. Net present value</b>		
Never	20	66.7
Rarely	2	6.7
Often	6	20.0
Always	1	3.3
NA	1	3.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>d. Return of capital employed</b>		
Never	25	83.3
Rarely	5	16.7
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>ii. Payback period decision</b>	<b>Frequency</b>	<b>Percent (%)</b>
Yes	13	43.3
No	17	56.7
<b>Total</b>	<b>30</b>	<b>100.0</b>

Table 5 reveals that the application of the capital investment technique is considered very minimal, as most of the government projects are handled and determined by the Economic Planning Unit. However, with the set up of the Strategic Planning Unit in the universities which requires every department to prepare annual business plans, the capital investment appraisal techniques become more important, in line with the objectives of the universities which are socially driven.

## 7.4 Performance evaluation

**Table 6: Performance measurement indicator**

<b>1. Internal performance indicator</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>i. Graduation ratios and classes of degree</b>		
Yes	24	80.0
No	6	20.0
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>2. External performance indicator</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>i. Acceptability of graduates (postgraduates) in employment</b>		
Yes	26	86.7
No	4	13.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>ii. Reputation judged by external reviews</b>		
Yes	23	76.7
No	7	23.3
<b>Total</b>	<b>30</b>	<b>30.0</b>
<b>iii. Publication by staff and citations</b>		
Yes	24	80.0
No	6	20.0
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>iv. Membership, prizes, medals of learned societies</b>		
Yes	23	76.7
No	7	23.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>v. Papers presented at conference</b>		
Yes	25	83.3
No	5	16.7
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>3. Operating performance indicators</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>i. Staff / student ratio</b>		
Yes	26	86.7
No	4	13.3
<b>Total</b>	<b>30</b>	<b>100.0</b>

\* - Respondents were permitted to give more than one answer

It is interesting to note from Table 6 that more than 70% of respondents used the indicators such as the graduation ratios and classes of degree, acceptability of graduates in the employment, reputation judged by the external reviews, publication by staff, membership, prizes and medals of the learned societies, papers presented at conferences and finally, the staff per student ratios in the performance measurement.

This is in line with the increase number of students' intake and the set up of the Quality Assurance Department as well. This is also supported by the implementation of activities such as ISO 9001 and ISO 9002 in the universities.

**7.5 Management report**

**Table 7: Departments and reports**

<b>1. Departments</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>i. Internal Audit Department</b>		
Yes	27	90.0
No	3	10.0
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>ii. Quality Assurance Department</b>		
Yes	13	43.3
No	17	56.7
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>iii. Centre for Total Quality Education</b>		
Yes	11	36.7
No	19	63.3
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>2. Management report</b>	<b>Frequency</b>	<b>Percent (%)</b>
<b>i. Internal audit report</b>		
Yes	24	80.0
No	6	20.0
<b>Total</b>	<b>30</b>	<b>100.0</b>
<b>ii. Quality assurance report</b>		
Yes	9	30.0
No	21	70.0
<b>Total</b>	<b>30</b>	<b>100.0</b>

Table 7 shows that the Internal Audit Department (IAD) had been set up in most of the universities. Nevertheless, not all the universities set up a Quality Assurance Department (QAD) and Centre For Total Quality Education (CTQE). Therefore, it can be concluded that the quality cost is not really incurred in the universities.

## 7.6 Modern management accounting techniques

**Table 8: Other aspects of management accounting**

<b>Techniques</b>	<b>Mean score</b>
Multiple regression technique for cost and sales estimation	1.2333
Linear programming	1.4000
Statistical probability analysis to estimate payoffs from alternatives	1.4333
Critical path analysis	1.5000
Learning curves for cost estimation	1.4333
Target costing	2.3103
Kaizen costing	1.4643
Continuous improvement	2.4667
Benchmarking	2.5333
Employee empowerment	2.5333
Reengineering	2.2667

Scale: 1 = Never      2 = Rarely      3 = Often      4 = Always

Table 8 reveals that other aspects of management accounting which are more sophisticated such as benchmarking, employee empowerment and reengineering are moderately used by the practitioners. Nevertheless, the practitioner hardly or never uses techniques such as multiple regression, linear programming, statistical probability, critical path analysis, and learning curve for cost estimation and Kaizen costing. This finding is consistent with previous research findings that a sophisticated and complex management accounting technique is less favoured by the practitioners as compared to the traditional techniques.

