



THE STUDY OF THE CRITICAL ISSUES IN IMPLEMENTING ACTIVITY
BASED COSTING IN BANGKOK

By

PRASHANTH VISWAMBHARAN

A Thesis submitted in partial fulfillment
of the requirement for the degree of

Master of Business Administration

Graduate School of Business
Assumption University
Bangkok, Thailand

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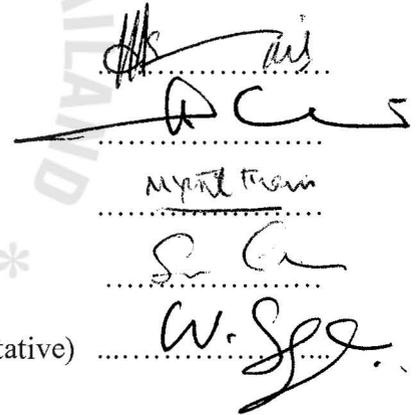
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ABSTRACT

Proponents of Activity Based Costing (ABC) describe it as a revolution in the management accounting, but there are very few firms who are jumping into this new ferry. Most of the firms prefer to stick on to their existing method of cost accounting rather than to join the revolution.

This study's focus was to understand why firms in Bangkok hesitate to implement ABC. Seven critical issues namely Resistance to change, Technical Issues, Organizational Issues, Managerial Issues, Technological Issue, Employee related Issues and Cost Issues were identified to test if they were the factors responsible for non-adoption of ABC.

A mailed questionnaire was sent to the firms' accounting managers to gather their views on the issues. A total of 339 questionnaires were distributed. However, only 94 questionnaires were returned generating a response rate of 27.72 %.

To analyze the data, the researcher used Pearson's Correlation Coefficient for all the hypotheses. The findings show that all the seven critical issues have a significant statistical relationship with the implementation of ABC.

From the findings it can be concluded that, although all the seven critical issues have significant relationship with the implementation of ABC, particularly four issues namely, the Cost Issue, Employee Related Issue, Technological Issue, and Managerial Issues can be considered as the most important complication as to why firms in Bangkok hesitate to implement ABC. Therefore it's better if firms give due consideration to these prerequisites to minimize threats before they embark on an ABC journey.

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Chapter I

Generalities of the Study

1.1 Introduction of the Study

All kinds of organizations-manufacturing firms, service companies, and non-profit organizations, need some form of costing which is a part of the cost management system that measures costs for the purposes of management decision making and financial reporting. In today's business environment, characterized by highly-competitive global markets and complex operating systems, designing costing systems that provide accurate and useful information is a key success factor for all types of organizations (Horngren, 2004).

The business world has undergone a major transformation in the recent years (Brimson, 1991). As organizations became more complicated, indirect overhead costs grew at a faster rate than sales or services and displaced the costs of the front-line worker. In addition, the diversity of products and service lines expanded; similarly the diversity of customers and channels increased too. Citing these as reasons, much has been written about the demise of traditional management accounting systems and the revolutionary attributes of Activity-based costing (ABC). Kennedy (2000) argues 'ABC has been hailed as the answer to our prayers' and in the latter part of this sentence he puts it in a casual manner: 'but things are never that simple'.

ABC is a management accounting process that allocates resource costs to products or customers based on activities, which are the factors causing work and incurring cost, used by products or customers (O'Guin, 1991; Turney, 1996; Krumwiede

and Roth, 1997). In other words, ABC assigns costs to products according to the activities and resources consumed in producing, marketing, selling, delivering and servicing the product (Turney, 1996).

ABC has become popular in recent years. In fact, it is difficult to find an academic or practitioner journal in accounting that does not include at least one article on activity-based costing, activity-based management, or activity-based budgeting. As a result, it is difficult for any organization, whether it is a manufacturer, distributor, or service provider not to jump onto the activity-based bandwagon (Latshaw and Danile, 2002). After almost ten years since it was developed, ABC still has a relatively low take-up as shown by the results of a number of surveys conducted in North America, the United Kingdom and Australia (Sohal and Chung, 1998).

According to Morakul and Wu (2001) 1997 saw the start of an economic downturn in East Asia and, Thailand was one of the first country hit by the economic crisis (Jolley, 1998). Many big and small companies wound up their operations owing to restricted credit by banks and finance companies. As a result, the rate of unemployment increased considerably. Sales of almost all existing Thai firms slumped. Besides, the devaluation of the Baht led to rising costs of imported gasoline, raw materials and finance resulting in rising costs of production. In addition, Thai manufacturers and exporters faced severe troubles to compete in the global markets.

Chongruksut (2002) has prophesied that ABC is a perfect costing method for many Thai firms whose main aim was revival after the economic crisis. For example Morakul and Wu (2001) have claimed, "The adoption of ABC was one of the potential alternatives for Thai firms in this turbulent time".

Chongruksut (2002) who studied the relationship between the adoption of ABC by firms based in Thailand and the Thai economic crisis (1997) has identified that Thai economic crisis was a significant variable forcing Thai firms to implement ABC for their survival. The researcher further states, due to the changed environment, such as increased competition or growing costs, and the inability of the traditional cost systems to provide information in the new environment, several Thai firms had adopted and implemented ABC in response to the changed environment.

Even though ABC is considered as a magic potion for all organizational ailments, opponents describe it as the modern version of a Swiss Army knife and nothing better than a glorified cost allocation method. There is growing evidence, that many of these firms prefer their current method of cost accounting and not ABC. According to Chongruksut (2002) Thai economic crisis forced Thai firms to implement ABC but the researcher has identified only twelve firms (11.88 % of the total respondents) who had implemented ABC, moreover two firms had abandoned ABC. Also according to the study conducted by Marchesi (2001), found that only 12% of Thai companies (total respondents 105) were using ABC then.

Therefore, the current study surveys why some firms do not prefer to implement ABC. It is interesting to note that ABC system is not as popular in practice as its supporters would suggest. Hence seven main problems clubbed as 'Critical Issues' are identified from previous studies to test if these are the factors for the low implementation rate of ABC in Thailand.

1.2 Statement of Problem

Anyone who refers a book on cost accounting, journal on Activity Based Costing (ABC) or types the term “Activity Based Costing” in any electronic search engine gets hundreds of web links that states ABC is the best method of cost accounting which takes into consideration all most all the limitations of traditional cost accounting system. These theories are definitely true. A superior costing system like ABC identifies the indirect non-value adding cost and reduces the expenses which a firm with traditional accounting can never even imagine. With the evolution of ABC cost reduction is a dream come true for most of the firms.

Even though ABC is such an excellent method, as mentioned earlier the adoption rate of ABC is negligible (Chongruksut, 2002; Marchesi, 2001). Very few scholars have asked why it is so. Hence the main purpose of this study is to understand, why firms are reluctant to change to this new method of cost accounting and the significant relationship of the critical issues and implementation of ABC. Specifically, this study seeks answers to the following questions:

1. What are the critical issues that hinder the successful implementation of ABC in Bangkok?
2. Is there any significant statistical relationship between these issues and the implementation of ABC by firms in Bangkok?

1.3 Research Objectives

The objectives of the study are as follows.

1. To examine the correlational importance between critical issues and implementation of Activity Based Costing (ABC).
2. To understand the prerequisites for implementing ABC.
3. To create profiles of firms in Bangkok that implemented ABC and those that did not implement ABC.

1.4 Scope of the Research

This study explores the relation between critical issues and implementation of ABC. The study has focused on seven variables such as Resistance to change, Technical issues, Organizational issues, Managerial issues, Technological issues, Employee Related issue and Cost issues.

The target respondents are all firms based/located in Bangkok. Reasons for this are time and geographical limitation, and the fact that majority of the professionally managed firms in Thailand are located in Bangkok.

1.5 Limitations of the Research

ABC has been hailed as the one of best innovations in cost accounting technique. There is ample literature to support it; benefits of ABC can be found in all the text books, journal articles, and websites. Much has been written about the demise of traditional management accounting systems and the revolutionary attributes of activity-based costing (ABC). But when one glances through the adoption rates or percentages it is hard

to miss out the fact that very few firms have adopted this new method, atleast in the developing countries. Very few scholars have tried to find out why these firms don't adopt ABC. Hence the first limitation is a shortage or lack of empirical literature to support that there could be inherent problems or limitations in ABC.

The second limitation is that because of time and geographical constraints, the respondents chosen are only from those firms located in Bangkok. Hence the findings may not be generalized to those firms located in other provinces. The findings of this study may have been different if a broader range of firms had been selected.

The last limitation is that the researcher identifies only seven main factors as critical issues for the implementation of ABC. Nonetheless, there might be other issues and questions that could have been used in the consideration.

1.6 Significance of the Research

Even though Activity Based Costing has evolved in 1980s, it is a fairly new concept for most of the firms in Thailand. Previous studies conducted on ABC suggest that ABC implementation teams could face a variety of problems when they implement ABC. Hence implementers of ABC can use this study to understand what issues they should focus more on, so that they can prepare themselves better before they start the implementation process to finish it successfully.

Also there are very few studies conducted on problems in implementing ABC. Therefore this study can further enrich the knowledge of academicians, students, and ABC enthusiasts.

1.7 Definition of terms

Activity Based Costing (ABC): is a management accounting system that focuses on measuring the cost and performance of activities, products, customers, and other cost objects. The basic premise of ABC is that activities consume resources and cost objects use activities. In other words, ABC assigns resource costs to cost objects based on the activities used by the cost objects (O'Guin, 1991).

Activity- can be any function that creates cost. Example of activity can be setting up a machine (O'Guin, 1991).

Cost Accounting Systems: the techniques used to determine the cost of a product, service, customer, or other cost objective (Horngren, 2004).

Cost Accounting: that part of the cost management system that measures costs for the purposes of management decision making and financial reporting (Horngren, 2004).

Cost Driver- can be called as those items that trigger activity. These activity triggers are called as cost drivers. Examples of cost drivers are square footage, number of employees, percentage of labor costs, etc (O'Guin, 1991).

Critical Issue: an important topic that could point out faults (Liebeck and Pollard, 1995).

Traditional Costing Methods: type of accounting methods which was used prior to the implementation of ABC. This could include methods like- Standard costing, Job costing, Process costing or Target costing (Garrison and Noreen, 2003).

Chapter II

Literature Review

A research study is guided by previous study done by other researchers, scholars and by vast literature about the topic in discussion. This chapter attempts to analyze what other researchers have identified and concluded. The researcher also has tried to continue from where many others have exited and in some cases continued it further.

The first part of this chapter discusses the accounting literature with respect to the independent variables. The latter part of this chapter includes empirical research on Activity Based Costing (ABC).

2.1 Literature Review

This section reviews the literature on the variables studied in the conceptual framework.

Technological Issues

One of the most dramatic forces shaping people's lives is technology (Kotler, 2003). Technology deals with the activities, equipment, and knowledge used to get things done (Greenberg and Baron, 2003). It has become an integral part of many businesses and, over time, new technology is deployed for business transformation process (Chan et al., 2000). Technology also plays a dominant role of integrating various functional areas (Gunasekaran et al., 1999).

Implementing ABC is more than acquiring a software package. A variety of factors must be weighed, such as ease of use, compatibility with existing systems,

expertise needed, availability of support personnel, resources needed for system maintenance, potential for integration of financial and operational systems, and consistency of ABC systems within the company. Off-the-shelf software packages are easily available but how well it is suitable for company's unique need is not known. Developing ABC software in-house is also another option but may end up being expensive, time consuming, and problematic (Tatikonda, 2003).

But still the concept of activity-based costing (ABC) is experiencing renewed interest among financial managers because new technologies are emerging that enhance ABC's ability to improve business performance, creating a more strategic, value-added role for financial managers (Geishecker and Lee, 1996). But one of most important challenges that managers face is effectively managing technological innovation, because it brings about changes in employee's work environments and change has been described as the ultimate stressor (Nelson and Quick, 2003). Technological innovation affects the very nature of the management job and the change occurs so rapidly that its turbulence characterizes most organizations. Workers must constantly learn and adapt to changing technology so that organization can remain competitive. Managers must grapple with the challenge of helping workers adapt and make effective use of new technologies. Most workers are well aware of the benefits of modern technologies but it should not be forgotten that it also brings disadvantages.

The important factor is identifying the right software package to run ABC program. This is important because most of the firms now work on some software package, so when a software package to use ABC is installed in the firm it is important that this software package is compatible with old one, moreover there are many software

package vendors who supply packages but to get a unique one which works for a particular firm must be built in-house which could be quite expensive. This could pose as a threat. Before implementing the new ABC software package the firm will have to consider factors like:

Ease of use of the software, if it is not user friendly then employees will refuse to use the new system because they have to spend extra time trying to adapt to the new software.

Also the new software must be compatible with the old software system which the firm has already implemented. If it does not integrate well then employees will have to use different software in order to analyze the numbers, it would be best if the software integrates well, then employees can retrieve old data with the new software itself, otherwise the computer staff will have to again spend extra time trying to solve these problems. Chongruksut's (2002) study also reveals that and taking up a lot of computer staff's time was regarded as challenging tasks then.

The next important factor is the cost of maintaining the new system, the cost of implementing new software even if it is high, is only one time expense, but the cost of maintaining it is a recurring expenditure. Thus a system which drains out money from an organization may not find sufficient support from the top management.

Employee Related Issues

Human factors play a significant role in the successful development and implementation of a new system. Managers can take several actions to help employees adjust to changes. The worker's participation in early phases of decision making process

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regarding the change is important. Individuals who participate in planning for the implementation of the new change gain important information about the potential changes in their jobs; therefore they are less resistant to that change (Laframboise et al., 2003). Employees are the users of the new change/method. Their input of ideas and suggestions in the early stages can lead to a smoother transition into the new ways of performing work. When employees are involved in the change process they better understand the need for change and therefore are less likely to resist it (Greenberg and Baron, 2003).

ABC systems are more than data analysis, more than number crunching. People resist changes that question their current practices and suspect changes that directly impact their performance. For instance, under ABC, product costs and profit margins vary significantly compared to volume-based costing. Baffled managers wonder how their 'star' products of today became 'dogs' overnight. Because ABC is not aligned with the performance evaluation and compensation systems, ABC is perceived by employees to be a threat to their jobs (Tatikonda, 2003).

Productivity of the employees can be improved by providing them collective responsibility and incentive schemes. The incentive policy to motivate participants plays an important role in adopting and implementing ABC in their companies. When the employees receive their benefits in the form of incentives and rewards from their employers, then they will be more motivated to work hard to increase the productivity of the products (Nelson and Quick, 2003). One of the most important characteristics of ABC as said before is transparency in the accounting methods, hence if a worker produces more products in less time efficiency can be easily identified with the help of ABC data.

If this information is used for the employee's performance evaluation then employees would resist less for the change. Chongruksut's (2002) study reveals that the primary reason for Thai users to adopt ABC was to have a better performance measurement. Generally, employees take an interest in what affects their welfare. Hence, linkage of the ABC system to performance evaluation and compensation stimulates employees to support the implementation of ABC system. This linking convinces employees that rewards depend on their behavior and the resulting system demonstrates their performance and reflects their future compensation and the employees will cooperate in ensuring the success of the implementation program.

