Factors influencing the implementation of Activity-Based Costing in Thailand: a case study of a Thai Telecommunications Company

Abstract

This paper reports on a case study that describes the implementation of activity-based costing (ABC) in a Thai telecommunications company. Using in-depth interviews this paper emphasizes the factors that influenced the process of ABC implementation. Drawing on contingency theory the findings indicate several factors that underpin the implementation of ABC (Shields & Young, 1989). A competitive environment was the most significant factor influencing the implementation of ABC followed by technology, organizational strategy, organizational structure (which combined the forms of mechanism, organism and integration), Corporate Social Responsibility (CSR) and organizational culture. CSR enhanced the competency and loyalty of employees and also, Government policies indirectly influenced the implementation of ABC. In total, this case study found seven success factors contributed to the successful implementation of ABC.

Keywords: Activity-based Costing; Thai telecommunications; ABC implementation, Corporate Social Responsibility

Acknowledgements

The authors gratefully acknowledge Jennifer Waters for her editorial and proof reading assistance and Professor Lee Parker and Phoommhiphat Mingmalairaks for his helpful comments. Also the authors thank the Company A in particular Khun Suwimol Kaewkoon, Chief Customer Officer and Khun Sansanee Kumplanuwat, Assistant Director of Accounting Department for supporting the interview session.
1. Introduction

Activity-Based Costing (ABC) is an internationally accepted costing system for tracing, tracking, controlling and evaluating the distribution of all components of a project including labor, time, cost, sale and performance (Cooper, 1990a, 1990b; Cooper & Kaplan, 1987, 1988). Initially, ABC was widely used in developed countries such as the USA (Anderson, 1995; Shields, 1995), the UK (Innes & Mitchell, 1995), Australia (Drennan & Kelly, 2002), and Canada (Gosselin, 1997). This costing system is now being disseminated throughout emerging economies which have competitive industrial, commercial and trading profiles such as China (Liu & Pan, 2007), Taiwan (Eldenburg, et al., 2010) and Malaysia (Maelah & Ibrahim, 2007; Majid & Sulaiman, 2008).

Over the last few decades, the industrial and financial sectors were grew rapidly at the expense of the agriculture (Dixon, 1999). In 1997, Thailand faced an economic crisis (Hogue, 2006) during which some Thai corporations decided to change their management practices and technologies in order to increase their competitive potential in global markets. Since then, most Western management concepts and practices have been widely adopted. During the 1990s, Thai companies adopted ABC because it provided an effective costing system (Chongruksut, 2002).

The ABC system has proven to be an effective costing system for the corporate, government and not-for-profit sector (Chongruksut, 2002; Chongruksut & Brooks, 2006; Morakul & Wu, 2001; Tupmongkol, 2008). Within the corporate environment it is essential to make business decisions that are formulated through planning strategies that are based on accurate and comprehensive information. (O’Guin, 1991).

However, only a few studies have explored why companies adopt ABC and how well it works in the overall context of developing countries such as Thailand (Chongruksut, 2002; Chongruksut & Brooks, 2006; Morakul & Wu, 2001; Tupmongkol, 2008).

To address this shortfall, this study used a case study of a Thai telecommunications company to indentify factors influencing the process of ABC implementation by using in-depth interviews with six key personnel in the company. Implementation factors are drawn from contingency theory and four stages are identified through the process of implementation. These stages are: initiation and adoption, design, implementation and use of information. This study will contribute to the understanding of how organizations in developing countries implement Western accounting technologies. Kaplan & Cooper (1998a) claimed that ABC has special relevance for developing economies because it provides a uniform approach to cost management. As a consequence of this research, it is hoped that ABC concepts will be adopted by Thai companies and other developing countries, as a means of increasing their global capacities and competitive advantage.

The remainder of the paper is structured as follows. The next two sections outline research questions and research methods which have been used in this study. The following section reviews previous research on ABC implementation and related theories. The last two sections analyze the ABC implementation, relate the empirical results to previous research and present the conclusions.

