



Implementation of activity based costing in Malaysia

Activity based costing in Malaysia

A case study of two companies

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Abstract

Purpose – The study aims to document and highlight the problems and benefits of implementing activity-based costing (ABC) in two companies in Malaysia.

Design/methodology/approach – A case study methodology was used to describe the process of ABC implementation in a Malaysian based multinational company as well as a Malaysian multinational company.

Findings – Although ABC is not widely adopted by companies in Malaysia, it is recognized as a valuable tool to improve the performance of these two companies. Additionally, many of the problems that hinder the implementation of ABC are related to managerial factors rather than the technical aspects of the tool itself. Several factors are pertinent to ensure the success of ABC: top management support, simplifying the ABC implementation process, sourcing suitable ABC software, and finally, ensuring that all affected employees understand and actively support the implementation process.

Originality/value – The findings have significant implications for companies that want to embark on ABC. The problems highlighted may help companies planning to adopt ABC in the near future to better address these issues.

Keywords Activity based costs, Malaysia, Case studies, Multinational companies

Paper type Research paper

1. Introduction

The issue of more accurate overhead allocation is pertinent, particularly in the competitive and global economy of today. Often when pricing relies on flawed cost data, problems will be perpetuated. The traditional accounting approach, where cost allocation is based on labour hours or machine hours, rarely reflects the true cause and effect relationship between indirect costs and individual products. Activity-based costing (ABC) has been lauded, among others reasons, as a tool to help allocate overheads with a greater degree of accuracy. Further, ABC is recognized as one of the more important management accounting innovations, gaining increasing attention amongst practitioners in recent years. Initially, ABC is said to address the limitations of traditional costing by identifying all the work activities and costs that go into manufacturing the product. Subsequently, after its success in overcoming the problem of miscasting of large overhead costs in product costing, ABC was also used by companies in the service sectors, such as telecommunication, transportation, marketing, and information services (Rotch, 1990; Cooper, 1994; King *et al.*, 1994;



Cooper and Kaplan, 1998). This is especially true in developed countries like the USA and the UK.

Studies in the West have reported an adoption rate of ABC in the range of 6 per cent to slightly more than 50 per cent (Scapens, 1991; Innes and Mitchell, 1997; Innes *et al.*, 2000; Cotton *et al.*, 2003). In developing countries, the adoption rate is rather low, ranging from 4 per cent to 28 per cent (Abdul Rahman *et al.*, 1998; Joshi, 2001; Sulaiman *et al.*, 2004). In Malaysia, for example, Sulaiman *et al.*'s (2002) survey of 66 listed companies in the industrial and consumer products sectors reported only 28 per cent of the companies adopting ABC.

While surveys examining the extent of ABC adoption may be useful, there is a need for such studies to be grounded in theory. To this end, detailed case studies on management accounting in practice should be undertaken (Scapens, 1988). Case studies, according to Scapens (1988), will enable researchers to describe the accounting system in use, explore how such a system is used and subsequently identify best practices. In other words, case study research attempts to obtain answers to questions such as "how?", "what?", "why?" and the "what else?" of ABC implementation.

This is precisely what we have attempted to do. More specifically, this paper makes several important contributions. First, it describes ABC implementation in two different types of organization, a telecommunication company (a service organization) and a manufacturing organization. Second, our study attempts to illuminate three issues in ABC implementation:

- (1) the factors that drive companies to adopt ABC;
- (2) the problems faced by them; and
- (3) the benefits gained.

Third, there is a dearth of empirical works documenting ABC adoption in developing countries. Given this, the results of our study will enhance the literature in this area. Finally, prior studies examining ABC adoption in Malaysia have generally adopted the survey method (e.g. Abdul Rahman *et al.*, 1998; Sulaiman *et al.*, 2002). While the survey method may have its merits, it is felt that a case study may provide information that is "richer" (elaborated later). We have attempted to do this by examining two companies in Malaysia that have adopted ABC. The first is a subsidiary of an American company (CM) and the other is a Malaysian company (TM), listed on the Bursa Saham Malaysia (formerly known as the Kuala Lumpur Stock Exchange). The remainder of this paper is structured as follows. The following section reviews the relevant literature. Section 3 explicates the case study method of data collection. Section 4 discusses ABC implementation at CM while section 5 focuses on ABC practices at TM. Section 6 provides the discussion on the findings and the conclusion.