Even Sohal and Chung (1998) who conducted a case study on two firms one in Hong Kong and the other in Australia reports that performance measures had been developed which were used to identify improved initiatives from employees, which led to successful implementation of ABC. Recent studies have also found that initiatives relying on the participation and development of employees, can struggle if different kinds of employees are not involved equally. For instance, part-time workers, administrative or shift staffs often receive less training and communication on company performance levels than full-time permanent, professional or senior staff (Shapiro, 2000).

For the successful implementation of ABC, the employees must have a clear understanding of its principles, capabilities, goals and objectives. This understanding will make it possible for the expectation of ABC to be communicated appropriately to all the employees. ABC requires consultation at all levels and systematic training and education efforts. Moreover, such training and education need to be carried out mainly by the companies themselves in co-operation with system suppliers. When the employees are

well trained and educated, they can easily reduce time/effort required to perform an activity, reduce throughput time, on-time delivery, and minimize conflict reduction inside the company because of knowledge workers (Gunasekaran et al., 1999).

Managerial Issues

The full understanding, commitment and leadership of an organization's top management emerge as a crucial factor in almost all the studies of ABC implementation. Lack of managerial commitment is often the primary reason for failure of any major project, and ABC is no exception. Developing policies and procedures before consultants and the innovator of ABC leave the organization could make ABC implementation smooth and orderly. Otherwise, ABC projects may hit roadblocks, drift aimlessly, and ultimately sink (Tatikonda, 2003).

Most of the managers think the only way to effect change and get subordinates to accept it is to decide on a change, communicate it, and then tell employees to implement it. Without the support of employees, trying to change an organization is like sailing into the wind (Kirkpatrick, 1993). An ABC system is not easy to implement and should not be considered as a quick fix. It takes a great deal of effort and commitment on everyone's part if the system is to provide the information necessary for top management to make the best decisions. Middle level managers do not hesitate to support an ABC system if they know the top management backs it (O'Guin, 1991). If the organization's senior managers do not understand and show commitment to the program then it is only understandable that the rest of the organization will ask why they should do so. Top management commitment usually means that senior personnel must put in a lot more effort at an

operational level. Top management should focus on long-term strategic decisions based on quality, flexibility and responsiveness (Gunasekaran et al., 1999). Unbundling utility costs creates a management tool for making better decisions. Certainly the majority of the expertise and the work involved in implementing the system will come from the accounting and finance people but they cannot do it alone. Top management must share their commitment to the process with all employees, so that they understand what is required of them and what will be gained by having better information (Lewis and Luecal, 1998; Krumwiede and Roth, 1997). According to Chongruksut (2002) most ABC users in Thailand perceive that top management support is an essential and key factor for the successful implementation of ABC. Thai top management had largely provided its sufficient support for the implementation of ABC to their organizational members. Hence those firms that implemented ABC faced less resistance.

Implementation of any change would be successful if the need for it is justified (Gunasekaran et al., 1999). It's important to communicate an expected change and the reasons for it, as completely and as early in advance (Kirkpatrick, 1993). Many employees get worried when change is introduced and they feel insecure because changes on the job may threaten one's livelihood either by loss of job or by reduced pay. Also many employees resist to new changes because of fear of what the future has in store for them. One way to remove this fear is by educating the workforce about what the change may mean to them, top management must show considerable amount of emotional sensitivity. Once the need for a change is justified, change would be successful (Greenberg and Baron, 2003).

This is proved in the study conducted by Sohal and Chung (1998) who conducted a case study in two companies one based in Melbourne, Australia, which manufactures engineering components. The other is a chemicals company based in Hong Kong, where employees did not really know the reason why it was being implemented, hence faced heavy resistance.

Managers are usually overloaded with lots of work. When an important change like ABC is being implemented it is important that managers devote their full time into this project so that the implementation process will be considerably smooth. Sohal and Chung (1998), also conclude that full-time availability of key people is a pre-requisite to success.

In the study conducted by Chongruksut (2002) it states that the economic crisis would have forced Thai firms to take on new techniques or innovations like ABC in particular, to their organizations to improve their management and profitability to survive in a turbulent environment. The researcher also states that a significant reason for not adopting ABC was higher priorities to other projects and according to the interview data; an example of a higher priority project was the ISO project, which is a long-term project.

After implementing ABC another problem that challenges a firm is the new knowledge of cost data that has been identified from ABC methodology. The strategic and operating benefits of ABC will be lost if the firm does not have clear idea or plan of how to use this new information for decision making. This hindrance can be overcome by giving effective training program. Also it is best if the management sits with the accounting staff and discusses the results as accountants can interpret the numbers better (O'Guin, 1991).

Resistance to Change

People may be unhappy with the current state of affairs in their organizations, but also they may be afraid that any change will be disruptive and only make things worse. Indeed fear of new conditions is quite real, and it creates an unwillingness to accept change, which is referred to as resistance to change (Greenberg and Baron, 2003). It is a natural human reaction to be wary of change, however big or small. It is often difficult to accept that the old, long-established way of doing things has lost relevance and it is hard to persuade a manager that the information he or she has been receiving for many years is now inappropriate or misleading and may result in poor decision making.

Resistance can come directly from the firm's employees and other management because one of the features of Activity Based Costing (ABC) is the greater visibility of the expenditure and the transparency to how costs behave and what drives them, (O'Guin, 1991) the consequence of this is that the employees or managers are likely to feel exposed, because they have to share information that has previously been kept closed within the department or person, and if such information come to light now they interpret it as a means of introducing unwelcome peer pressure.

To add, other researchers such as Morakul and Wu (2001) in their study have identified that one of the most important factors indicating the success of system implementation is participants' attitude toward the new system.

Moreover, Yates (1997) (cited in Morakul and Wu. 2001) stated that ‘a manager cannot change existing structures single-handedly, workers must enact the new structure, as well’. Therefore, it is important to know the employees' attitudes toward the new system.

In recent years, cost management has become a euphemism for cost reduction in many companies, and this linkage in people's minds can make the process of obtaining internal commitment extremely difficult. It is hard for the project sponsors to get staff to desist from the fear of job losses, not least because in many cases activity-based cost reduction is very definitely on the agenda. The failure to obtain commitment is in many cases integrally linked to the lack of focus in a project. Senior management sponsorship of the project gives both a message to the working party that there is a high perceived value in what they are doing and ensures that the project is focused on business issues. While senior management sponsorship is a prerequisite for success, but the driving force is the ABC project team. It is they who have to translate the purpose and approach into a tangible output, overcoming behavioral problems on the way (Morrow et al., 1994).

Commitment to the project must be obtained at three levels: senior management, the project team and the ABC system users. Shields (1995) found evidence that ABC implementation in the firm is successfully particularly when there is top management support and when the accounting department is willing to share the ownership of accounting information with non-accountants.

Ownership of ABC systems is a political issue, one that goes beyond accounting. Lack of ownership confuses employees and confused employees do not support ABC. In many companies, employees and managers initially consider ABC exciting. But, shortly

after implementation, the initial excitement fades and regular maintenance becomes drudgery. In the end, day-to-day management of the ABC system gets delegated to lower level employees. Responsibility and authority to collect and update ABC data emerges as a thorny issue. Financial personnel lack the understanding of processes and tools such as Design for Manufacturability, Process Improvements, Setup Time Reduction, Just-in-Time, and Total Quality Management. Technical personnel lack knowledge of cost behavior and cost drivers. Designating a cross-functional team, developing and enforcing guidelines regarding access to ABC data and authority to update ABC systems data helps avoid confusion, misuses of ABC, and turf problems (Tatikonda, 2003).

Yates (1997) (cited in Morakul and Wu, 2001) stated that due to the redistribution of power, the accounting department may resist the "non-culturally-adjusted ABC" implementation because of the fear of losing power. At the same time, "production managers may not desire to assume the empowered role ... [because] making empowered decisions may be overstepping their bounds within the hierarchical order". On the contrary, the "culturally-adjusted ABC" implementation is expected to face less resistance from both departments if it reduces the impact of empowerment by keeping access to and control over information within the accounting department. Although the "culturally-adjusted ABC" implementation may increase the job efforts of employees in the accounting department, it should not create resistance because it allows the accounting department to remain in power.

The next factor is communication and co-operation among various departments. Communication is a process by which a person, group, or organization transmits some type of information to another person, group or organization (Greenberg and Baron,

2003). Interpersonal communication is, 'communication that occurs between two or more people in an organization. This is important in building and sustaining human relationships at work (Nelson and Quick, 2003). For any firm to communicate effectively the change, senior leadership must set the tone by being visible, accessible, and open with staff. Senior leaders must believe in the importance of honest and open communication, or their credibility will be questioned¹. In other words communication should be continuous, honest, simple, formal and also informal and organizers or innovators of the change must ensure that the right person is saying the right message to the right audience. The inability to connect the dots and the inability to explain why the change is necessary in a meaningful way to all recipients increases the chance of failure (Atherton and Angehrn, 2004).

Another important feature for resistance to change is changing the culture and mind set of the organization. To a great extent stability in an organization involves the shared beliefs, expectations and core value of the people in the organization. This is called organization culture. Once established, these beliefs, expectations, and values tend to be relatively stable and to strongly influence both organizations and those working in them. An organization's culture provides a sense of identity for the members. Cultural change can also emerge from planned change as in the case of implementing ABC. Once the implementation process starts new norms governing preferred or acceptable behavior emerge, and attitudes and values supporting these norms take shape. The result may be a considerable shift in the existing culture which employees don't like and resist to change (Greenberg and Baron, 2003).

¹ www.gateway.proquest.com. How to Communicate Better with Your Staff. Design Firm Management & Administration Report (See bibliography for full reference)

It is impossible, to prescribe solutions to these problems. However, resistance is likely to be minimized if objectives are shared at an early stage and if management is capable of being reasonably specific about what it hopes to achieve from the project. Hence there is a strong need for effective and regular communication to the rest of the business.

Technical Issues

The greatest challenge facing the ABC implementer can be summed up into two words-accurate data (O'Guin, 1991). ABC first assigns all costs to the major manufacturing or business processes called activity centers, but the greatest challenge or the art of designing an ABC system is choosing the cost drivers. To choose cost drivers, one must correctly identify what triggers activity, these activity triggers are cost drivers (O'Guin, 1991). Examples of cost drivers are number of direct labor hours, number of work orders, number of sales calls, floor area, etc (O'Guin, 1991). Different firms have different types of cost drivers hence defining them for a particular firm may be tedious and very time consuming. Technical issues are one of the main reasons why ABC has not always produced stellar results (Geishecker and Lee, 1996). Choice of cost drivers is one of the most critical issues of ABC. Accuracy, complexity, and cost increase with the number of drivers. Cost driver selection significantly impacts data integrity of ABC data and must be selected with care, using cause and effect analysis. Selecting drivers for the sake of making ABC system design easy ignores the cause and effect relationships, the very foundation of ABC concept. Overtime as the number of activities increase

companies tend to add more and more cost drivers, resulting in cost and complexity (Tatikonda, 2003).

The three most important considerations when choosing cost drivers and activities are:

Current availability of data: one should attempt to only use data that are currently collected as second stage drivers. If data is collected at the time of implementation of ABC, the figures tend to be more reliable, and firms can avoid the additional expense of gathering new information. When using the data collected strictly for cost reporting one of the common problems is to find accurate data, the next problem is to understand the type of data that is required and how to gather it if it is not recorded before (O'Guin, 1991).

Correlation of data with resource consumption: the second factor in choosing the cost drivers is how well the drivers correlate with resource consumption. The number of cost driver units accumulated by a product must be proportional to the amount of resources consumed. In statistical terms, the coefficient of correlation should be close to one (O'Guin, 1991).

Effect the cost driver will have on behavior of the activity: the last consideration when choosing cost drivers is, what will be their influence on behavior of the activity? Cost drivers will affect behavior as long as management considers them in evaluating performance. For example by allocating costs on setups, managers may be encouraged to schedule larger batch sizes or work towards shortening their setup times. The effects on behavior of cost allocation schemes, as well as their use, deserve careful scrutiny (O'Guin, 1991).

The study conducted by Marchesi (2001) reveals 54% of the firms have no knowledge about ABC and 49% of the sample lack understanding about ABC. Also the study conducted by Chongruksut (2002) reveals that most of the firms cited the inherent difficulties with ABC design and implementation group, followed by difficulties in collecting data on the cost drivers as the common reason for not adopting ABC.

One more important factor that needs thought is integration between the old method of costing and Activity Based Costing. In the traditional method of costing the errors are spread throughout the database in bills, planning rules, and vendor listings. Since personnel assigns costs based on this data, costing errors will occur. On the other hand the ABC system uses so many cost bases that it is much less susceptible to data errors than in the traditional costing method. So the integration between this new and old system of costing will require serious thought by the accounting department (O'Guin, 1991).

Organizational Issues

In the last decade many firms have designed and implemented activity-based costing (ABC) systems. There is growing evidence, however, that many of these firms are experiencing problems with implementing ABC and, in the extreme, are not having success with it. Shields (1995) cite an important reason for failure of ABC is that many firms has focused on the architectural and software design of ABC, with insufficient attention being given to organizational factors involved.

Activity Based Costing (ABC) drastically changes a company's perception of their business, after undertaking an ABC study, the company frequently rethinks its strategy. A company undergoing strategic change must ensure that the organization moves toward a common objective. Many companies base their marketing strategies on fallacious assumption about their customers and why they buy its products. In many companies surveys are done and executives find out there is wide deviation between their perception and the consumer's perception. An ABC study coupled with a marketing survey will inevitably lead a company to rethink its strategy, because after implementing ABC a firm realizes that many of its products are unprofitable and they were focusing on unprofitable customers. It takes years to effectively reorient a company's strategy (O'Guin, 1991).

Linkage to cost structure, competitive strategy, performance evaluation and compensation are important to motivate and reward employees to appropriately focus on and use ABC information to improve their firm's competitive position and profits (Shields, 1995). Usually policies and strategies are done on a long term basis, hence firms may re-consider when they are following this policy if they have to abruptly stop it and start with a new one, since this cannot be changed, ABC should be linked to the competitive strategy of the firm in order that ABC will concentrate on and provide information in consonance with information demands of competitive strategies. Chongruksut's (2002) study shows a high relation between strategies and polices and ABC implementation.

When a new change is initiated the main question that boggles employee's mind is: what resources does the company have on hand to plan and to implement its strategy?

The resources in question involve funds like money to make purchases, physical assets, and human assets like worker's knowledge and skills (Greenberg and Baron, 2003). Internal resources embrace time and commitment of top management, managers, accountants and operating employees. The implementation of ABC demands sufficient internal resources as they build ownership, knowledge and action within the company. Finally, sufficient internal resources are desirable so that employees do not believe that an ABC initiative is pressuring them to do more without adequate support. Resources should be provided that allow employees the opportunity to learn about ABC and to experiment with alternative designs and design methods, which make employees have less resistance (Shields, 1995). In the study conducted by Sohal and Chung (1998), it has been identified that lack of resources is a problem during implementation, particularly when the general manager is expecting fast results, even Chongruksut's study reveals (2002) that lack of internal resources was a major reason why Thai firms did not adapt to ABC.