2. Literature review

2.1 Activity-Based Costing (ABC)

ABC is an effective cost management accounting practice for the allocation of resources to activities, and then activities to cost objects through imputed causal relations based upon volume and non-volume related drivers.
(Cooper, 1990a, 1990b; Cooper & Kaplan, 1987, 1988). It was developed and reviewed in 1987 by Cooper and Kaplan. They introduced ABC into companies such as Mayers Tap, Schrader Bellows and Rockford after conducting experiments in American manufacturing enterprises (Cooper & Kaplan, 1987). Their case studies show that increasing technology and productivity improvements led to a decrease in the proportion of direct costs (labor and materials), but caused an increase in the proportion of indirect costs (depreciation). Although the percentage of indirect costs or overhead costs had risen, traditional cost accounting still used only single allocation base such as direct labor in cost assignment. As a result, indirect costs were assigned equally to all products even though these costs were not divided evenly among the products. Traditional cost accounting provides outdated and insufficient information which results in inefficiency and unprofitability (Johnson & Kaplan, 1987). Cooper & Kaplan (1988) insist that ABC brings several benefits such as removing distortions from traditional cost accounting system and providing accurate cost information for better decision making by illustrating the weaknesses of traditional cost accounting.

O’Guin (1991) illustrates that by adopting ABC, companies such as Boeing, Eli Lilly and Allied Signal were able to achieve considerable inventory reduction and increase new manufacturing profitability through more efficient strategic planning. In addition, ABC can improve a firm’s performance in terms of market and accounting based measures (Kennedy & Affleck-Graves, 2001), that leads to a higher return on investment (ROI) (Cagwin & Bouwman, 2002). By 1992, ABC had gained worldwide recognition and was used in America, Europe, Asia, and Australia (Cooper, et al., 1992). Most companies have been satisfied with this new costing approach (Baird, et al., 2004; Bjørnenak, 1997; Innes, et al., 2000; Malmi, 1999; Shields, 1995; Swenson, 1995).

However, to allocate costs based on ABC concepts does not guarantee that indirect costs are accurately attributed to products or services because approximation and estimation still remain intrinsic (Armstrong, 2002; Jones & Dugdale, 2002). Cobb et al. (1992) found that the implementation of ABC is costly and troublesome, particularly the selection of drivers and defining activities. It is difficult for employees to understand ABC categories, allocating resources to them and interpreting the results.

It can be seen that technical factors alone cannot lead companies to be successful in the implementation of ABC (Cooper, 1990b; Cooper, et al., 1992). Cooper et al. (1992) and Shields (1995) argue that contextual, behavioral and organizational factors can influence firms to adopt and implement ABC effectively. Both contingent factors (e.g. competition, technology and organizational strategy) and institutional factors (e.g. regulations and consultants) have been found to be an influence on firms to implement ABC. For instance, competition is said to be an important factor influencing the development of costing systems. In a highly competitive position, firms may need more reliable cost information because there is a greater chance that a competitor will exploit any costing mistakes (Cooper & Kaplan, 1988). Bruggeman & Slagmulder (1995) state that the new production technology is a crucial factor for a change in the cost structure (e.g. an increase of indirect costs). Firms might re-analyze suitable cost drivers for cost allocation and ABC has been recommended for handling this issue (Kaplan & Cooper, 1998b). The government, through legislation and sanctions encourages integrated financial accounting legislation that affects firms’ accounting practices (Granlund & Lukka, 1998) Integration and uniformity is also needed when negotiating and implementing international trade agreements (Hopper & Major, 2007).