2. Literature review

2.1 Extent of ABC adoption

ABC has been used for many purposes, such as product-range decisions (Johnson and Kaplan, 1987), customer profitability analyses (Bellis-Jones, 1989), cost reduction (Brimson, 1991), cost modelling (Cooper, 1994), budgeting (Kaplan, 1994), inventory valuation, and performance measurement (Cotton *et al.*, 2003). Proponents of ABC claim that the technique helps process improvements. This will eventually lead to the efficient use of resources and consequently, to the reduction of costs. ABC also helps

companies alter their product mix decisions and enables such companies to focus on profitable customers (Cooper and Kaplan, 1998).

Given the benefits of ABC, one would expect its adoption to be widespread. However, prior studies have found low adoption rates amongst companies, both in the developing and developed countries. As an example, in the USA, Lawson (2005) observed that the ABC adoption rate in the healthcare industry remained virtually unchanged between 1994 (seven healthcare organizations, or 16 per cent) and 2004 (five healthcare organizations, or 14 per cent). Similarly, in Australia, Van-Nguyen and Brooks's (1997) survey of 120 Australian manufacturing companies found the adoption rate to be a mere 12.5 per cent. Chenhall and Langfield-Smith's (1998) study of 140 Australian manufacturing firms also found the ABC adoption rate to be "low". However, Chenhall and Langfield-Smith (1998) noted that respondents perceived that the technique would become increasingly more popular in the future. Meanwhile, prior studies in the UK have shown slightly better adoption rates. Innes and Mitchell's (1997) study had a 54 per cent adoption rate amongst the 39 largest financial institutions surveyed. A recent study by Innes *et al.* (2000), examining changes in the implementation rate of ABC over a five-year period, provided current trends in the use of ABC in the UK. They found that between 1987 and 1994, ABC adoption grew from nil to 20 per cent, particularly among the UK's largest companies. However, many of the ABC adopters appear to be at the experimental stage, with high rates of rejection after the initial assessment. Cotton *et al.*'s (2003) study of 299 chartered accountants in New Zealand revealed that only 20.3 per cent have adopted ABC. In Singapore, 14 (i.e. 13 per cent) of the 106 companies surveyed said they used ABC (Ghosh and Chan, 1996). A more recent study by Chan (2005) also found the ABC adoption rate of Singapore companies to be low (12 per cent).

Studies in developing countries indicate the same low adoption rates as well. In Malaysia, while Abdul Rahman *et al.* (1998) found a mere 4 per cent of their sample using ABC, Sulaiman *et al.* (2002) had 28 per cent of respondents indicating that they used ABC to allocate overheads. The low adoption rate can also be evidenced by a more recent study by Abdul Rahman *et al.* (2005) examining management accounting practices of Malaysian firms. In India, only 20 per cent of the 60 companies surveyed said they had adopted ABC (Joshi, 2001). China's percentage was even lower (Bromwich and Wang, 1991). For Chinese state-owned enterprises, the percentage was 1 per cent. Amongst foreign firms and foreign partnered joint venture firms, however, ABC usage was much higher at 15 per cent and 10 per cent, respectively. A more recent study by Lai *et al.* (2005) reported a 20.7 per cent adoption rate amongst Hong Kong logistics firms. There are various reasons as to why traditional management accounting practices are still widely used in developing countries. These are:

- the lack of awareness of new techniques
- the lack of expertise; and
- perhaps more importantly, the lack of top management support.

Additional factors include the high cost of implementation and the fact that there simply was "no reason to change" from the traditional technique to the new tool (Tho *et al.*, 1998).

A summary of ABC implementation in various developed and developing countries is presented in Table I.

2.2 *The theoretical underpinnings*

Abrahamson (1991) provides three different perspectives as to why companies adopt innovative management accounting practices. These are:

- (1) the “efficient-choice” perspective;
- (2) the “forced” selection perspective; and
- (3) the “fad” or “fashion” perspective.