Another problem that arises is who takes the responsibility and authority for maintenance of the ABC system, should it be the accounting department or should it be information technology department. According to O'Guin (1991) the implementation site's personnel must gain ownership of the system. Unless someone internally is committed to the new idea and champions it, overcoming all obstacles to its implementation, the idea bogs down and withers away. A cost system is no exception. In addition, only with in-house expertise will the system become an evolving entity, growing and responding to new company needs (O'Guin, 1991).

Cost Issues

It is a known fact that when a change is being implemented it involves a lot of money, and implementing ABC in organizations is both costly and time consuming (Bruesewitz and Talbott, 1997). Nothing frustrates managers more than cost overruns. Failure to understand the nature and magnitude of costs could stop ABC systems before they are fully developed and implemented. Costs include tangible items such as designing, training, implementing, and maintaining, as well as often overlooked intangible costs such as employee morale and political fallout. Benefits include higher revenues from better pricing, savings from eliminating unprofitable products, efficiency and effectiveness gained from better product mix and focused product promotion. Several surveys indicated that poor financial performance is one of the leading reasons for failure of ABC (Tatikonda, 2003).

Expenses may also build up because the firm has to consult with external auditing firms because ABC being new technique internal accountants may not know the implementation process. Firm may have to employ full or part time employees to complete the implementation process. In a study conducted by Bruesewitz and Talbott (1997) in a manufacturer of automotive component products firm called Layton reveals that the firm during the implementation process of ABC had insufficient personnel to help with the implementation hence it had faced severe problems and took a longer time to finish the implementation which resulted in additional cost. The cost of training employees is also not negligible. A major cost in implementing an ABC system involves retraining existing personnel (Sohal and Chung, 1998). It should be noted that employees may have to be re-trained if initial training was not sufficient. In general, companies that

implement ABC systems using traditional accounting methods eventually find that costs are greater than anticipated (Anandarajan et al., 1997).

And lastly there is always a fear among the top management that the cost may exceed the expected benefits. Marchesi's (2001) study reveals that around 12% of Thai firms does not use ABC because of the cost of using ABC exceed its benefits, 19% feel it is too costly to implement. The cost of ABC implementation (both design and operation) in terms of staff time, new system creation for data creation capture and processing and the disruptive impact of such a change are few of the areas where costs can rise unexpectedly (Anandarajan et al., 1991).

2.2 Previous studies

The foundation for this research is based on the following researches.

Shields (1995) found explanatory empirical evidence on 143 firms' degree of success with activity-based costing (ABC) and on implementation variables that are associated with ABC success. There are four primary results: 1. there is considerable variation in the degree of success firms have with ABC. 2. Several behavioral and organizational variables are important to explain cross-sectional variation in ABC success, particularly top management support, link to competitive strategies, link to performance evaluation and compensation, training, ownership by non-accountants, and adequate resources. 3. These implementation variables are used in patterns that can be interpreted as behavioral and organizational implementation strategies. 4. ABC success is not significantly associated with the use of four technical implementation variables,

specifically canned software, custom software, external consultants, and stand-alone versus integrated system.

An exploratory research was conducted and questionnaire addressed to 'Accounting Manager' was mailed to firms to collect information. Pearson Correlation Co-efficient test was done to understand the relationship between the independent and dependent variable and Multiple Regression analysis was done to examine which of the independent variable had a statistically significant relation with ABC success.

Anderson (1995) studied the technical and organizational impact of management accounting system changes that emerges with company's adoption of ABC. This study provides a structured account of experimentation with, and adoption and adaptation of ABC in General Motors Corporation (United States) from 1986 to 1993. From this case, the paper develops a framework for evaluating ABC implementation and about factors that influence implementation. This study employs an exploratory case study along with interviews, archival records and direct observation methods to develop a framework of cost management system change. From this study one can conclude that the theory of ABC implementation that emerges is one of an evolutionary sequence of implementation stages that are influenced by socio-technical factor.

Cagwin and Vinson (1997) investigated the extent to which internal auditors are involved with ABC design and implementation, the extent of their auditing of operating ABC systems, and the conditions under which internal auditors' involvement in the implementation of ABC occurs. Questionnaires were issued to a sample of 1,058

members of the Institute of Internal Auditors (IIA) who are actively practicing in private industries. Of which 204 useable questionnaires was returned generating a response rate of 19.28%. Parametric (t) and nonparametric (Wilcoxon sign-rank) tests were used to analyze the data obtained through the questionnaire. Twenty-three percent reported that they are significant users of ABC, with another nine percent in the process of implementation. Little involvement of internal auditors with ABC was found. There is a strong theoretical basis for involvement by internal auditors, but they seem to be “missing the boat.” Existing internal auditor involvement appears to be driven by the company resources devoted to ABC through top management support, training, and non-accounting ‘ownership’ of the ABC system.

Sohal and Chung (1998) conducted two case studies on the implementation of ABC. The first case is on a company based in Melbourne, Australia, which manufactures engineering components. The second case study is on a specialty Chemicals Company based in Hong Kong. The case studies discuss the introduction of ABC and the benefits and problems experienced during implementation in each company. Based on the experiences of the two companies, factors critical to successful implementations of ABC systems are identified. It is clear from the two case studies presented that ABC offers substantial benefits over conventional accounting systems. However, it has a relatively low up-take amongst organizations. Many of the problems and difficulties associated with introducing ABC are related to managerial aspects rather than the technical aspects of the ABC system. Based on the case study experiences, the following are identified as key ingredients for successful implementation of ABC:

- Total commitment from top management. They must understand the benefits that ABC offers the organization and must get involved in setting realistic and achievable objectives.
- The establishment of a multi-disciplinary project team to introduce and implement the ABC system in the organization. The team members must be co-operative and share similar values and attitudes.
- Education and training of all people in the organization to understand the complexity of the project and its impact on the organization.
- Adequate resource allocation to the ABC project.
- Access to outside expertise, particularly when new concepts and software are being developed. The expertise available at the local university can be invaluable.
- On-going feedback to top management and lower level employees on the progress of the ABC project.
- Keeping the implementation as simple as possible, perhaps introducing it as a pilot project initially.

A number of potential reasons for failure are also identified from the two case studies:

- Employee resistance/skepticism, particularly where education and training has been inadequate or where other major organizational changes are also taking place.
- The ABC project seen as an 'accounting' project by other functional managers.
- Underestimating the cost of data gathering.
- Shortage of appropriate resources, particularly people skills.

Other reasons for failure include too much reliance on outside consultants, politics within the organization and letting the project drag on.

Marchesi (2001) conducted a survey to understand the use of ABC by major companies in Thailand focusing only on industrial firms as it was obvious from the preliminary enquiry conducted by the researcher that service industries and public enterprises did not use ABC. The study also revealed that firms in Thailand are only familiar with ABC and a majority of them do not use it. Analysis of data further revealed that only small percentage (12%) of Thai manufacturing companies is using ABC. Though these companies have experienced various levels of commitment from top management and/or resistance from employees, their overall evaluation of ABC was favorable. The researcher further understood that majority of companies in Thailand do not use ABC mostly because of their lack of knowledge or understanding of this approach. They envision ABC as a total new costing system rather than as a refinement of their current cost system. Hence, many companies have opted not to use ABC because of the additional costs in implementing it without considering the potential benefits. Data was collected with a survey questionnaire administered to the Chief Financial Officer or the corporate controllers of top one hundred and five industrial companies sourced from the Thai Federation of Industries.

Morakul and Wu (2001) found that because of cultural differences, successful accounting techniques and practices in one country need to be modified for effective use in another country. Thailand's accounting techniques and practices are adopted from

those in more developed countries, mainly from United States. This practice may lead to difficulties in their implementation. Using a comparative case study this research examines the effects of cultural differences on the resistance against the ABC system in the Electricity Generating Authority of Thailand, the Provincial Electricity Authority and the Metropolitan Electricity Authority - the three largest state enterprises in Thailand. The model developed for this study is derived from Brewer's model which posits that cultural dimensions have significant impact on the resistance level when a firm attempts to implement an activity-based cost management system (ABCMS). Data was collected from documentation reviews, qualitative interviews, and questionnaires. Regression analysis was conducted on the data to test the hypotheses.

Chongruksut (2002) examined the relationship between the adoption of ABC by firms based in Thailand and the Thai economic crisis (1997) through theoretical models of organizational learning and the relationship between the implementation of ABC and the philosophy of organizational learning. The research model in this study is developed from Hurst's (1995) and Argyis' (1999) theoretical models of organizational learning. The research methodology is a mix of quantitative and qualitative methods. A mail questionnaire survey was considered an appropriate method for this study. The sample was selected from firms listed on the Stock Exchange of Thailand (SET) that operate in the Bangkok region (292 firms). 101 questionnaires were returned, generating a 34.59% response rate. Furthermore, the structured interviews with a self-selecting sub-sample were conducted to supplement the survey data. Out of 101 respondents, twelve firms had implemented ABC, forty eight firms had not implemented ABC and two firms abandoned

ABC system. To better understand ABC system the researcher interviewed twelve firms. The quantitative data were processed using a SPSS program and the qualitative data gathered from the interviews were analyzed using content analysis.

For the quantitative data analysis, to investigate whether or not there is significant difference in the degree of ABC adoption before and after the crisis chi-square test was used. ANOVA was used to examine differences of means of more than two groups at a time. The compared mean t-test technique was used to compare between the perceived reasons for implementing ABC by users and abandoners.

The results show that the economic crisis was a significant variable forcing Thai firms to build organizational learning, in terms of the reorganization or the adoption of innovations, including ABC, for their survival. Due to the changed environment, such as increased competition or growing costs, and the inability of the traditional cost systems to provide information in the new environment, several Thai firms had adopted and implemented ABC in response to the changed environment. This finding also revealed that the adoption of ABC promoted Thai firms' organizational learning in the double-loop mode, which enables an organization to survive in the rapidly changed environment.

Beaulieu and Lakra (2002) stated that textbook authors and publishers face a difficult decision regarding coverage of ABC. ABC could be presented in strictly positive terms because it enjoyed immense popularity when it was introduced in the 1980s, and it is still presented in favorable terms in practitioner journals. On the other hand, it is possible to criticize ABC on practical and theoretical grounds. Hence this study describes the practical and theoretical material supporting criticism of ABC that is available to be

cited by textbook authors and review coverage in five Canadian editions of management and cost accounting textbooks. Five criteria for evaluating coverage of criticism, all based on the practical and theoretical sources of criticism were identified and reviewed among five most common text books in Canada which are as follows:

Three management accounting books:

- Management Accounting: Concepts for Planning, Control, Decision Making (5th Canadian ed.) by Garrison, R. et al. (2001).
- Management accounting (5th Canadian ed.) Hansen, D. et al. (2001).
- Management accounting (4th Canadian ed.) Horngren, C. et. al. (2002).

Two cost accounting textbooks were reviewed:

- Cost Management: Strategies for Business Decisions (1st Canadian ed) Hilton, R. et al. (2001).
- Cost Accounting: A Managerial Emphasis (2nd Canadian ed) Horngren, C. et al. (2000).

2.3 Activity Based Costing

Today, another cost accounting system, equally revolutionary and equally significant, is beginning its ascent. This new system, called Activity Based Costing (ABC), was developed to understand and control indirect costs. Yet it does much more than just that (O'Guin, 1991), it tells executives what triggers costs and how to manage

them. ABC provides information that makes estimating and quoting more precise and reliable (Albert, 1998) for strategic and other decisions (Garrison and Noreen, 2003).

In essence, ABC is a way to link costs with activities and link activities with the jobs or products that caused the activities. That way, all costs are divided up and directed to the appropriate job or product, not just the costs that are obvious or easy to link. By linking activities with jobs or products, the cost of these activities can be more precisely allocated to the appropriate jobs or products.

Figure 2.1 Concept of Activity Based Costing.



Source: O'Guin (1991). The Complete Guide to Activity Based Costing.

The underlying concept of ABC as shown in figure 2.1 is that the jobs, services, or products provided by a shop create activities and those activities create costs. All of the costs which are not directly attributable to these jobs, services or products must be associated with the activities that make them necessary. Then each activity's accumulated costs must be associated with the jobs, services or products that make them necessary and then the accumulated costs must be distributed among the jobs by some logical basis—a formula or rate (O'Guin, 1991).

ABC addresses deficiencies in the traditional cost accounting systems. It is a process of simplifying and clarifying decisions required by the process evaluators and

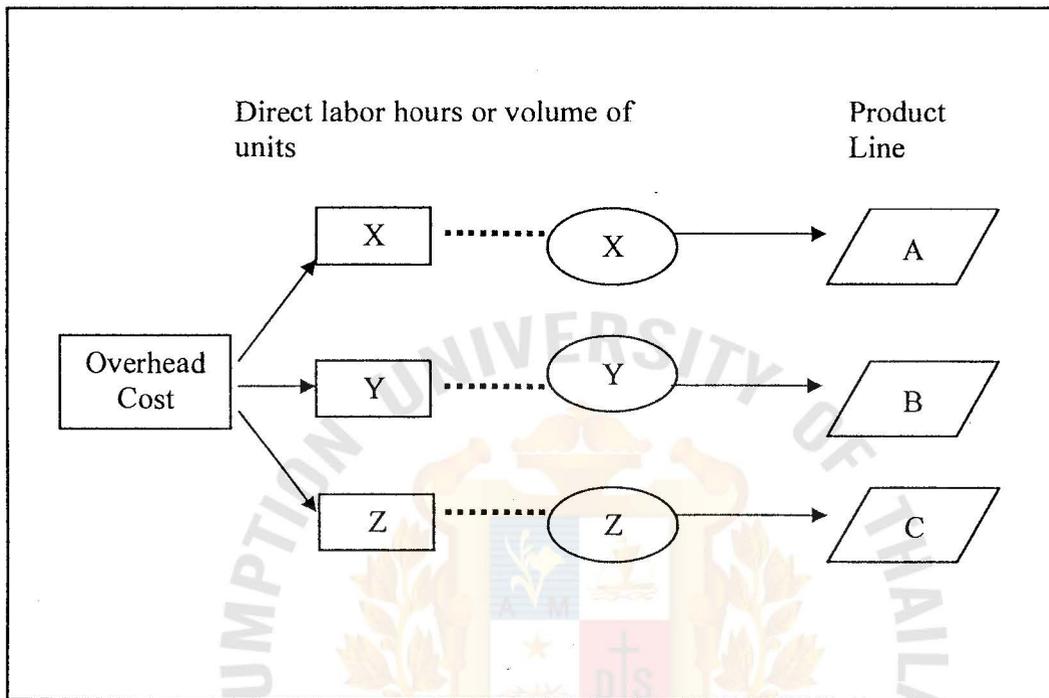
senior management using activity costs rather than gross allocations. It is a system which dispels the myth that all costs can be recovered by products or services merely by charging overheads on the basis of an arbitrarily derived charge out rate (Williamson, 1996). Moreover, Activity-based costing gives a more accurate picture of output costs by tracing overhead cost through the activities that are actually used to produce the output (Cooper and Kaplan, 1991).

As an organization's product and customer mix becomes more diverse, the assignment of overhead expenses becomes grossly misleading, distorting the costs of individual products/services. As a result, many manufacturing organizations have cost systems which can support financial reporting, but provide distorted informations about the individual products. This sends the wrong signal to decision makers.