**Table 9 : Summary of significant relationships between the application of management accounting techniques and the nature of management accounting techniques**

		Nature of technique			
	Technique	C1	C2	C3	C4
1.	Cost analysis for commercial activities	/			
2.	Cost analysis to run the degree course				/
3.	Investigation report			/	
4.	Internal rate of return (IRR)				/
5.	Staff per student ratios as an operating performance indicator	/			
6.	Learning curve method				/
7.	Target costing				/
8	Reengineering				/

C1 – Complicated and complex

C2 – Costly

C3 – Do not provide information for decision making, planning and control

C4 – No strong leadership to implement changes from the traditional method to an advanced technique

Table 9 shows that the nature of management accounting techniques i.e. ‘complicated and complex’ and ‘does not provide accurate information to assist in decision making, planning and control’, contribute significantly to the extent of management accounting technique application such as cost analysis, preparation of investigation report and performance indicators for performance evaluation. The results also show that another aspect of management accounting techniques, i.e. ‘there is no strong leadership to implement the changes from the traditional methods to a more advanced technique’ contributes significantly to the extent of management accounting technique application such as cost analysis, internal rate of return (IRR), target costing, continuous improvement and others. It is also interesting to note that another aspect of the nature of management accounting techniques i.e. ‘costly to implement’ does not contribute to the extent of the application of management accounting techniques. This shows that the management will impose the technique if the need arises, regardless of the amount of cost involved.

**Table 10 : Summary of the significant relationships between the application of management accounting techniques and the characteristics of the management accounting practitioners**

Techniques	CHARACTERISTICS					
	D1	D2	D3	D4	D5	D6
1. Cost per student by organization		/				
2. Cost per student by area	/					
3. Cost analysis for commercial activities	/					
4. Number of budget setters	/	/	/	/	/	/
5. Variance report	/					
6. Investigation report						/
7. Decision on payback period						/
8. Use of graduation ratios and classes of degree as an internal performance indicator			/		/	
9. Reputation judged by external reviews as an external performance indicator				/		
10. Papers presented at conference as an operating performance indicator				/	/	
11. Staff per student ratios as an operating performance indicator			/			
12. Course option available as an operating performance measurement						/
13. IAD	/	/		/	/	/
14. QAD	/					
15. QAD report as part of the management report						/
16. Learning curve	/					
17. Target costing					/	/
18. Continuous improvement technique			/			
19. Benchmarking			/	/		/
20. Reengineering	/					

D1 – Lack of support by the management

D2 – Lack of awareness and knowledge

D3 – Lack of perseverance and tendency to revert to the traditional method when difficulties arise

D4 – General lack of knowledge of the benefit of advanced techniques

D5 – Sceptical and resistant to change

D6 – No proper training

Table 10 shows in summary that the characteristics of management accounting practitioners contribute significantly to technique application. With regard to this, the top management is responsible for playing their role to change the existing scenario and at the same time convince the practitioners especially in handling the advanced techniques.

However, the chi-square test results summary (Table 9 and 10) from the study cannot be used to generalize the whole scenario in the Malaysian universities due to the poor response rate, small sample size and lack of experience among the majority of the respondents.

## **8.0 CONCLUSION**

Based on the findings derived from the data analysis, it can be concluded that the management accounting practice is generally taking place in public universities. The findings had also rejected the null hypothesis set to fulfil the second and third objectives of the study. The test concluded that there is a significant relationship between the nature of management accounting technique application and characteristics of the practitioners with the extent of application of management accounting techniques.

Besides this, the survey also presents a similar finding to previous research i.e. the traditional method such as cost analysis and budgeting is more highly preferred compared to the sophisticated techniques such as Activity Based Costing (ABC), statistical probability, multiple regression and critical path analysis. This conformed to expectations, where the possible main reason for non-use was inapplicability. Cost, on the other hand, was not deemed relevant.

### **8.1 Recommendations**

There are several suggestions that can be considered in order to improve the existing scenario of the application of management accounting practice in Malaysian universities. In terms of implementation of management accounting techniques, there should be more exposure given to the practitioners by the top management on the benefits of applying advanced techniques of management accounting. Training can be a good approach to achieve this.

From the findings, it was discovered that some of the techniques, for example Activity based costing (ABC), are costly, complicated and suitable only for critical areas in the organization. Nevertheless, techniques such as Total Quality Management (TQM) and Total Quality Education (TQE) have proven to be very useful in routine operations. The other universities should follow the practitioners of such techniques to improve the education system as a whole. For example, UiTM should be set as a role model by other universities in Malaysia to implement Quality assurance (QA) activities and TQE.



Another loophole that should be looked into is our current management accounting education system. A regular review should be made to ensure the relevancy and the usefulness of the syllabus content to the market. A review can be conducted with the cooperation of professional bodies such as Malaysian Institute of Accountants (MIA) and Certified Institute of Management Accountants (CIMA) to improve the syllabus content. Appropriate attention should be given to the development of management accounting practices not only for their continued relevance but also as a guide to practice. Besides this, management accounting can be a very interesting subject if the lecturer/teacher in the institution of higher learning adopts a good teaching method. This can be done by presenting the case studies on real companies' management accounting to the students for discussion. In addition to this, the management accounting practitioners can also be invited to share their practical experience with the students.

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