Using these three groupings, Malmi (1999) examined the factors that have driven 114 companies in Finland to implement ABC. The efficient choice perspective appears to be the primary factor, especially at the initial stage of implementing ABC. On the other hand, the fashion (or fad) selection perspective seems to have a considerable influence in the later part of the ABC implementation process. According to Latshaw and Cortese-Danile (2002), the popularity of ABC may influence other companies in their decision to implement the technique. Brewer (1998) provides evidence of the forced selection perspective. According to him, subsidiaries of Harris Semiconductors worldwide were coerced into adopting ABC by its holding company in the USA. This “forced selection” perspective to some extent aligns with the coercive isomorphism of DiMaggio and Powell’s (1983) institutional theory. In line with this theory, coercive isomorphism results from both formal and informal pressures exerted on organizations. For example, a company adopts ABC because of a directive from top management or from the head office. Alternatively, such pressures can also come from

Study	Sample	Countries	ABC adoption rate (per cent)
Innes and Mitchell (1991)	187 companies in both manufacturing and financial services sectors	UK	6
Innes and Mitchell (1995)	352 largest companies	UK	21
Innes and Mitchell (1997)	39 largest financial institutions	UK	54
Lawson (2005)	36 healthcare organizations	US	14
Van-Nguyen and Brooks (1997)	213 manufacturing firms	Australia	12.5
Cotton <i>et al.</i> (2003)	299 chartered accountants in corporate sectors	New Zealand	20.3
Ghosh and Chan (1996)	109 manufacturing, non-manufacturing and services companies	Singapore	13
Abdul Rahman <i>et al.</i> (1998)	50 companies	Singapore	12
Abdul Rahman <i>et al.</i> (1998)	48 manufacturing companies	Malaysia	4
Sulaiman <i>et al.</i> (2002)	66 manufacturing services companies	Malaysia	28
Joshi (2001)	60 manufacturing companies	India	20
Lai <i>et al.</i> (2005)	82 Hong Kong logistics companies	China	20.7

Table I.
ABC adoption rate in developed and developing countries

other firms in the same industry. Accordingly, the theoretical and empirical focus of the study is to probe the reason behind a company's adoption of ABC.

2.3 Problems of ABC implementation

Several problems may arise during the implementation of ABC. One of the problems relates to the cost of implementing it. There is a high set-up cost incurred, especially at the initial design of the ABC system. The high set-up costs are due to the considerable amount of time and effort spent by management in identifying cost drivers as well as the need for additional accounting staff to implement the system (Cobb *et al.*, 1992). The substantial amount of time spent in determining the exact nature of activities in a particular department also adds to the cost (Soin *et al.*, 2002). Further, Sohal and Chung (1998) noted that the problem of time availability, particularly at the initial stage of ABC implementation, becomes quite severe when the key staffs involved in the ABC project are also involved in other major tasks related to their daily work. Thus, many managers view ABC as merely creating additional work.

Additionally, the lack of available skills within the company may create problems in implementing ABC. Two case studies undertaken by Sohal and Chung (1998) (a company manufacturing engineering components in Melbourne, Australia, and a specialty chemical company in Hong Kong) revealed that a lack of skill necessitates the human resource department to provide extensive training to employees before implementing ABC. Yet another problem concerns data gathering. According to Sohal and Chung (1998), in the two companies that they studied, when ABC was first introduced, most of the production workers were concerned about the impact of ABC on their jobs. This became a greater concern particularly when the employees were being interviewed to determine how they spent their time at the workplace. Because of this, they were suspicious of management's decision to implement ABC. These workers were, accordingly, quite reluctant to disclose the information that was requested. As a result, the project team members faced difficulties in collecting data from the employees. Similarly, when ABC was introduced in the clearing department of a UK-based multinational bank (at a time when the bank was facing difficulties and many staff were being made redundant), many of the junior managers and shop-floor workers regarded ABC as an excuse for the banks to downsize. Such a perception complicated the task of data gathering and subsequently in identifying the cost drivers (Soin *et al.*, 2002).

It appears that companies wanting to implement ABC may face problems that are seemingly insurmountable during its initial stage of implementation. However, substantial strategic and operational benefits may accrue once the problems have been overcome (Ittner *et al.*, 2002). These are discussed next.

2.4 Benefits

The strategic and operational benefits of ABC adoption, according to Kennedy and Affleck-Graves (2001), will in turn lead to increased profits. As for the strategic potential benefits, Narayanan and Sarkar (2002) provide empirical evidence to indicate that ABC influences strategic managerial decisions. They interviewed the top and middle level managers at Insteel Industries in the USA and found that the company's managers were able to implement process improvements after implementing ABC. They discontinued unprofitable products and stopped serving unprofitable customers.

These measures resulted in significant cost savings and subsequently, to an improved bottom line.