Cooper describes two stages in any ABC model. In the first stage, costs are assigned to cost pools within an activity center, based on a cost driver. There is no equivalent step in a traditional costing approach. In the second stage, costs are allocated from the cost pools to a product based on the product's consumption of the activities this stage is similar to a traditional costing approach except that the traditional approach uses solely volume related characteristics of the product without consideration for non-volume related characteristics. Some examples of cost drivers not related to volume include setup hours, number of setups, ordering hours, and number of orders. Allocating non-volume related costs using volume based methods distorts the product costs (Roztocki, 2004). The difference between traditional and Activity Based Costing method is shown in figure 2.2 and 2.3.

Figure 2.2 Traditional costing

(Overhead cost allocated at standard overhead rates)

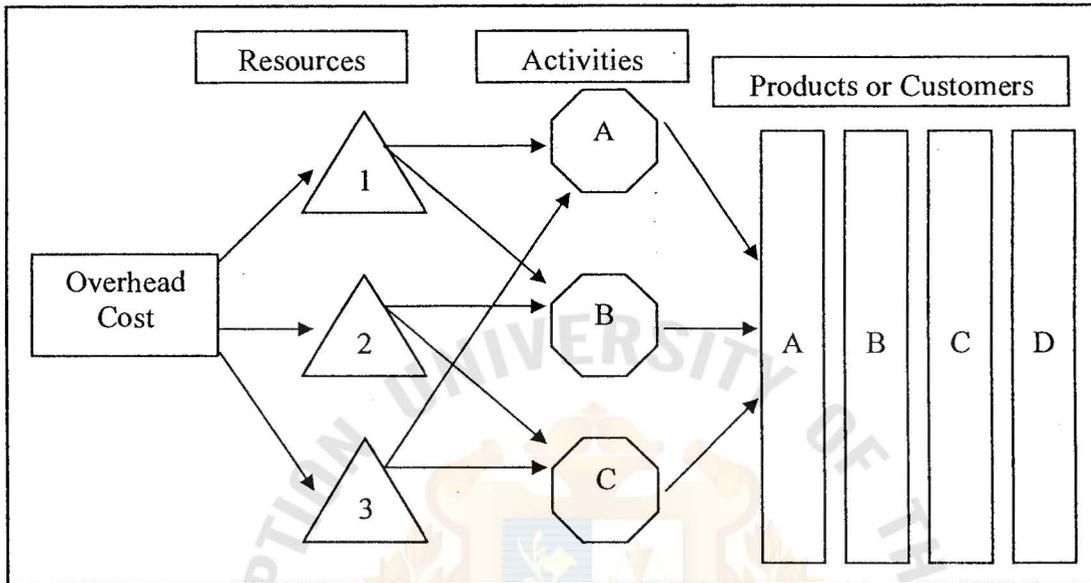


Source: Sethuraman (2002). Bulletin on Activity Based Costing. Issue 2.

ABC can be used in any type of organization. It is useful though, when an organization has complex transfer pricing issues, high indirect costs and shared processing stations (Sethuraman, 2002).

Figure 2.3 Activity based Method of costing

(Overhead cost allocated based on activities and resources)



Source: Sethuraman (2002). Bulletin on Activity Based Costing. Issue 2.

Benefits of ABC

Activity based costing (ABC) has emerged as an alternative to conventional costing systems. Activity-Based Costing (ABC) is a cost accounting system used by countless private-sector companies today, cross-cutting a variety of industries including manufacturing, telecommunication, financial services, and technology².

ABC differs from conventional costing in its treatment of non-volume related overhead costs. Many significant overheads are related to specific activities which are relatively independent of production volume. For example, the purchasing overhead may be related to the number of purchase orders. It is the volume of such activities (not the

² <http://www.dod.mil/comptroller/icenter/learn/abconcept.pdf>. Last retrieved on 12/07/03.

volume of production) which consume resources and therefore determine the overhead cost. These activities drive the overhead costs and ABC uses such activities for both production costing and process control (Sohal and Chung, 1998).

ABC assigns cost to products or customers based on the resources they consume. The system identifies the cost of activities such as setting up a machine, receiving raw material, and scheduling a job. ABC then traces these activities to a particular product or customer that triggers the activity. Overhead costs are traced to a particular product rather than spread arbitrarily across all products. In turn, management can learn to control cost (O'Guin, 1991).

Most of the firms implement ABC because (Swenson and Dan, 1995):

- It is a system for planning.
- Reflects the company's best estimate of what it will cost to produce product in the future.
- More accurate product costing
- Better cost management
- Better cost control
- Better allocation of overheads and
- More accurate cost information.

ABC debunks the myth of fixed costs. Using today's cost accounting system accountants assume many costs are fixed because they do not understand how to control these costs. However, costs are only fixed over a given time horizon. Over the long term all costs are variable- if one understands what creates the cost. This is the essence of

business strategy making all costs work to the firm's advantage. ABC allows one to identify the policies, systems, or processes that trigger activity thereby creating cost. ABC, by ferreting out what really drives costs, allows reducing the fixed costs such as sales force expense, engineering, planning and depreciation. ABC by identifying the triggers that creates activities, how these activities create cost allows a company to take control of its cost and destiny (O'Guin, 1991).



Chapter III

Research Framework

This chapter describes the theoretical framework, the conceptual framework, research hypotheses and operationalization of the variables.

3.1 Theoretical Framework

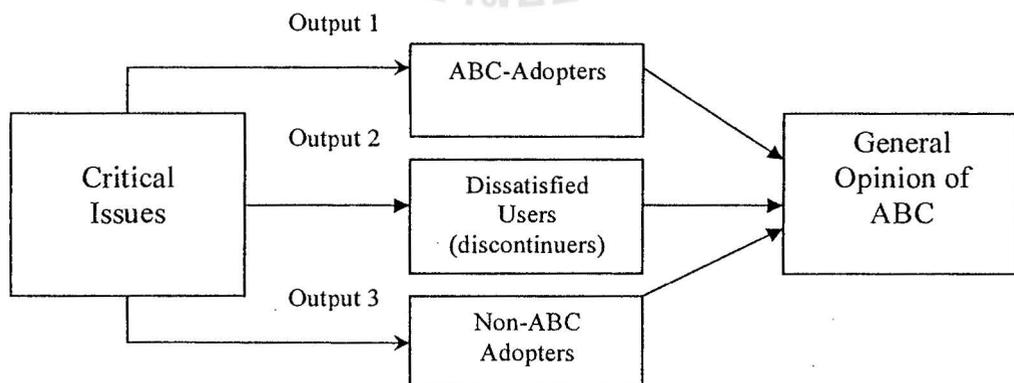
The theoretical framework refers to the theories being used as a basis or reference for the study which are drawn from the literature. A theory is a coherent set of general propositions, used as principles of explanation of the apparent relationships of certain observed phenomena. Theory development is essentially a process of describing phenomena at increasingly higher levels of abstraction (Zikmund, 2003). The base for forming this theoretical framework is adapted from Tatikonda (2003).

According to Tatikonda (2003) Activity Based Costing (ABC) is many times described as the modern Swiss Army knife and nothing better than a glorified cost allocation method. This article informs that over the past two decades ABC, a cost management system designed to reduce product cost distortion caused by traditional cost accounting systems. But as the dust settles down the degree of satisfaction of ABC vary widely. ABC is a cost system of linked components including Informational, Ownership, Technical, Behavioral, Financial, Competitiveness, and Managerial Issues together know as Critical Issues. Failure to address these issues ahead of time may result in abandoning ABC projects before completing them.

Figure 3.1 illustrates the theoretical model. There can be three outcomes because of critical issues. The first outcome is ABC-Adopters. This outcome is possible when firms successfully implement ABC. In this case the firm overcomes all the critical issues. The second outcome is dissatisfied users. These are those firms who tried to implement ABC but due to various reasons could not outweigh the critical issues and hence had to abandon the implementation process half way, or this could also include those firms who successfully implemented ABC but could not carry it forward. The last outcome is Non-ABC Adopters. This slot includes those firms who have never thought of implementing ABC. These firms are happy with their current cost system and don't feel the need to go through the pain of implementing ABC. This section also includes those firms who want to implement ABC but are not confident of overcoming the critical issues.

The ultimate result of all these outcomes will give a general opinion of ABC in a region, state or country. This opinion could be favorable or un-favorable depending on the strength of the firms to overcome the critical issues in that particular country.

Figure 3.1 Theoretical Model

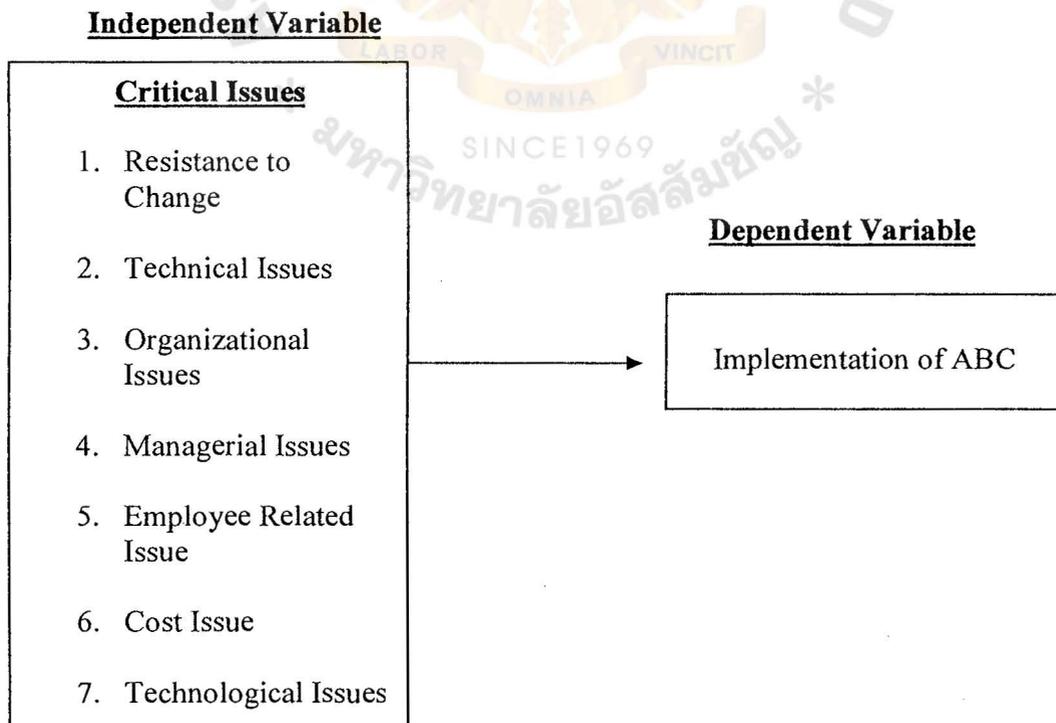


Source: Tatikonda (2003). The National Public Accountant.

3.2 Conceptual Framework

A concept is a generalized idea about a class of objects, attributes, occurrences, or processes. Concepts are the basic units of theory development. However, theories require an understanding of the relationship among concepts. Thus, once reality is abstracted into concepts the researcher is interested in the relationship among various concepts (Zikmund, 2003). The conceptual framework is designed based theoretical framework mentioned above. The conceptual framework is comprised of seven independent variables, which are resistance to change, technical problems, organizational problems, managerial problems, employee related problems, cost issue, technological problems. These independent variables give rise to the dependent variable that is, implementation of ABC. The conceptual framework is graphically depicted in figure 3.2.

Figure 3.2: Conceptual Framework



3.3 Research Hypothesis

Hypothesis is an unproven proposition or supposition that tentatively explains certain facts or phenomena (Zikmund, 2003). The following are the hypothesis statements for this study.

Hypothesis Statements:

H₀₁: There is no relationship between a firm's resistance to change and implementation of ABC.

H_{a1}: There is a relationship between a firm's resistance to change and implementation of ABC.

H₀₂: There is no relationship between a firm's technical issues and implementation of ABC.

H_{a2}: There is a relationship between a firm's technical issues and implementation of ABC.

H₀₃: There is no relationship between a firm's organizational issues and implementation of ABC.

H_{a3}: There is a relationship between a firm's organizational issues and implementation of ABC.

H₀₄: There is no relationship between a firm's managerial issues and implementation of ABC.

H_{a4}: There is a relationship between a firm's managerial issues and implementation of ABC.

H₀₅: There is no relationship between a firm's employee related issues and implementation of ABC.

H_{a5}: There is a relationship between a firm's employee related issues and implementation of ABC.

H₀₆: There is no relationship between a firm's cost issues and implementation of ABC.

H_{a6}: There is a relationship between a firm's cost issues and implementation of ABC.

H₀₇: There is no relationship between a firm's technological issues implementation of ABC.

H_{a7}: There is a relationship between a firm's technological issues implementation of ABC.

H₀₈: There is no relationship between critical issues and implementation of ABC.

H_{a8}: There is a relationship between critical issues and implementation of ABC.

3.4 Operationalization of the Independent and Dependent Variable

According to Zikmund (2004), a concept must be made operational in order to be measured. An operational definition gives meaning to a concept by specifying the activities or operations necessary to measure it.

The conceptual definition, operational components and level of measurement of each variable is shown in Table 3.1.



Table 3.1 Operationalization of the Independent and Dependent Variable

Concept	Conceptual Definition	Operational Component	Level of Measurement	Question .no
Resistance to change	Traditionally, resistance in an organization has been cast as adversarial - the enemy of change that must be defeated if change is to be successful. Resistance level indicates the employee's willingness to use the new system.	<ul style="list-style-type: none"> • Resistance from firm's employees and other management. • Communication, commitment and co-operation. • Fear of losing power. • Organizational culture and mindset. 	Interval	Q.1- Q4
Technical Issues	This includes problems such as choice of cost drivers, accuracy and complexity of cost drivers.	<ul style="list-style-type: none"> • The extent of knowledge of data requirement and collection. • Cost drivers • The degree of integration of the old costing method and ABC. • Identifying activities. 	Interval	Q5-Q8
Organizational Issues	These are the problems organizations face when change is initiated. These problems usually change the political landscape of organizations.	<ul style="list-style-type: none"> • Change current policies, and strategies. • Cost structure • Internal resource • Responsibility and authority of ABC system. 	Interval	Q9-Q12

Managerial Issues	These are the problems that managers face when a change is initiated. Lack of managerial commitment is often the primary reason for failure of any major project.	<ul style="list-style-type: none"> • The extent of top management support and commitment. • Higher priority to other changes/projects. • Need for change is not justified. • No long term focus. 	Interval	Q13-Q16
Technological Issues	Firms can buy software off-the shelf or can design it in-house. But there are many factors that affect its success.	<ul style="list-style-type: none"> • Lack of software package. • Complexity and compatibility of the new software. • Computer staff will have to spend more time to adjust to the new software. • Maintenance cost 	Interval	Q17-Q20
Employee Related Issues	When a new concept is being introduced employees may resist changes that question their current practices and may directly impact their performance.	<ul style="list-style-type: none"> • Degree of employee participation. • Extent of performance evaluation. • No compensation system. • Too complicated. 	Interval	Q21-Q24
Cost Issue	Nothing frustrates managers more than cost overruns. Failure to understand the nature and magnitude of costs could stop any implementation before they are fully developed and implemented.	<ul style="list-style-type: none"> • High consultation cost. • New manpower • High re-training cost. • Costs exceed expected benefits. 	Interval	Q25-Q28
Implementation of ABC	Using ABC in organizations as a cost accounting technique.	<ul style="list-style-type: none"> • Non-ABC Adopter • ABC Adopter 	Interval	Q VIII

Chapter IV

Research Methodology

This chapter is a link between the research framework and the results of the data analysis reported in the next chapter. The purpose is to explain the type of research method used to test the hypotheses, the respondents to whom the research is aimed to conduct the survey, the sampling procedures used, and the questionnaire which is used to conduct the survey, the method of data collection and lastly the statistical treatment for the data obtained through the questionnaire.