Most previous ABC studies have been conducted in developed countries such as the USA (Anderson, 1995; Anderson, et al., 2002; Anderson & Young, 1999; Foster & Swenson, 1997; Krumwiede, 1998; Shields, 1995), the UK (Al-Omiri & Drury, 2007; Arnaboldi & Lapsley, 2005; Innes & Mitchell, 1995; Innes, et al., 2000; Soin, et al., 2002), Australia (Askarany, et al., 2007; Baird, et al., 2004; Drennan & Kelly, 2002), and Canada (Gosselin, 1997).
Few studies have been conducted in developing countries such as China (Liu & Pan, 2007), Taiwan (Eldenburg, et al., 2010), Malaysia (Maelah & Ibrahim, 2007; Majid & Sulaiman, 2008), and Thailand (Chongruksut, 2002; Chongruksut & Brooks, 2006; Morakul & Wu, 2001; Tupmongkol, 2008). Most studies were based on surveys which are lack of in-depth explanation on the process of ABC implementation. These studies focus on few factors influencing ABC implementation such as behavioral factors and organizational factors. They disregard other important factors such as contextual and technical factors. And they are lack of examination on the process of ABC implementation or the link between factors influencing the process of ABC implementation. Especially, ABC studies in Thailand, only few studies have been found. They were based on surveys, focused on few factors and a lack of examining process of ABC implementation.

2.2 Contingent factors

To understand factors influencing the adoption of ABC, one effective theory which has been found in previous studies is contingency theory (Anderson, 1995; Anderson, et al., 2002; Anderson & Young, 1999; Baird, et al., 2004; Cadez & Guilding, 2008; Gosselin, 1997; Innes & Mitchell, 1995; Kallunki & Silvola, 2008; Liu & Pan, 2007). This theory can explain the change and adoption of management accounting practices in various aspects.

Contingency theory is a classic organizational theory which has been discussed since the 1960s (Burns & Stalker, 1961; Chandler, 1962; Lawrence & Lorsch, 1967; Perrow, 1967; Thompson, 1967; Woodward, 1965). Researchers in this period believed that changes in task and contextual environments are important for organizations to develop appropriate operational and strategic responses (Morgan, 1996). The theory underlines to explain how contingent factors affect the design and functioning of the organizations (Covaleski, et al., 1996). That is, if contingent factors are positive then the outcome will be high performance. There is not a universal best management accounting practice equally applicable to all organizations in all situations is the main concept of contingency theory (Gordon & Miller, 1976; Otley, 1980; Scott, 1998). Thus organizational characteristics of each organization are shaped to fit contingencies in which it exists in order to remain high performance (Donaldson, 2001).


In summary, contingency theory focuses on internal and external factors reflecting the context within organizational operation. Managers perceive that their organization rationally needs to develop or change their existing general practices into unique practices which fit the situation under those contextual factors.

Besides contingent factors influencing the implementation of ABC, Shields and Young (1989) propose the seven key behavioral and organizational factors influencing the success of ABC implementation. This is comprised of top management support, competitive strategies, performance evaluation and compensation, internal resources, training in designing, non accounting ownership, and clarity of the objectives.
Top management support is found that is the most crucial factors related to the success of ABC implementation (Al-Omiri & Drury, 2007; Anderson, 1995; Anderson & Young, 1999; Arnaboldi & Lapsley, 2005; Chongruksut & Brooks, 2006; Fei & Isa, 2010b; Foster & Swenson, 1997; Krumwiede, 1998; Lee, et al., 2010; Liu & Pan, 2007; Maelah & Ibrahim, 2007; Majid & Sulaiman, 2008; Major & Hopper, 2005; Shields, et al., 1995; Tupmongkol, 2008). Training in designing and non accounting ownership is important for the achievement of ABC implementation (Al-Omiri & Drury, 2007; Arnaboldi & Lapsley, 2005; Majid & Sulaiman, 2008; Shields, 1995; Tupmongkol, 2008).