With regard to operational benefits, Ittner *et al.* (2002), in their survey of 2,789 US manufacturing plants in 1997 found that extensive use of ABC is positively associated with higher quality products, reduction in cycle time and a large increase in first pass quality. Further, providing detailed information on the value added and non-value added activities in ABC analysis might subsequently allow managers to increase the efficiency of existing activities and eliminate non-value added activities (Carolfi, 1996). Additionally, Kennedy and Affleck-Graves (2001) found that firms adopting ABC have better stock return as compared to those non-adopters. The results appear to be consistent with Shields's (1995) study in the USA. In that study, 75 percent of the respondents perceived that there is a financial benefit derived from implementing ABC.

On the basis of the preceding discussion, it appears that ABC adoption leads to better decisions and eventually to an enhanced bottom line. However, its implementation, especially in the initial stages, seemed problematic. It would therefore be interesting to examine whether companies in Malaysia that have adopted ABC are facing similar problems. More importantly, are these companies actually reaping the benefits from ABC implementation?

3. Research method

The choice of a particular method to be adopted in a study is crucial (Ball and Foster, 1982). Generally, the choice of method depends on the objective of the study, the current state of knowledge regarding a particular phenomenon, the environment in which the study is to be conducted and the conditions under which the research project is to be carried out (Yin, 1989). Given the aim of this study is to describe ABC implementation in business enterprises, the established practice of using the case study method will be used. The case study is one method of data collection in qualitative research. Typically, case-based research studies gather data through the personal involvement of the researcher in the field of interest. Yin (2002) defines a case study as an empirical research investigating a contemporary phenomenon within its real-life context. While experimental research and surveys involve the development of hypotheses and subsequent testing of these hypotheses, case research often proceeds in the reverse direction; data collection precedes and forms the basis for the generation of the hypotheses (Brownell and Trotman, 1988). The strength in using the case method of gathering data is that people are investigated in real-world situations. Additionally, the case study represents an in-depth, longitudinal examination of a phenomenon. Consequently, the researcher gains a better understanding of the "how", the "what" and the "why" of a particular issue under study. Additionally, using case studies to examine the implementation of ABC shifts the research away from a focus on technological issues to one that focuses on managerial and organizational issues. According to Yin (1989), the case study approach enables the researcher to describe, understand and explain the phenomenon of interest.

One criticism often levelled at the case study approach is that the results are not generalizable. To this, Yin (1994) argues that in case study research, the generalization of results is typically made to the theory and not to the population. Further, the use of multiple cases is recommended as this will strengthen the results by replicating the "pattern-matching", and subsequently increasing confidence in the robustness of the

theory. This is precisely what is attempted in our study. We gathered data from two companies in Malaysia:

- (1) a multinational with its headquarters in the USA; and
- (2) a government-linked company in the telecommunications industry.

The two companies provide a unique blend of companies implementing ABC as the multinational company has used ABC for nearly 12 years (because of pressure from its holding company in the USA) while the local company adopted ABC (voluntarily) in 1996.

Data were collected through semi-structured interviews with key personnel involved in the ABC implementation, namely the manager of the Network Strategic Cost Management division and the costing manager. The face-to-face interviews lasted on average about two hours per visit. Altogether, two visits were made. The interviews used a semi-structured questionnaire. The information collected from the interviews was validated and supplemented with public documents such as annual reports, company websites and news from press releases. Additionally, the company's internal documents such as organizational charts and the costing sheets were viewed during the visits to the companies. We also assured the companies that any information divulged was strictly for research purposes, and that every effort was made to ensure that confidentiality was not breached. Accordingly, the two participating companies are henceforth referred to as CM and TM, respectively.

4. ABC implementation in CM

4.1 Company background

CM, established in the 1970s, is a subsidiary of a major US corporation. The company is located at the Ulu Klang free trade zone in Kuala Lumpur. It manufactures a wide range of semiconductor components used in hand-phones, personal computers and automobiles. With more than 1,000 employees, the company is considered large by Malaysian standards. Its manufacturing process is highly capital-intensive, with direct labour amounting to less than 10 per cent of the plant's total cost. CM has its own costing department with a costing manager in charge of the overall ABC system. The interview was conducted with CM's costing manager, who has been working with the company since shortly after ABC was used at CM. To supplement and validate the information obtained from the costing manager, an informal interview with the secretary of the finance director (who has been working at CM since 1990) was undertaken.

4.2 Factors that motivated CM to implement ABC

The company implemented ABC in 1991 under a directive from its holding company. It was primarily stiff cost competition in the semiconductor industry in the USA that led the holding company to use ABC. Thus, ABC was adopted in order to improve the company's strategic product pricing and facilitate its process improvement.