4.1 Method of Research Used.

Descriptive Research: the research used in this study is a descriptive research. The purpose of descriptive research is to describe the characteristics of a population phenomenon (Zikmund, 2004). Descriptive research assumes that the researcher has much prior knowledge about the problem situation. In fact, a major difference between exploratory and descriptive research is that descriptive research is characterized by the prior formulation of specific hypotheses. Hence descriptive research is preplanned and structured (Malhotra, 2004).

In order to accomplish the research objective, the researcher applied as survey research technique (Davis, 1996). Survey method was used because this method allows the researchers to study and describe large populations fairly quickly and at a relatively low cost. Surveys usually use a questionnaire to collect data from the relevant unit of analysis under study (Davis, 1996).

Based on the survey information, the researcher then decides to use structured self-administered questionnaires. The questionnaires will help researcher to know exactly what information is needed. A questionnaire with close-ended questions is used for data collection because it is the most flexible method. Close-ended questions help respondents to make quick decisions by making a choice among several alternatives.

4.2 Respondents and Sampling Procedures

Respondents of the Study

According to Malhotra (2004) target population is defined as the collection of element or objects that possess the information sought by the researcher and about which inferences are to be made. This study's focus was to understand why firms in Bangkok hesitate to implement ABC by firms located in Bangkok area. Therefore the target population of this study was firms located in Bangkok.

Sampling unit

The populations of this study were firms based or located in Bangkok. This list would include both listed and non-listed firms. Hence the researcher has used two sampling units which were as follows:

1. The first group of firms was those listed on the Stock Exchange of Thailand under the industry groups- Consumer products, Financials, Industrials, Resources, Services and Technology, based in Bangkok. There were a total of 233 firms based in Bangkok under the above group. The main reasons to choose companies listed on the Stock Exchange of Thailand (SET) was because these were large-

sized firms that should have greater resources available for investment in new systems, such as ABC, and a vast amount of data about them is available from the Stock Exchange of Thailand.

2. The second group includes, working evening program Masters Students studying at Assumption University (ABAC) whose offices are based in Bangkok. These students were considered as representatives of their firms. Two main reasons for choosing ABAC was, 1. The researcher is familiar with many students and faculty, and 2. Good English speaking population.

Sampling Procedure

This study has adopted a mix of both probability and non-probability sampling.

For the first sampling unit: Firms listed on SET.

To initiate a sample the researcher has followed a probability sampling technique in which every member of the population has a nonzero probability of selection. Under this method the researcher has followed a simple random sampling procedure. This method assures each element in the population an equal chance of being included in the sample (Zikmund, 2003). A list of firms under the six industry groups from the Thai Stock Exchange was gathered. There were 233 firms which belong to this group and based in Bangkok. Questionnaires were sent by post to all the 233 firms.

For the second sampling unit: Working Masters Program students at Assumption University.

In this case the researcher has followed a non-probability sampling technique in which units of sample are selected on the basis of personal judgment or convenience. The

probability of any particular member of the population being chosen is unknown. Under the non-probability method the researcher has followed a convenience sampling, which is a procedure used to obtain units or people who are most convenient and also economical. This method is used to obtain completed questionnaires quickly and economically (Zikmund, 2003). A total of 106 questionnaires were issued.

4.3 Research Instrument/Questionnaire

The instrument used for this survey research was a questionnaire. A questionnaire is a preformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives. Questionnaires are an efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variables of interest (Sekaran, 2003).

Mailed questionnaire is interrogation using a written questionnaire delivered by mail. The advantages of mailed questionnaire are flexibility at a low cost, respondent anonymity, confidentiality, and leisureliness of response makes this method an attractive data collection mechanism. However there are problems. Response rates can run as low as 10 to 15% and data collection can be very slow (Davis, 1996).

All questions were shown in closed form because the closed questions have guidance of answers that may encourage the respondents to have more interest in answering the questionnaire.

The covering page of the questionnaire briefly explains what is meant by Activity Based Costing (ABC), who can be called a non-adopter of ABC and adopter of ABC. The questionnaire here tries to divide the respondents into two categories such as non-

adopter of ABC and adopter of ABC. If a firm falls under the category of non-adopters of ABC then they will have to answer only Section-I of the questionnaire. If they fall under the category of adopter of ABC, then they have to answer Section-II only.

Both Section-I and Section-II, have seven main issues (same questions are asked in both the sections) namely- Resistance to change, Technical issues, Organizational issues, Managerial issues, Technological issue, Employee related issues and Cost issues. Each issue had four questions for which interval scale was used. Table 4.1, shows a series of seven-point scale items used to measure the response.

Table 4.1 shows a series of seven-point scale items

Scoring Criteria	
Strongly disagree	1
Disagree	2
Partially disagree	3
Neutral	4
Partially agree	5
Agree	6
Strongly agree	7

Some of the questionnaire items were developed from existing studies such as Chongruksut, 2002; Tatikonda, 2003; Shields, 1995; and Marchesi, 2000; as they proved to be reliable. In addition the researcher has also added questions which are considered to be suitable for this study.

4.4 Collection of Data/Gathering Procedures

Data gathered for this research study is primary data alone, which was collected by using questionnaires in order to discover the real and exact outcome. The collection of primary data consisted of three steps.

First a list of firms which were listed in the Stock Exchange of Thailand (SET) under the industry groups- Consumer products, Financials, Industrials, Resources, Services and Technology who are based in Bangkok was sourced.

Second a total of 233 questionnaires was addressed to 'The Accounting Manager', along with letter from Assumption University which stated that the researcher sought cooperation from the firms for the research study, a covering letter which introduced the researcher, the objective of the study and also an appeal to reply back on date mentioned (two week after the mails were sent) was posted starting from the 1st of July 2004 until the 31st of August 2004. Also to enrich the response rate the researcher enclosed a pre-paid envelope addressed back to the researcher. As suggested by Davis (1996), frequent follow up was also done after a week of issuing the respective questionnaire. When the researcher did not get back the questionnaires on the anticipated dates, the researcher called each firms personally and spoke to the 'Accounting Manager' enquiring the status of the questionnaire. In many cases the researcher had to talk to secretary of the 'Accounting Manager' and reminded them about the questionnaire, and also requested them to reply back as soon as possible. Some of the managers also preferred to have the questionnaire sent to them by e-mail, in those cases e-mail id was noted and e-mails were sent to them. After which a total of 37 questionnaires were received generating a response rate of 15.87%.

Since the response rate was low, the researcher had to chalk out a new plan.

It is very true that only big firms like the ones registered on the Stock Exchange would prefer to implement ABC because of the resources available at disposal and the strong drive to implement change that would give additional competitive advantages, Roztocki (2004) has written an article in which the author claims that it is not only big firms but also small companies can smoothly switch from a traditional costing system to ABC, this paper focuses on small company (less than 100 employees) for which the standard implementation of ABC is too expensive and complex. Hence these firms too will face the same implementation problems of ABC (critical issues) that the big firms faced. Hence the researcher thought it to be appropriate to issue questionnaire to firms that were not listed on the SET.

Thereby as a third step, the researcher targeted evening program graduate students (Appendix C contains the list of evening programs for graduate students) who were working or had prior work experience and other working students who volunteered to get the questionnaire filled in by their respective accounting managers. These students were considered as the representatives of their organizations. The researcher personally went to each of the evening classes and issued questionnaire first on a priority basis to students who are working in the 'Accounting Department' and then to others who could get the questionnaire filled in by personnel working in the 'Accounting Department' from their respective firms. A total of 106 questionnaire were given out, of which 57 replies were received generating a response of 60.63 %.

Appendix 'D' shows the 94 firms from whom replies were received. It includes both the firms listed on the SET and non-listed ones.

4.5 Statistical Treatment of Data

After the data was collected, the data was coded and analyzed by using Statistic Package for the Social Science (SPSS).

The form of data presentation from these procedures would also be presented in an easily interpreted format. In order to predict values for a criterion variable (dependent variable) from the response for several predictor variables (independent variable), Pearson Correlation coefficient is used for hypothesis. The information will be summarized and interpreted as follows:

4.5.1 Descriptive Statistics

One of the statistics model applied in this research will be descriptive statistics. It is a method used including the collection, presentation and characterization of a set of data in order to properly describe the various features of the information collected (Siegel and Morgan, 1996). Descriptive statistics is an efficient means of summarizing the characteristics of the data collected. The results of the analysis are then displayed on tables, graphs and pie charts.

4.5.2 Inferential Statistic

From inferential statistics one can draw inferences from a sample to the population. In other words it tells how variables relate to one another, whether there any differences between two or more groups and the like (Sekeran, 2003). The method used was Pearson Correlation analysis.

Pearson Correlation Analysis

The test of hypothesis 1 to 7 was conducted utilizing bivariate correlation statistics, which is appropriate to measure association between two variables at a time. When the data collected possess the properties of interval measurement, the appropriate indicator of association between the two variables is the Pearson's correlation coefficient. The Pearson correlation coefficient can be used to establish the strength of the relationship, and also help the researcher determine the direction (positive or negative) of the relationship. Its limits are -1 to 1 (Davis, 1996). Interpretation of correlation is shown in Table 4.2. The following is the formula to determine the numerical value of the coefficient of correlation (Siegel and Morgan, 1996):

$$r = \frac{n (\sum XY) - (\sum X) (\sum Y)}{\sqrt{[n (\sum x^2) - (\sum x)^2] \times [n (\sum Y^2) - (\sum Y)^2]}}$$

- where:
- n = the number of paired observations,
 - $\sum X$ = the X variable summed,
 - $\sum Y$ = the Y variable summed,
 - $(\sum x^2)$ = the X variable squared and the squares summed,
 - $(\sum x)^2$ = the X variable summed and the sum square,
 - $(\sum Y^2)$ = the Y variable squared and the squares summed,
 - $(\sum Y)^2$ = the Y variable summed and the sum square,
 - $(\sum XY)$ = the sum of products of X and Y.

Table 4.2 Interpretation of correlation

Coefficient Range	Interpretation of correlation
1.00	High positive correlation
0.95	Strongly positive correlation
0.50	Moderate positive correlation
0.10	Weak positive correlation
0.00	No correlation
-0.10	Weak negative correlation
-0.50	Moderate negative correlation
-0.95	Strongly negative correlation
-1.00	High negative correlation

Source: Siegel and Morgan, (1999). Statistics and Data Analysis. An Introduction (2nd ed.).

The eight hypotheses shown in Table 4.3 were tested using 5% level of significance. The reject-accept criteria are as follows:

ACCEPT H_A

If the P-value of the coefficient ≤ 0.05

ACCEPT H₀

If the P-value of the coefficient ≥ 0.05

The following table shows the statistical treatment for each of the hypothesis.

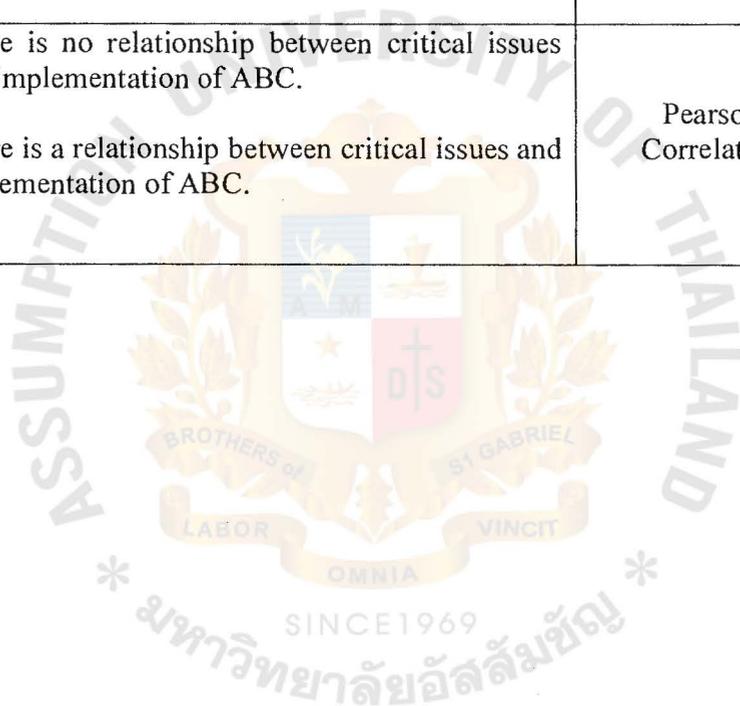
Table 4.3 Statistics Method for hypotheses testing

Hypothesis	Hypothesis statement	Statistical Test
Ho ₁ Ha ₁	There is no relationship between a firm's resistance to change and implementation of ABC. There is a relationship between a firm's resistance to change and implementation of ABC.	Pearson Correlation
Ho ₂ Ha ₂	There is no relationship between a firm's technical issues and implementation of ABC. There is a relationship between a firm's technical issues and implementation of ABC.	Pearson Correlation
Ho ₃ Ha ₃	There is no relationship between a firm's organizational issues and implementation of ABC. There is a relationship between a firm's organizational issues and implementation of ABC.	Pearson Correlation
Ho ₄ Ha ₄	There is no relationship between a firm's managerial issues and implementation of ABC. There is a relationship between a firm's managerial issues and implementation of ABC.	Pearson Correlation
Ho ₅ Ha ₅	There is no relationship between a firm's employee related issues and implementation of ABC. There is a relationship between a firm's employee related issues and implementation of ABC.	Pearson Correlation

Ho ₆	There is no relationship between a firm's cost issues and implementation of ABC.	Pearson Correlation
Ha ₆	There is a relationship between a firm's cost issues and implementation of ABC.	
Ho ₇	There is no relationship between technological issues and implementation of ABC.	Pearson Correlation
Ha ₇	There is a relationship between technological issues and implementation of ABC.	
Ho ₈	There is no relationship between critical issues and implementation of ABC.	Pearson Correlation
Ha ₈	There is a relationship between critical issues and implementation of ABC.	



Ho ₆	There is no relationship between a firm's cost issues and implementation of ABC.	Pearson Correlation
Ha ₆	There is a relationship between a firm's cost issues and implementation of ABC.	
Ho ₇	There is no relationship between technological issues and implementation of ABC.	Pearson Correlation
Ha ₇	There is a relationship between technological issues and implementation of ABC.	
Ho ₈	There is no relationship between critical issues and implementation of ABC.	Pearson Correlation
Ha ₈	There is a relationship between critical issues and implementation of ABC.	



Chapter V

Data Analysis

This chapter covers the analysis of the collected primary data from 94 questionnaires from the target respondents. The data analysis part can be divided into two main sections. The first section explains the descriptive statistics in the form of tables and graphs, and the second section is the inferential statistics, the hypothesis testing between the dependent and independent variable.