4.3 Process of implementing ABC

In analyzing the ABC's implementation process at CM, this study draws on a framework presented by Arnaboldi and Lapsley (2005). In their study, Arnaboldi and Lapsley (2005, p. 66) segment the ABC process into four phases:

- (1) initiation and adoption;
- (2) design;
- (3) implementation; and
- (4) use of information.

Based on this framework, it is noted that at CM, the initiation and adoption stage of ABC was initiated by the headquarters in the USA. It is at this stage that an executive committee (chaired by the sector president), was set up and a steering committee formed. Subsequently, a project team was established. The project team was to monitor the implementation of ABC throughout CM companies, worldwide. The design stage was when the steering committee together with the project team travelled to CM in Malaysia. In Malaysia, these teams work with the production personnel, in-house accountant and external consultants in identifying the activities and the cost drivers for CM. The costing manager explained that since CM is a multinational company, operating globally, it is important that the activities cost drivers identified at each location are consistent with those of plants at other locations. Further, the manager remarked that even though CM is a big company, it tries to simplify the ABC system by having less than 50 cost pools for the whole company.

The third stage, i.e. the implementation stage, involved the training of employees in using ABC. The systems personnel educate users on the new software that was purchased specifically for the ABC implementation. It is at this stage that the role of the external consultant was gradually reduced and the work taken over by personnel from the human resource department. The latter department was responsible for providing training to the ABC users. The final stage, also known as the “use of information” stage, is when ABC is implemented. According to the costing manager, CM uses ABC as its sole costing system. ABC at CM is used for a variety of purposes, including cost management and reduction, product pricing, cost budgeting, customer profitability analysis, performance measurement and cost modelling.

4.4 Problems faced

The secretary of the finance director highlighted a number of problems encountered, particularly during the early stage of ABC implementation. However, these were not too difficult to handle as the holding company in the USA was assisting the CM. When it first introduced ABC, the company had to incur high costs in buying specific software unique to the company’s operations. Additional costs were incurred when the software had to be upgraded from time to time, as it was not “user-friendly”. There was also a considerable amount of time spent by the committee members, especially by the production managers and the accountant, to understand the cost pools and activities. This was necessary to ensure that the ABC cost drivers were comparable with other CM plants worldwide. Other than those just cited, the secretary pointed out that there appeared to be no other pertinent problems when CM first implemented ABC. This was primarily because the US headquarters was assisting them all the way. The support from the US headquarters was a significant factor in reducing the burden faced by the company in implementing ABC. Accordingly, as indicated earlier, the time taken to implement ABC was considerably reduced.

4.5 Benefits gained

The costing manager said that the ABC system developed at CM has contributed significantly to the efficiency in the company's manufacturing process. He explained that he was able to identify the cost pools or activities that were efficient from those non-value added activities simply by looking at the ABC cost sheets. For example, by looking at the costing/production sheet (see the Appendix), the manager could, almost immediately, determine that the production of Product A was being slowed down by the "wire bond" activity. This is simply because the "taping" activity could produce 80,000 units per hour while the "wire bond" activity could only produce 238 units in one hour. Thus, the ability to identify a problem almost immediately enabled the managers to solve the problems with greater speed. Given that CM is in a very cost-competitive industry[1], the costing manager feels that the information produced by ABC is extremely useful. Because of ABC, the company is able to revise the cost of producing components (or chips) on a quarterly basis. Hence, ABC has assisted the company in providing more accurate information on costs and pricing, thus improving the company's competitive position in the semiconductor industry.

Overall, the costing manager is of the opinion that ABC has been moderately successful in the company as a result of top management support and commitment from the employees. After nearly 12 years of using ABC, the benefits that the company has reaped clearly outweigh the problems that they faced when first implementing ABC. Thus, ABC appears to be an efficient tool in providing more accurate and relevant information to the company.

5. ABC implementation in TM

5.1 Company background

TM is a leading company in telecommunication services in Malaysia. It was formed in 1986 as a result of privatization efforts of the Malaysian government. It is a public listed company, with more than 20,000 employees throughout Malaysia. The interview was conducted with TM's manager of Network Strategic Cost Management. The manager is a member of the working committee that has been set up at the initial stage of the ABC process. He is also entrusted with identifying the activities and cost drivers, as well as ensuring that TM throughout the country eventually adopts ABC.

The introduction of ABC in TM started in 1996 and was initiated by the finance division. The manager of the Network Strategic Cost Management division said that currently, ABC has not been implemented in all divisions/departments of the company. ABC is gradually introduced in the company, starting with the network or engineering department, followed by the marketing department and eventually, the support group department. Presently, the ABC system is fully implemented in the "switching" and "local access" areas of the network division while ABC implementation is still in progress in the "international" area of the same division. Similarly, the implementation of ABC is still in progress in the marketing division and the human resource department. According to the manager:

TM plans to have the whole company eventually adopt ABC. For the present, the company uses two costing systems; one is network costing, for capital expenditure decisions, and the other is the ABC system for our daily operating expenditure.

5.2 Factors that motivated TM to implement ABC

The major factor that drove TM to implement ABC was competition. TM had to price its products competitively in order to regain its market share. In addition, there was an acute problem with overtime costs. The costs were high despite having workers that were under-utilized. In order to understand this paradox, TM needed to understand the work activities/process of its workers. Recognizing that ABC could help them address the issue, the finance manager decided to implement ABC in 1996. Besides this, the change in the business structure of TM provided the impetus to adopt ABC. The manager elaborated that the finance manager (who introduced ABC at TM at that time), felt that the traditional costing system that existed then was not reliable and may not have been appropriate for the new business structure. Finally, the desire to try a new tool, one that is claimed to be more relevant to today's dynamic business environment, also motivated the company to implement ABC.

5.3 Process of ABC implementation

We have also used Arnaboldi and Lapsley's (2005) framework to describe the ABC implementation process at TM. At the initiation and adoption stage, a working committee was formed, consisting of staff from the costing department, personnel from the network or engineering departments and other related personnel. The committee was chaired by an experienced manager who specialized in strategic cost management. A steering committee, comprising top-level management, was also established. This was to ensure that the working committee was on the right track. At the same time, TM hired external consultants, primarily to train the employees to use the ABC software, known as Oros ABC and Net Prophet Expert, which the company purchased "off the shelf". The next stage (the design stage), involved identifying the relevant cost pools. For this, the working committee developed a web-based input via the intranet for TM workers (all over the country) to key in their activities. Initially, there were 500 cost pools identified. After several discussions with related personnel, the number was subsequently reduced to 50. To ensure the commitment of employees to the ABC system developed, the working committee invited staff from related departments to work closely with them. These employees had to sit with the committee for at least two days in a week to help identify the right activities and cost drivers. The steering committee provided further support by introducing the concept of "management buy-in". Essentially what this means is that the relevant staff involved will only have to perform their normal tasks three days a week, with the remaining two days being spent with the working committee. Indirectly, this procedure tended to reduce staff workload, thus avoiding problems of workers' resistance to the implementation of ABC.

During the implementation stage, TM's employees were given training in use of the software by external consultants. However, after two months of training, TM managed the implementation on its own. The working committee then improvised the system and created its own ABC schedule analysis to meet the daily operating needs. Finally, TM used ABC for product pricing, product output decisions, cost management and reduction, cost budgeting, new product design, customer profitability analysis, performance measurement, cost modelling and process improvement. ABC is also used for product output decisions. Additionally, ABC is used as a performance evaluation

tool: actual costs derived from ABC are compared with last year's figures, with competitors' costs (when available), and with the target costs set.

5.4 Problems faced during the implementation

At the early stage, top management seemed to be unimpressed with the ABC system. They perceived ABC to be the same as other costing techniques that have been used in TM. Perhaps what top management was afraid of was the fact that ABC would be just a "fad" and would thus lose its novelty eventually. As a consequence, they were quite reluctant to spend the company's resources on putting ABC into practice. Further, management felt that they had other more pressing problems to address. To convince these people, the finance division, headed by the costing manager, conducted a pilot test on one of its networks. The success of that pilot test activated interest among top management. The lower level employees were similarly sceptical of the new system, primarily because they did not know what ABC was all about. However, when the benefits from ABC implementation started to be visible, the system was accepted more readily.

Another problem encountered in adopting ABC, particularly in the telecommunications industry, is the rapid change in technology. By the time the working committee finished studying and understanding the process flow and activities of existing products, there were new products or services being introduced by TM. As a result, new process flows (of new products) would then be charted. This problem is being addressed by the use of appropriate software. Further, given the experience of charting the process flows of past products, the time taken to chart the process flows of new products may be considerably reduced.