5.1 Descriptive Analysis

Descriptive statistics is an efficient means of summarizing the characteristics of large set of data, which can be presented in frequency table. For the purpose of analyzing the data, the analysis of descriptive statistics is segmented as follows:

5.1.1 Profile of sample

The following pie chart (Figure 5.1) shows the number of firms that have implemented Activity Based Costing (ABC) and those who have not implemented ABC.

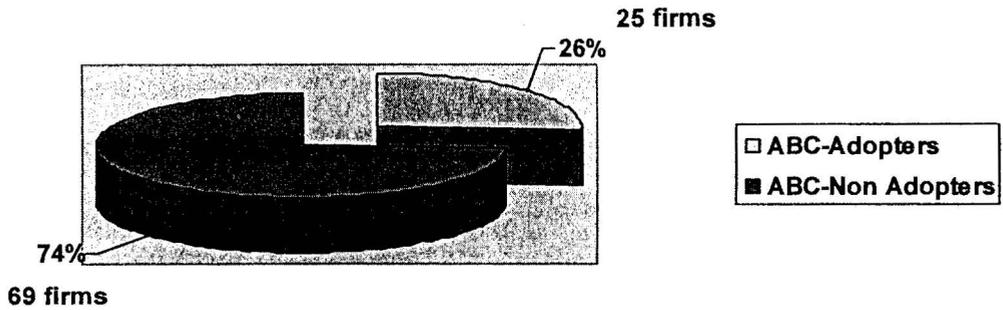
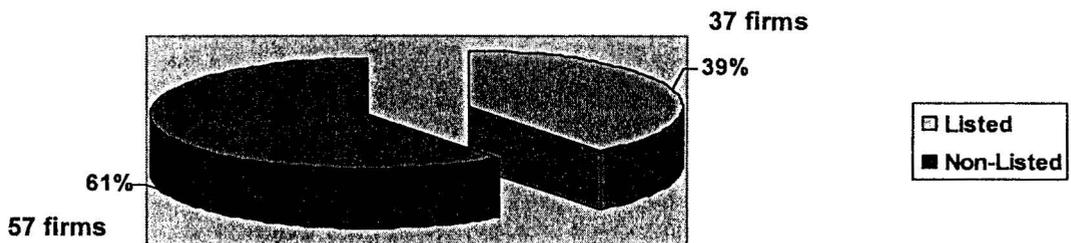


Figure 5.1 Classifications of Respondents

As shown in the above pie chart (Figure 5.1) out of a total of 94 firms, 25 firms had implemented ABC, and 69 firms have not implemented ABC. This shows majority of firms have still not implemented ABC in Bangkok. This finding is consistent with Marchesi (2001).

Figure 5.2 Classification of firms

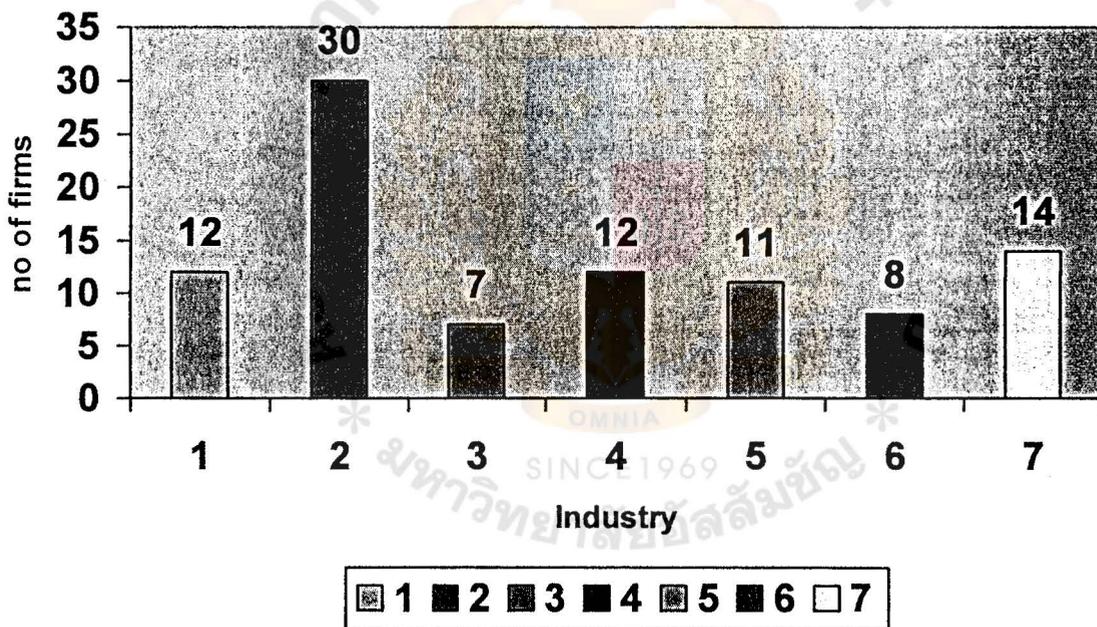


The above pie chart (Figure 5.2) shows that out of the 94 firms 39% (37 firms) of the firms were listed on The Stock Exchange of Thailand (SET) and 61% (57 firms) of firms were not listed on the SET.

5.1.2 Classification of the firms as per industries

The following graph classifies the respondents industry wise.

Figure 5.3 Classification of respondents as per industry



The above graph (Figure 5.3) depicts the response to the questionnaire as per industrial sector along with the number of firms, where 1= Industrial sector, 2= Services sector, 3= Technological sector, 4= Financial sector, 5= Resources, 6= Consumer products sector, 7= others. Total of 94 questionnaires were returned back.

5.1.3 Classification of ABC-Adopters

Table 5.1 Classification of ABC-Adopters as per industries

Industry Type	No. of firms
Industrials	4
Services	15
Financials	3
Technology	0
Resources	0
Consumer Products	1
Others	2
TOTAL	25

From the above findings (Table 5.1) it is clear that ABC is not only suitable for manufacturing firms for which it was invented (O'Guin, 1991) but also for service industries. These findings contradict the findings of Marchesi (2001) who did not consider service industries because from the researcher's preliminary inquiry it was clear that firms in this sector did not use ABC.

5.1.4 Classification of Non-ABC Adopters

Table 5.2 Classification of Non-ABC Adopters as per industries

Industry Type	No. of firms
Industrials	8
Services	15
Financials	9
Technology	7
Resources	11
Consumer Products	7
Others	12
TOTAL	69

5.2 Inferential Statistics

In this section, association between independent variables (Resistance to change, Technical issues, Organizational issues, Managerial issues, Technological issue, Employee's issues and Cost issues) and dependent variable (Implementation of Activity Based Costing) is examined using Statistical Package for Social Science (SPSS). The bivariate correlation is employed to find out the relationship between independent and the dependent variables. The appropriate form of assessing strength of relationship is Pearson Correlation Coefficient (Davis, 1996). The results are explained below.

Hypothesis 1

H₀₁: There is no relationship between a firm’s resistance to change and implementation of ABC.

H_{a1}: There is a relationship between a firm’s resistance to change and implementation of ABC.

Table 5.3 Resistances to Change and Implementation of ABC

Correlations

		RES	do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC
RES	Pearson Correlation	1	.238*
	Sig. (2-tailed)	.	.021
	N	94	94
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	.238*	1
	Sig. (2-tailed)	.021	.
	N	94	94

* Correlation is significant at the 0.05 level (2-tailed).

Significant level (2-tailed test or P-value) is 0.021, which is less than 0.05. Therefore the null hypothesis is rejected.

Correlation coefficient is 0.238*, which means there is positive correlation between these two variables. The symbol * means that the correlation is significant at the 0.05 level under 2-tailed test and the result will by chance, create 5% error.

The result from the table shows that there is weak positive relationship between a firm’s resistances to change and implementation of ABC. Thus, the result of the test

reveals the fact that there is a relationship between a firm's resistances to change and implementation of ABC.

Hypothesis 2

Ho₂: There is no relationship between a firm's Technical Issues and implementation of ABC.

Ha₂: There is a relationship between a firm's Technical Issues and implementation of ABC.

Table 5.4 Technical Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	TECHNIC
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation Sig. (2-tailed) N	1 . 94	.401** .000 94
TECHNIC	Pearson Correlation Sig. (2-tailed) N	.401** .000 94	1 . 94

** Correlation is significant at the 0.01 level (2-tailed).

Significant level (2-tailed test or P-value) is 0.000, which is less than 0.05. Therefore the null hypothesis is rejected.

Correlation coefficient is 0.401**, which means there is positive correlation between these two variables. The symbol ** means that the correlation is significant at the 0.01 level under 2-tailed test and the result will by chance, create 1% error.

The result from the table shows that there is weak positive relationship between a firm's technical issues and implementation of ABC. Thus, the result of the test reveals the fact that there is a relationship between a firm's technical issues and implementation of ABC.

Hypothesis 3

H₀₃: There is no relationship between a firm's Organizational Issues and implementation of ABC.

H_{a3}: There is a relationship between a firm's Organizational Issues and implementation of ABC.

Table 5.5 Organizational Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	ORGN
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.334**
	Sig. (2-tailed)	.	.001
	N	94	94
ORGN	Pearson Correlation	.334**	1
	Sig. (2-tailed)	.001	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

Significant level (2-tailed test or P-value) is 0.000, which is less than 0.05. Therefore the null hypothesis is rejected.

Correlation coefficient is 0.334**, which means there is positive correlation between these two variables. The symbol ** means that the correlation is significant at the 0.01 level under 2-tailed test and the result will by chance, create 1% error.

The result from the table shows that there is weak positive relationship between a firm's organizational issues and implementation of ABC. Thus, the result of the test reveals the fact that there is a relationship between a firm's organizational and implementation of ABC.

Hypothesis 4

Ho₄: There is no relationship between a firm's Managerial Issues and implementation of ABC.

Ha₄: There is a relationship between a firm's Managerial Issues and implementation of ABC.

Table 5.6 Managerial Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	MANG
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.411**
	Sig. (2-tailed)	.	.000
	N	94	94
MANG	Pearson Correlation	.411**	1
	Sig. (2-tailed)	.000	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

Significant level (2-tailed test or P-value) is 0.000, which is less than 0.05. Therefore the null hypothesis is rejected.

Correlation coefficient is 0.411**, which means there is positive correlation between these two variables. The symbol ** means that the correlation is significant at the 0.01 level under 2-tailed test and the result will by chance, create 1% error.

The result from the table shows that there is weak positive relationship between a firm's managerial issues and implementation of ABC. Thus, the result of the test reveals the fact that there is a relationship between a firm's managerial issues and implementation of ABC.

Hypothesis 5

Ho₅: There is no relationship between a firm’s Employee related Issues and implementation of ABC.

Ha₅: There is a relationship between a firm’s Employee related Issues and implementation of ABC.

Table 5.7 Employee Related Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	EMPLO
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.457**
	Sig. (2-tailed)	.	.000
	N	94	94
EMPLO	Pearson Correlation	.457**	1
	Sig. (2-tailed)	.000	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

Significant level (2-tailed test or P-value) is 0.000, which is less than 0.05. Therefore the null hypothesis is rejected.

Correlation coefficient is 0.457**, which means there is positive correlation between these two variables. The symbol ** means that the correlation is significant at the 0.01 level under 2-tailed test and the result will by chance, create 1% error.

The result from the table shows that there is weak positive relationship between a firm’s employees issue and implementation of ABC. Thus, the result of the test reveals

the fact that there is relationship between a firm's employees issue and implementation of ABC.

Hypothesis 6

H₀₆: There is no relationship between a firm's Cost Issues and implementation of ABC.

H_{a6}: There is a relationship between a firm's Cost Issues and implementation of ABC.

Table 5.8 Cost Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	COST
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation Sig. (2-tailed) N	1 . 94	.484** .000 94
COST	Pearson Correlation Sig. (2-tailed) N	.484** .000 94	1 . 94

** Correlation is significant at the 0.01 level (2-tailed).

Significant level (2-tailed test or P-value) is 0.000, which is less than 0.05. Therefore the null hypothesis is rejected.

Correlation coefficient is 0.484**, which means there is positive correlation between these two variables. The symbol ** means that the correlation is significant at the 0.01 level under 2-tailed test and the result will by chance, create 1% error.

The result from the table shows that there is weak positive relationship between a firm's cost issues and implementation of ABC. Thus, the result of the test reveals the fact that there is a relationship between firms's cost issues and implementation of ABC.

Hypothesis 7

Ho₇: There is no relationship between a firm's Technological Issues and implementation of ABC.

Ha₇: There is a relationship between a firm's Technological Issues and implementation of ABC.

Table 5.9 Technological Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	TECHNO
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation Sig. (2-tailed) N	1 . 94	.416** .000 94
TECHNO	Pearson Correlation Sig. (2-tailed) N	.416** .000 94	1 . 94

** Correlation is significant at the 0.01 level (2-tailed).

Significant level (2-tailed test or P-value) is 0.000, which is less than 0.05. Therefore the null hypothesis is rejected.

Correlation coefficient is 0.416**, which means there is positive correlation between these two variables. The symbol ** means that the correlation is significant at the 0.01 level under 2-tailed test and the result will by chance, create 1% error.

The result from the table shows that there is weak positive relationship between a firm's technological issues and implementation of ABC. Thus, the result of the test reveals the fact that there is relationship between a firm's technological issues and implementation of ABC.

Hypothesis 8

H₀₈: There is no relationship between Critical Issues and implementation of ABC.

H_{a8}: There is a relationship between a firm's Critical Issues and implementation of ABC.

Table 5.10 Critical Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	OVERALL
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.545**
	Sig. (2-tailed)	.	.000
OVERALL	N	94	94
	Pearson Correlation	.545**	1
	Sig. (2-tailed)	.000	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

Significant level (2-tailed test or P-value) is 0.000, which is less than 0.05. Therefore the null hypothesis is rejected.

Correlation coefficient is 0.545**, which means there is positive correlation between these two variables. The symbol ** means that the correlation is significant at the 0.01 level under 2-tailed test and the result will by chance, create 1% error.

The result from the table shows that there is moderate positive relationship between a firm's critical issues and implementation of ABC. Thus, the result of the test reveals the fact that there is relationship between a firm's critical issues and implementation of ABC.



Chapter VI

Summary of Findings, Conclusions and Recommendations

This chapter presents summary, conclusion and recommendations based on the results of the study, and is divided into three sections. The first section summarizes the findings of the research questions and hypotheses of the study. The second section will conclude and discuss the important findings of the study. The last section offers recommendations that are based on the results of the study. Finally, suggestions are made for further study.

6.1 Summary of finding

This research was conducted with the aim to find out the correlational importance between critical issues and implementation of Activity Based Costing (ABC) and to help firms to understand the prerequisites before implementing of ABC and lastly to create a profile of firms in Bangkok that implemented ABC and that did not implement ABC. The results of the study were described and explained in the previous chapter. A summary of findings together with the statement of problem, research questions and hypotheses are provided in the following sections:

This study was conducted to understand, what critical issues hinder the successful implementation of ABC by firms based/located in Bangkok and to see if there is any significant statistical relationship between the critical issues and the implementation of ABC by firms based/located in Bangkok.