5.5 Benefits gained

ABC has enabled the company to identify non-value added activities and tasks that were done inefficiently. Such information allowed managers to make more informed decisions. Additionally, the company was able to reduce wastage and rework time. Another pertinent issue was the high overtime costs paid by TM. With the adoption of ABC, an activity map or process flow was developed. This, in turn, facilitated managers in identifying the high costs for particular activities. Through the ABC activity map, managers detected that high overtime costs were due to workers starting work only after 4.00 pm. Discovering this led to an eventual reduction in costs. The marketing division was also able to identify profitable customers from unprofitable ones. For example, after the ABC analysis, TM discovered that it was much more efficient and – accordingly – cheaper to provide services to customers living in apartments as compared to customers living on landed properties.

The implementation of ABC at TM provided benefits for both engineers and the accountants. The engineers were able to appreciate the costs of the services rendered while the accountants now understood the network and engineering process activities of the company. However, the benefits derived from ABC implementation were not immediate. For TM, it was four years before the benefits were realized. When asked about how successful ABC has been in TM, the manager of the strategic cost management unit was non-committal[2]. According to him:

It is difficult to say, really. Only when ABC is implemented for the whole organization would we be able to gauge its success. However, what I can say is that where ABC has been

implemented [in TM], it has provided relevant information for managers to make more informed decisions.

This is primarily because TM has not implemented ABC for the whole organization.

6. Discussion and conclusion

On the basis of the above, one may conclude that both TM and CM have been successful in implementing ABC. For example, at TM, they were able to identify the problem that led to high overtime costs. At CM, the ABC cost sheets enabled managers to determine whether there were bottlenecks in the manufacturing process. The main problem faced by CM was its costly, non-user friendly, tailor-made software, whereas for TM, the most challenging issue at the initial stage was getting top management's commitment. Additionally, the adoption of ABC by both CM and TM may be explained by coercive isomorphism. For CM, it was the formal pressure from top management/head office. TM, on the other hand, adopted ABC in response to stiff competition from other organizations in the same industry.

Despite the varied reasons for the adoption, the steps taken by these two companies in implementing ABC appear to be similar. Both companies focused more on behavioural and organizational factors rather than on the technical aspects. For example, in CM, to ensure that employees understood what ABC was all about, the company provided training for all its workers. TM, on the other hand, got its citizens (at all levels) deeply involved with ABC by using various means: top management by providing favourable results in the pilot test undertaken, middle management by getting them to work with the working committee two days a week, and operational level employees by getting them to key in their activities on the website developed by the working committee. The experiences at both CM and TM seemed consistent with the results of prior studies conducted in developed countries (Anderson, 1995; Swenson, 1995; McGowan and Klammer, 1997; Krumwiede, 1998; Arnaboldi and Lapsley, 2005). Such studies indicate that in order to implement ABC, a company should focus not only on its technical aspects but also on behavioural and organizational factors. The latter include top management support, the linkage of ABC to competitive strategy and the training of workers in the use of ABC.

Overall, both companies regard ABC as an important tool in cost reduction and process improvement. Thus, managers of both companies perceive ABC as providing substantial benefits to the companies. Given the benefits that they have enjoyed, they believe that ABC will continue to be used in their companies. It is clear that ABC has provided benefits despite the problems faced in the initial stages of its inception. One factor that is clear from the case studies is top management support. Any new tool/system to be implemented must have top management support. While CM faced no problems in this since the implementation was a directive from the holding company, TM had a bigger problem. The pilot test conducted by TM's working committee was a step in the right direction. The favourable results meant that there was less "convincing" to be done by the working committee. The employment of consultants at the initial stage may well be a necessity. However, both companies indicated that such consultants were engaged only for a short period of time. Further, the use of appropriate software that is tailored to the needs of the company may be an important factor in ensuring the success of ABC implementation.

From the two case studies described above, it appears that ABC is recognized as a valuable tool for companies to improve their performance. Yet, its acceptance amongst Malaysian companies is relatively low. Further, many of the problems that hinder ABC's implementation are related to managerial factors rather than the technical aspects of the ABC system itself. Given the substantial strategic, operational and financial benefits of ABC (as discussed in the literature and highlighted by the two companies examined), firms interested in implementing ABC need to focus on four main issues. Firstly, top management support is important. Secondly, it is imperative that the working committee tries to simplify the ABC implementation process (for example, by having a manageable number of cost pools). Thirdly, there is a need to source suitable ABC software. Fourthly, it is desirable that all levels of workers that would be affected understand what ABC is all about and be actively involved in the implementation process. Figure 1 presents the "do's" and "don'ts" of ABC implementation.

The four issues highlighted above are, to some extent, consistent with the results of previous studies examining ABC adoption in the developed countries (e.g. Sohal and Chung, 1998, in Australia; Stapleton *et al.*, 2004, in the USA; Gunasekaran *et al.*, 1999, in Belgium and Dutch companies). Thus, the issues presented in the current study appear to be international in scope, and not confined solely to companies in Malaysia (a developing country). The findings in this study have shed some light on ABC adoption in Malaysia, hence enhancing the literature in this area. It is hoped that the experiences shared by these two companies could provide the impetus for other companies to adopt ABC. More specifically, the problems highlighted by these two companies may help companies which are planning to implement ABC in the near future to better address these problems. Nonetheless, given the method of research applied for this study, one

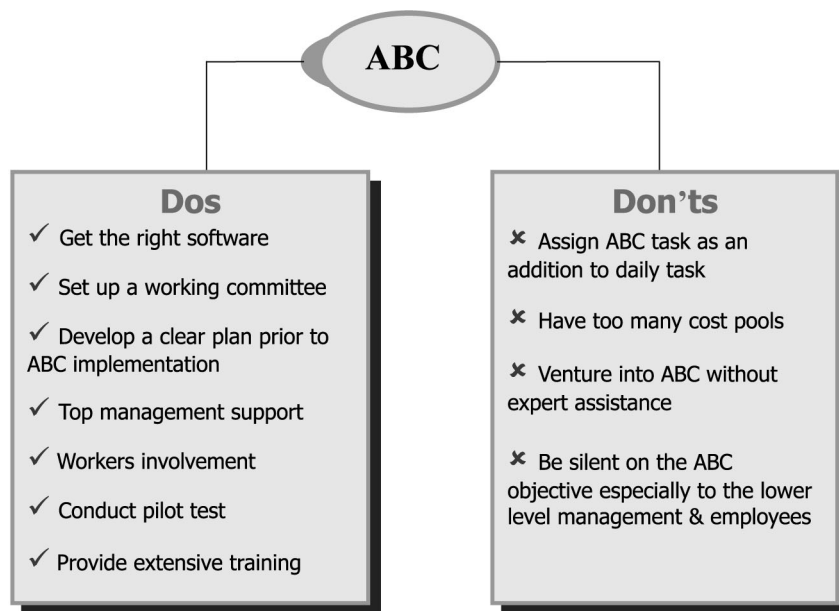


Figure 1.
"Do's" and "don'ts" of ABC implementation

criticism of the findings may well be the non-generalizability of the results. However, according to Yin (1994), in a case study research, the generalization of results is made to the theory and not to the population.

One limitation of our study is that the data collected was primarily that provided by managers. We were not able to perform a crosscheck by interviewing workers. However, we manage to validate the information obtained, to some extent, through various other sources such as the annual reports, press releases as well as materials from the internet. Additionally, informal conversation with some employees of CM and TM also provided invaluable information that supported the information gathered from the interviews. Finally, our study examined ABC adoption of two rather large companies. The experience of these two companies may not be similar to small and medium-sized enterprises. Accordingly, future research should perhaps focus on small and medium-sized enterprises. Studies of companies that have not adopted and have no intention of adopting ABC would also be another interesting area to examine. Such a study may help illuminate the reasons why companies, particularly developing countries, are slow to take ABC on board. Companies must understand that while implementing activity based costing may not be as easy as A-B-C, once adopted, the benefits may be numerous.

Notes

1. Prices of hand-phones, cameras and personal computers change drastically and very often.
2. This is more a cultural issue. Being a Muslim and an Asian, humility is a priority. To say that ABC has really worked would, indirectly, be saying that he has done an excellent job in implementing the new tool.

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Appendix. Costing/production sheet on chips produced for hand phones (CM)

Activity/process	Product A	Product B	Product C
Taping	80,000	80,000	80,000
B-grind	17,000	17,000	17,000
Detape	74,000	74,000	74,000
W/er tape	116,583	116,583	116,583
D-Shaw	18,200	18,200	16,300
High-power scope	13,376	13,376	9,142
D-Attach	3,277	3,277	2,623
D/A cure	30,104	30,104	18,440
Wire bond	238	159	116
Low-power scope	4,067	4,067	2,512
Mold	22,883	22,883	13,552
PMC	16,280	16,280	10,500
M-king	27,203	27,203	18,272
Etching	30,386	30,386	18,616
St mount	13,831	13,831	13,202
P-G saw	5,583	5,583	5,305
Pck N place	7,485	7,485	6,371
EVI (Dazor)	1,842	1,842	1,730

Table AI.

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