Summary of results from hypotheses testing

Descriptive Statistics

Classification of respondent: majority of firms who responded to the questionnaire were non- ABC adopters. Out of the total respondents 76% of the firms were non-ABC adopters and 24 % of the firms had adopted ABC.

Classification of respondent: of the 94 firms who responded 39% (37 firms) of the firms were listed on The Stock Exchange of Thailand (SET) and 61% (57 firms) of firms were not listed on the SET.

Classification as per industry: out of the responses received, 12 firms were from the industrial sector, 30 from services sector, 7 from technological sector, 12 from financial sector, 11 from resource sector, 8 from consumer products sector, 14 from others category.

Classification of ABC-Adopters: out of the 94 questionnaires received 25 firms had adopted ABC in their costing system. Out the 25 firms 15 firms were from service industry sector.

Classification of Non-ABC Adopters: out of the 94 questionnaires received 69 firms had not adopted ABC in their costing system.

Hypotheses Analysis

Hypothesis 1

Results of the hypothesis testing show there is weak positive relation between resistance to change and implementation of ABC. Hence the alternate hypothesis was accepted.

Hypothesis 2

Results of the hypothesis testing show there is weak positive relation between technical issues and implementation of ABC. Hence the alternative hypothesis was accepted.

Hypothesis 3

Results of the hypothesis testing show there is weak positive relation between organizational issues and implementation of ABC. Hence the alternative hypothesis was accepted.

Hypothesis 4

Results of the hypothesis testing show there is weak positive relation between managerial issues and implementation of ABC. Hence the alternative hypothesis was accepted.

Managerial issue has the fourth highest correlation with the implementation of ABC.

Hypothesis 5

Results of the hypothesis testing show there is weak positive relation between employee related issues and implementation of ABC. Hence the alternative hypothesis was

accepted. Employee related issues have the second highest correlation with the implementation of ABC.

Hypothesis 6

Results of the hypothesis testing show there is weak positive relation between cost issues and implementation of ABC. Hence the alternative hypothesis was accepted. Cost issues have the highest correlation with the implementation of ABC.

Hypothesis 7

Results of the hypothesis testing show there is weak positive relation between technological issues and implementation of ABC. Hence the alternative hypothesis was accepted. Technological issues have the third highest correlation with the implementation ABC.

Hypothesis 8

Results of the hypothesis testing show there is moderate positive relation between critical issues and implementation of ABC. Hence the alternative hypothesis was accepted.

Table 6.1 Summary of Hypothesis testing

Hypothesis	Statistical Test	Level of significance	Correlation coefficient	Result
Ha₁	Bivariate Test	0.021	0.238*	Reject Ho
Ha₂	Bivariate Test	0.000	0.401**	Reject Ho
Ha₃	Bivariate Test	0.001	0.334**	Reject Ho
Ha₄	Bivariate Test	0.000	0.411**	Reject Ho
Ha₅	Bivariate Test	0.000	0.457**	Reject Ho
Ha₆	Bivariate Test	0.000	0.484**	Reject Ho
Ha₇	Bivariate Test	0.000	0.416**	Reject Ho
Ha₈	Bivariate Test	0.000	0.545**	Reject Ho

* Correlation is significant at 0.05 level (2-tailed)

** Correlation is significant at 0.01 level (2-tailed)

6.2 Implication and Discussion of Research Findings

The result from the hypothesis testing show that all the seven critical issues (Resistance to change, Technical issues, Organizational issues, Managerial issues, Technological issue, Employee's issues and Cost issues) have a significant relationship with respect to implementation of ABC. The researcher can explain the rationales behind these results.

Cost Issue has showed a weak positive correlation and is the most important factor when a firm plans to implement ABC. Factors like high cost of consultation, employing new staff, cost of re-training and fear that cost might exceed benefits were considered. The result shows that respondents consider cost issues as a hindrance to implement ABC. The highest of the correlation test.

Shields (1995); Sohal and Chung (1998); Chongruksut (2002); Marchesi (2001) and Anderson (1995) have found in their respective studies that cost is an important factor to which managers have to give due considerations.

Sohal and Chung (1998) concluded saying that key staff who were in the ABC team were also involved in other structural changes going on in the organization hence the process was slow and the bills were running high.

Cost is one factor on which firms cannot turn a blind eye on. Many Thai firms are now reviving from the economic crisis which swept through Thailand during 1997, other researchers state that ABC was implemented to help Thai firms to cut costs and give them a better cost advantage. But implementation of innovative accounting methods like ABC can drain out money if it is not properly planned. Bad planning will lead to dragging projects which again cost money. If the firms will have to hire outside expertise, organizations will also have to be ready to invest money for a successful implementation of ABC.

To conclude cost or expenses follow like a shadow in all aspects of the organization and this cannot be eliminated neither there is a good remedy. At the most, firms can chart out a plan and try to pursue to it closely.

Employee Related Issues has showed a weak positive correlation and is an important factor when a firm plans to implement ABC. Factors like involvement of employees, using ABC data for performance evaluation, compensation system to motivate employees, and education for employees were considered. The result shows that

respondents consider employees issues as one of the most important hindrance to implement ABC. This issue has the second highest correlation.

Shields (1995) found that using information from ABC analysis to evaluate an employees' performance and to design a compensation system is vital for ABC success. And it is very important that the employees are also aware that information from ABC analysis is used for their benefit. Chongruksut (2002) also conveys the message that training, using information from ABC analysis for performance evaluation and involving employees in the change is an important factor to motivate them and gain their confidence so that employees do not resist the change. Sohal and Chung (1998) also found that educating and training all people in the organization to understand the complexity of ABC project and its impact on the organization are the key ingredients for successful implementation of ABC.

Employees form the heart and soul of all organization, without them there is no organization. Employees would reject anything that would threaten their well being. In Thai context where employees obey their superiors without questioning them it is important to motivate and educate employees to help them to come out of their fear. During the training program, employees must be told how ABC works, how to interpret and use ABC information for product design, product pricing and process improvement, as well as how the compensation system will be accommodated to incorporate the performance measurement. This reduces employees' lack of confidence in ABC and prevents them feeling pressed by the implementation process. Moreover an efficient training program will remove the fear of 'what may be found out, whether it would threaten their security at work, etc.

Technological Issues has showed a weak positive correlation and is one of the important factors when a firm plans to implement ABC. Factors like lack of software packages, complexity of the ABC system, computer staff's time and maintenance cost were considered. The result shows that respondents consider technological issues as a hindrance to implement ABC. This factor has the third highest correlation.

According to Chongruksut (2002) identifying the right software and compatibility of the system and extra usage of computer staff's time to use the new software is one of the important factors which non-ABC adopters cited as a reason for not implementing ABC, but this contradicts Shields (1995) who claims that ABC success is not significantly associated with the use of four technological implementation variables, specifically canned software, custom software, external consultants and stand-alone versus integrated system. This difference in findings could be because Shields (1995) conducted the study in United States, which is developed country in all aspects of the economy and also technological innovations are considered as a way of life. Whereas many developing Asian countries still consider technological innovation as an uphill climb.

Sohal and Chung (1998) claim that that access to outside expertise, particularly when new concepts and software are being developed is important for successful ABC implementation.

Technology has become an integral part of many businesses and, over time, new technology is deployed for business transformation process. What is new today is outdated six months later. All the firms are trying to get into the techno race to have a competitive advantage over others. Technology is good for general usage, but for more

specific uses like ABC where the cost treatment for each item is different, off-the-shelf software may not be very useful. Custom made software is good for firms but the cost of making new software that could be outdated in another six months is very high. Custom made software may be compatible with the existing system but the integration between the two is still questionable.

Managerial Issues has showed a weak positive correlation and is one of the important factors for successful implementation of ABC. Factors like top management support, higher priorities to other projects, need for ABC not justified and long term focus of top and senior managers to use ABC data were considered. The result shows that respondents consider managerial issues as one of the most important hindrance to implement ABC. This issue has the fourth highest correlation.

Top managers are like father figure to all the lower level in an organization. And most of the employees look upon them for strong support and commitment. It is important for front runners in an organization to guide followers. As long as subordinates know that there are care takers to provide support, encouragement and commitment new changes can be implemented without too many hazels. Shields (1995); Sohal and Chung (1998); Chongruksut (2002); Marchesi (2001) and Anderson (1995) concluded the same. In Thailand employees obey their superiors with due respects and expect lot of support from them, when the top management justifies need for changes it is usually accepted. According to Chongruksut (2002) employees in Thailand would be comfortable with the 'top-down' approach and, further Brewer (1998) (cited in Chongruksut 2002), who studied the relationship between cultural values and ABC success, claims that

subordinates from a high-power-distance culture will show less defensive behavior in implementing ABC. Chongruksut (2002) also reveals that most managers are pre-occupied with other projects mainly ISO, and considered implementing ABC only after this was completed. Hence this could be one of the main reasons why very few firms in Bangkok have not adopted ABC. Sohal and Chung (1998) in their case studies in firms in Hong Kong and Australia states that implementation process of ABC was slow because managers and employees were involved in other projects too hence they could not concentrate of ABC project because of which cost had also increased.

Top managers do show commitment and support during initial stages, but later due to other changes/projects in the organization there devotion to the initial project may drift which slows down or even puts a halt to the project. Low level employees look up at their higher ranks officers for their support and commitment but an important factor that should not be forgotten is that as the level of rank/position of middle or upper level manager increases, responsibility of the person also increases. Hence they may not be in a position to give continuous support at all times. Although there is no conclusive solution to this problem comprises between the top, middle and lower level must be arrived at keeping in mind the growth and prospects of the organization as a whole.

Resistance to Change has showed a weak positive correlation hence this factor is important but not very important when a firm plans to implement ABC. Factors like resistance from firm's employees and other management; lack of communication, commitment, co-operation; fear of accountants losing power; and difficulty to change

employee's mind set were considered. The result shows that respondents consider resistance to change as a hindrance to implement ABC.

Chongruksut (2002); Sohal and Chung (1998); Cagwin and Vinson (1997) also concluded that implementation of ABC in a firm faces resistance from employees, and accountants feel insecure when non-accountants also have a share in their work. Shields (1995) and Marchesi (2001) in their study report that problems like communication among departments and commitment to the change process is inherent during the implementation period.

But the study conducted by the researcher reveals that although resistance to change has shown a weak positive correlation this issue do not pose as a major hindrance in the implementation of ABC for firms based in Bangkok the main reason for this phenomenon could be as Chongruksut (2002) states that Thai people, are tend to be obedient to their superiors and follow out their order without questioning them. Even the accounting department may not show severe resistance. Hence changing the mind set of employees would not be a difficult task.

Technical Issues has showed a weak positive correlation but it is one of the important factors when a firm plans to implement ABC. Factors like lack of knowledge of data requirement, difficulty in defining cost drivers as well as activities, and integration with the current accounting system were considered. The result shows that respondents consider technical issues as a hindrance to implement ABC.

Marchesi (2001) has also concluded saying that firms in Thailand have not implemented ABC because it is too complex to implement, and because of lack of

knowledge and understanding of ABC. Chongruksut (2002) also concludes the same. Beaulieu and Lakra (2002) also state that there are contradictory findings about the technical aspects of ABC in text books and in the practical aspects of ABC. Many books claim implementation of ABC is a two step simple procedure but in reality many firms face the maximum difficulty in identifying cost drivers and activity drivers because of which most of the firms discontinue the implementation or do not even consider implementing ABC. Those who have implemented ABC consider getting through this stage as one of the important factor for successful implementation of ABC.

Technical problems are branded as an inherent problem of ABC. The main reason for this trend could be that even though ABC was developed during the 1980s it is still a new concept worldwide and very few firms in Bangkok have implemented ABC hence firms have to still associate with this new concept. Moreover cost drivers and activity drivers would be unique for different firms even if they are in the same industry and hence each firm will have to go through the pain of selecting adequate information to form the basis for cost driver and activity driver.

Moreover most of the books and articles only state the problems and benefits of ABC but does not state or suggest how to overcome the problems especially the cost driver, activity drivers and the amount of data requirement. This could be because each firm is unique as another firm hence defining a common cost drivers, activity drivers is almost impossible.

Organizational Issues has showed a weak positive correlation. Factors like change in current policies and strategies, cost structure, lack of internal resources, and

responsibility and authority of the ABC system were considered. The result shows that respondents consider organizational issues as a hindrance to implement ABC.

Chongruksut (2002); Sohal and Chung (1998) have concluded that firms refuse to implement ABC because it does not comply with the current cost structure, policies and strategies. Shields (1995); Sohal and Chung (1998) as well as Chongruksut (2002) has cited that one of the most important factor for successful implementation of ABC requires sufficient internal resources which will instill confidence in the employees.

Most of firms make strategies for drafting policies and cost structure on a long term basis. Top management keep various factors in mind when they draft these plans, hence a proposal to implement ABC which drains out money and time may not well accommodate with the present situation. Hence most of the firms reject the idea of implementation of ABC at the initial stages itself. Those who implement ABC do it after through planning.

6.3 Recommendation

There are very few studies in Thailand which has tried to understand why firms have not implemented innovative accounting methods like ABC. But there are suggestions from previous studies that many firms are considering to implement ABC. At the time of this survey 24% of the respondents had implemented ABC, and a majority of firms did not implement ABC.

Majority of companies in Thailand did not implement ABC mostly because of the problems they face in implementing it. Although all the seven issues contribute to the

non-implementation of ABC, the most important crisis comes due to the following which can be considered as a prerequisite before a firm plans to implement ABC: –

Firstly, a cost issue which has the highest correlation value (0.484), many companies has opted not to use ABC because of the additional cost in implementing it without considering the potential benefits. The potential benefits can be attained only if the firms finish the implementation with the stipulated amount of funds.

Secondly, employee related issues which posted the second highest correlation value (0.457). Employees tend to resist less if they are involved in the implementation process, ABC data is used for their performance evaluation, compensation system is designed to motivate employees and if the management try and make it simple when they train the employees about ABC. This is an important factor because if employees are not happy the result would directly show on productivity or output.

Third factor is technological issues which recorded the third highest correlation value (0.416). Technology is an essential commodity today. When software for ABC is in question many developers forget the fact that the end users are ordinary employee whose core competency is not information technology. Hence the researcher suggests that when a firm decides to use technology for new utility it should not be a new concept all together. It is best when the firm tries to make the new technology as an extension of the old software which the firm uses.

And lastly managerial issues which recorded the fourth highest correlation value (0.411). All the previous studies suggest that for the successful implementation of ABC top managers have to provide support, commitment and must justify the need for such a program. When they take up a project they have to complete it before stepping their foot

into other initiatives or else plan or procedure will drift from its original path and drain more money from the organizations financial reserves.

6.4 Future research

This research was done to understand why firms in Bangkok are hesitant to implement ABC, other researchers can think in the following lines:

1. There is growing evidence that there are firms who are not happy with the implementation of ABC and have therefore discontinued it. Hence researchers can pick out those firms that have discontinued ABC and try to understand if this trend is due to problems inherent to this new costing method or due to problems inherent to the organization.
2. After the implementation of ABC firms are able to reduce cost and thereby improve profitability and gain a competitive advantage over other firms. Hence to see another side of ABC researchers can take up a firm where it has been successfully implemented and measure if there is a change in profitability before and after implementation of ABC.

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1. Output for H1

Resistances to Change and Implementation of ABC

Correlations

		RES	do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC
RES	Pearson Correlation	1	.238*
	Sig. (2-tailed)	.	.021
	N	94	94
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	.238*	1
	Sig. (2-tailed)	.021	.
	N	94	94

* Correlation is significant at the 0.05 level (2-tailed).

2. Output for H2

Technical Issues and Implementation of ABC

Correlations

			do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	TECHNIC
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.401**	
	Sig. (2-tailed)	.	.000	
	N	94	94	
TECHNIC	Pearson Correlation	.401**	1	
	Sig. (2-tailed)	.000	.	
	N	94	94	

** Correlation is significant at the 0.01 level (2-tailed).

3. Output for H3

Organizational Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	ORGN
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.334**
	Sig. (2-tailed)	.	.001
	N	94	94
ORGN	Pearson Correlation	.334**	1
	Sig. (2-tailed)	.001	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

4. Output for H4

Managerial Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	MANG
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.411**
	Sig. (2-tailed)	.	.000
	N	94	94
MANG	Pearson Correlation	.411**	1
	Sig. (2-tailed)	.000	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

5. Output for H5

Employee Related Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	EMPLO
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.457**
	Sig. (2-tailed)	.	.000
	N	94	94
EMPLO	Pearson Correlation	.457**	1
	Sig. (2-tailed)	.000	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

6. Output for H6

Cost Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	COST
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.484**
	Sig. (2-tailed)	.	.000
	N	94	94
COST	Pearson Correlation	.484**	1
	Sig. (2-tailed)	.000	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

7. Output for H7

Technological Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	TECHNO
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.416**
	Sig. (2-tailed)	.	.000
	N	94	94
TECHNO	Pearson Correlation	.416**	1
	Sig. (2-tailed)	.000	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).

8. Output for H8

Critical Issues and Implementation of ABC

Correlations

		do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	OVERALL
do you feel the above problems related to the issues are the main reasons why your firm has not implemented ABC	Pearson Correlation	1	.545**
	Sig. (2-tailed)	.	.000
	N	94	94
OVERALL	Pearson Correlation	.545**	1
	Sig. (2-tailed)	.000	.
	N	94	94

** Correlation is significant at the 0.01 level (2-tailed).



Appendix-B

Questionnaire

Kind Attention: This Questionnaire should be filled in by personnel from Accounting Department or by the 'Accounting Manager' only.

Dear Sir/Mam,

I am an MBA student of Assumption University (ABAC), Thailand. This Questionnaire is designed to understand the "Internal Organizational problems that restrict firms to change to Activity Based Costing (ABC)" system.

Objective: even though ABC is a better method of cost accounting than traditional methods only few firms have implemented it. Information received from this study will help to understand why firms prefer to continue with the old system of accounting rather than change to better and precise method of accounting like the ABC method

Before answering the following questions, please read the following definitions.

Activity-based costing (ABC) is an information system that maintains and processes data on a firm's activities and products/service. ABC identifies the activities performed, traces cost to these activities and then traces the cost of activities to products/services according to activities consumed.

Non-Adopters of ABC are defined as those companies that have not yet implemented ABC or those who adopted it then discontinued it for various reasons.

Adopters of ABC are defined as those companies that have implemented ABC or are currently implementing ABC.

Please answer '**SECTION I**'- NON ABC-AADOPTERS only if.....

1. Your firm has not yet implemented ABC method in the costing system.
2. Your firm has discontinued ABC for various reasons
3. Your firm has never planned to implement ABC

Please answer '**SECTION II**'- ABC-AADOPTERS only if.....

1. Your firm has already implemented ABC method in the costing system.
2. Your firm is still in the process of implementing ABC
3. Your firm plans to implement ABC

Kindly post this 'Questionnaire' on or before _____

SECTION I

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

I.) Resistance to Change	7	6	5	4	3	2	1
ABC was not implemented in your firm because.....							
1. It faces resistance from the firm's employees and other management.							
2. Lack of communication, commitment and co-operation among departments.							
3. ABC implementation face resistance from the accounting department because of the fear of losing power.							
4. It is very difficult to change the organization culture and mind set of the employees.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

II.) Technical issues	7	6	5	4	3	2	1
ABC was not implemented in your firm because.....							
5. Lack of knowledge of data requirement and collection.							
6. Difficulty in defining cost drivers.							
7. It does not integrate well with current accounting system.							
8. Difficulty in identifying activities.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

III.) Organizational Issues	7	6	5	4	3	2	1
ABC was not implemented in your firm because.....							
9. The company has to change/alter its current policies and strategies to accommodate ABC methodology.							
10. The current cost structure does not comply with ABC implementation programme.							
11. Lack of adequate internal resource to install and operate ABC.							
12. Could not define the responsibility and authority for maintenance of ABC system.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

IV.) Technological Issues	7	6	5	4	3	2	1
ABC was not implemented in your firm because.....							
13. Lack of software packages/identifying the right software package is difficult.							
14. Complexity and compatibility of ABC system software (not compatible with the current software system).							
15. Takes up lot of computer staff's time.							
16. Maintenance cost is a big issue.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

V.) Employee's Issues	7	6	5	4	3	2	1
ABC was not implemented in your firm because.....							
17. If ABC has to be successfully implemented, then employees also be involved in the implementation process.							
18. ABC data may not be useful for performance evaluation.							
19. No compensation systems were designed to motivate employees to implement ABC.							
20. Too complicated for ordinary employees to understand.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

VI.) Managerial Issues	7	6	5	4	3	2	1
ABC was not implemented in your firm because.....							
21. Lack of top management support and commitment.							
22. Higher priority to other changes/projects.							
23. Need for ABC system was not properly justified.							
24. Top management and senior managers do not have long-term focus and clear plans of how to use ABC information for decision making.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

VII.) Cost Issues	7	6	5	4	3	2	1
ABC was not implemented in your firm because.....							
25. High cost of ABC consulting is a hindrance.							
26. May have to employ new personnel who are well versed with ABC.							
27. High cost of re-training the employees.							
28. Fear that cost of designing and implementing, and maintaining ABC system might exceed expected benefits.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

	7	6	5	4	3	2	1
VIII.) The above issues are the main reasons why your firm has not implemented ABC							

Company Name _____

You're Name _____

Position _____

Date _____

Thank You Very Much for your Participation.

SECTION II

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

I.) Resistance to Change	7	6	5	4	3	2	1
‘In your opinion, your company has succeeded in the implementation of ABC on the grounds that.....’							
1. ABC implementation hardly faced resistance from the firm’s employees and other management.							
2. There was good communication, commitment and co-operation among all departments.							
3. The accountants have shared their ownership of information with non-accountants.							
4. It was not difficult to change the organization culture and employees changed their mind set to adapt to the new organization culture.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

II.) Technical Issues	7	6	5	4	3	2	1
‘In your opinion, your company has succeeded in the implementation of ABC on the grounds that.....’							
5. Guidelines for selection of cost drivers are established.							
6. Data for selected cost drivers was available with reasonable cost.							
7. Identifying activities was not difficult.							
8. Compatibility of ABC system with the current accounting system was studied.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

III.) Organizational Issues	7	6	5	4	3	2	1
'In your opinion, your company has succeeded in the implementation of ABC on the grounds that.....'							
9. There was adequate internal resources to the install and operate ABC.							
10. ABC has been closely tied to the competitive strategies of your company.							
11. Analysis of current cost structure is made.							
12. Responsibility and authority for maintenance of ABC system was clearly defined.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

IV.) Technological Issues	7	6	5	4	3	2	1
'In your opinion, your company has succeeded in the implementation of ABC on the grounds that.....'							
13. Identifying and adapting the right software package was easy							
14. Complexity and compatibility of ABC system software with the current system was well studied.							
15. Computer staff could adapt to the new software system easily and quickly hence not much time is wasted							
16. Maintenance cost was not an issue							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

V.) Employee's Issues 'In your opinion, your company has succeeded in the implementation of ABC on the grounds that.....'	7	6	5	4	3	2	1
17. ABC data have been used for performance evaluation.							
18. Compensation systems in the company are designed to motivate employees to implement ABC.							
19. Sufficient training about ABC was been provided to all employees so that they understand clearly.							
20. Employees were also involved in ABC implementation process which led to its success.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

VI.) Managerial Issues 'In your opinion, your company has succeeded in the implementation of ABC on the grounds that.....'	7	6	5	4	3	2	1
21. ABC initiative has the strong active support of top management.							
22. Sufficient training about the design, objectives and need of ABC has been being provided.							
23. ABC implementation was implemented on a high priority basis putting all other changes/projects after this.							
24. Top management and senior managers have a clear idea how to use ABC information for decision making.							

Please indicate your degree of agreement with the following statements by selecting the appropriate response where:

1 = strongly disagree, 2= Disagree, 3= Partially Disagree, 4= Neutral, 5= Partially Agree, 6= Agree and 7= strongly agree

VII.) Cost Issues	7	6	5	4	3	2	1
'In your opinion, your company has succeeded in the implementation of ABC on the grounds that.....'							
25. High cost of ABC consulting was not an issue.							
26. Current employees were educated about ABC hence there was no need to employ new staff.							
27. Cost and benefits of designing, implementing and maintaining ABC were clearly identified and estimated.							
28. Cost of system changes (like re-training) are included in the project cost estimates.							

	7	6	5	4	3	2	1
VIII.) By implementing ABC, the problems related to issues mentioned above have been tackled							

Company Name _____
You're Name _____
Position _____
Date _____
Which year did your firm implement ABC? _____

Thank You Very Much for your Participation.

Appendix-C

Evening Graduate Programs at Assumption University,
Bangkok, Thailand.
(As of September, 2004).

1. Master of Business Administration.
2. Master of Business Administration in Technology Management.
3. Master of Management in Organization Development and Management.
4. Master of Science in International Business.
5. Master of Science in International Marketing.
6. Master of Science in Information System Management.
7. Master of Science in Financial Management.
8. Master of Science in Financial Analysis.
9. Master of Arts in Tourism Management.
10. Master of Arts in English Language Teaching.
11. Master of Arts in English Language and Literatures.
12. Master of Science in Computer Information Systems.
13. Master of Science in Computer and Engineering Management.
14. Master of Science in Internet and E-Commerce Technology.
15. Master of Science in Counseling Psychology.
16. Master of Education in Educational Administration.
17. Master of Education in Curriculum and Instruction.
18. Graduate Diploma in Teacher Education.
19. Master of Arts and Philosophy.
20. Master of Arts in Religious Studies.
21. Master of Engineering in Broadband Telecommunications Management.
22. Master of Engineering in Power Electronics.
23. Master of Science in Telecommunications Management.

24. Master of Science in Information Technology.
25. Master of Science in Computer Science.
26. Master of Science Telecommunications Science.
27. Master of Science in Applied Statistics.
28. Master of Science in Technology Management.
29. Master of Science in Telecommunications and Network Engineering.
30. Master of Science in Internet and Multimedia Engineering.
31. Masters of Law.
32. Master of Science in Food Biotechnology.
33. Master of Science in Management.





Appendix-D

List of Respondents

1. Accura Accounting Company Limited.
2. Advanced Information Service Public Company Limited.
3. Airports of Thailand Public Company Limited.
4. Akko Public Company Limited.
5. Apolosa Company Limited.
6. ARS Chemical Thailand Company Limited.
7. Ayudhya International Factors Company Limited.
8. Banyan Tree Hotel, Bangkok.
9. Boonrawd Asia Beverage Public Company Limited.
10. Bumrungard Hospital Public Company Limited.
11. Cape House, Bangkok.
12. Cape Panwa Hotel, Bangkok.
13. Capital Nomura Securities Public Company Limited.
14. Central Retail Corporation Company Limited.
15. Corn Products Amardgss Company Limited.
16. CS Loxinfo Public Company Limited.
17. DBS-Thai Danu Bank Public Company Limited.
18. Dharmniti Auditing Company Limited.
19. DuPont Thailand Limited.
20. DZ Card Thailand Company Limited.
21. Ernst and Young Thailand.
22. Far East Knitting and Spinning Company Limited.
23. Ford Operation Thailand Company Limited.

24. Freewill Solutions Company Limited.
25. G.H. Company Limited.
26. Goodyear Thailand Public Goodyear Thailand
27. Government Agency (Name Not Disclosed).
28. Government Agency (Name Not Disclosed).
29. Government Agency (Name Not Disclosed).
30. Government Agency (Name Not Disclosed).
31. Government Agency (Name Not Disclosed).
32. High Fashion International Company Limited.
33. Holiday Inn Hotel Bangkok.
34. HSBC Thailand Limited.
35. IBM Company Limited.
36. Indochina Services Asia Company Limited.
37. Information Technology Innovation Company Limited.
38. JW Marriott Hotel Bangkok.
39. Kameo House, Bangkok.
40. Kanary Bay Rayong, Bangkok.
41. Kanary House, Bangkok.
42. Kasavel House, Bangkok.
43. Kasikorn Bank Public Company Limited.
44. Katocu Natie Sunbcorp Thailand Company Limited.
45. KGI Securities Company Limited.
46. Kimberly Clark Thailand Company Limited.

47. Krungdhep Sophon Public Company Limited.
48. Lenso Company Limited.
49. Loxley Public Company Limited.
50. Material Automation Company Limited.
51. Mathew Group Company Limited.
52. Merck Company Limited.
53. Modernform Group Public Company Limited.
54. Name Not Disclosed.
55. Name Not Disclosed.
56. Name Not Disclosed.
57. Name Not Disclosed.
58. Novatec Healthcare Company Limited.
59. Nulife International (Thailand) Company Limited.
60. Padaeng Industry Public Company Limited.
61. Pharmaceutical Trading Company Limited.
62. PTT Public Company Limited.
63. Rajadamri Hotel Public Company Limited.
64. Runsit Property Estates Company Limited.
65. S.P. Suzuki Public Company Limited.
66. Siam United Services Public Company Limited.
67. Silver-B Company Limited.
68. Sino Thai Resources Development Public Company Limited.
69. SIS Distribution Thailand Public Company Limited.

70. Slovak Embassy.
71. Standard Chartered Bank.
72. Summit Computer Company Limited.
73. Sun Valley Public Company Limited.
74. Thachart Bank Company Limited.
75. Thai Air Asia Company Limited.
76. Thai President Food Public Company Limited.
77. Thai Reinsurance Public Company Limited.
78. ThaiRung Union Car (public) Company Limited.
79. The Bay Hotel, Bangkok.
80. The Book Club Finance Public Company Limited.
81. The Industrial Finance Corporation of Thailand.
82. The Nation Multimedia Group Public Company Limited.
83. The Siam Cement Public Company Limited.
84. The Westin Grande Sukhumvit Hotel.
85. Thoresen Thai Agencies Public Company Limited.
86. Tipco Foods Thailand Public Company Limited.
87. Tisco Finance Public Company Limited.
88. True Corporation Public Company Limited.
89. TT&T Public Company Limited.
90. TTL Industries Public Company Limited.
91. Unilever Thai Trading Company Limited.
92. VCH Plastic Trading Company.

93. Yeiw Karnchang Company Limited.

94. Zenith Sukhumvit Hotel Bangkok.