2.3 The process of ABC implementation

Once organizations decide to implement ABC they need to decide how to implement it successfully and that process is the next stage of this study. Anderson (1995) used six stages of IT implementation developed by Cooper & Zmud (1990) as a structure including initiation, adoption, adaptation, acceptance, routinization and infusion. The study emphasized only the first four stages as relevant to the investigative process of ABC implementation in General Motors. Krumwiede (1998) expanded the Cooper & Zmud (1990) model to ten stages in order to create a better understanding on the different process of ABC implementation by adopters and non-adopters. However the design of ABC and the use of cost information from ABC have been paid less attention. Later Arnaboldi & Lapsley (2005) provided four stages of ABC implementation including initiation and adoption, design, implementation, and use of information to describe the process of ABC implementation in the case of the UK Healthcare. This empirically enhanced model provides a more detailed understanding of the process of ABC implementation. Arnaboldi & Lapsley (2005) empirical model was used to analyze the process of ABC implementation in Thailand.

Each stage of ABC implementation has been impacted by different factors. For example, Anderson (1995) found competition was equally important in motivating adaptations of ABC and the opinions of external experts influenced the choice of ABC and the identification of cost system problems. Krumwiede (1998) found firm size influenced the decision of ABC adoption; larger forms were more likely to adopt ABC than smaller firms. Arnaboldi & Lapsley (2005) found that external consultants were important in the design and implementation stages and the existence of competitive environments influenced the use of ABC information.

3. Research questions

Chongruksut (2002) found that many Thai companies had shown an interest in the future adoption and implementation of ABC. Hopper et al. (2009) revealed that there was limited focus on management accounting research in 29 developing countries and suggested further research in this area was needed. To date, studies on ABC in Thailand (Chongruksut, 2002; Chongruksut & Brooks, 2006) have provided a superficial explanation of the factors influencing the process of its adoption and implementation since they are mainly based on surveys. These studies focus on a few factors influencing ABC implementation such as behavioral and organizational factors (Morakul & Wu, 2001; Tupmongkol, 2008).

To address these research limitations, gain a better understanding of which factors influence each stage of ABC implementation and the manner in which companies implement ABC successfully in practice are the main research objectives of this study. In relation to the objectives, five propositions (competition, technology, culture, organizational structure, and organizational strategy) have been developed using contingency theory. The key research question is as follows:
“What factors influence the process of ABC implementation in Thai companies?”

The reasons that drive a company initially to adopt ABC are first explored, and followed by an overall approach to understanding the process of implementation. Through understanding the implementation process it is possible to identify hidden or actual factors or issues related to ABC implementation. As well, it is possible to identify key factors influencing the implementation of ABC that may only apply in Thai context. These following two sub-questions have been formulated as:

(1) What are the reasons given by ABC-adopting companies for their original uptake of ABC?
(2) How do Thai companies actually implement ABC into their current accounting systems?

Through investigating the indirect costs that are assigned to cost objects helps us to understand how a company designs the costing system when using ABC concepts and how a company identifies and classifies indirect costs. As companies in different industries might identify indirect costs differently, comprehensive information is needed about the process of ABC implementation. Therefore, the third sub-question has been formulated as:

(3) What are the indirect costs that are assigned to cost objects in Thai companies?

After the completion of ABC implementation, it is appropriate to document the benefits and challenges of the system for the benefit of others. If the company records several advantages, others throughout Thailand and developing countries may follow suit and this research will provide useful insights and recommendations. However, the implementation of ABC is time consuming and demanding of resources and companies that implement it will face many challenges. The last sub-question is:

(4) What are the observed benefits and the challenges of ABC adoption and implementation by Thai companies?

4. Research Methods

A case study was conducted of Thai telecommunication (Company A) in August 2011 to study the implementation of ABC and explore the “how” and “why” research questions (Scapens, 1990; Yin, 2002). The case study structure and process as a research strategy will help provide a detailed description of the implementation of ABC in industries (Scapens, 2004; Yin, 2002). Data was collected from three main sources that included in-depth interviews, public documents and the company’s archival records. Different forms of evidence from various sources were gathered and crosschecked to increase validity and reliability (Yin, 2002) by using triangulation technique. Triangulation was used commonly to validate data in qualitative accounting research (Walker & Shackleton, 1995).

Structured, semi-structured and unstructured face-to-face interviews were conducted in order to gain in-depth information and new information (Scapens, 2004). A variety of methods were used throughout the interview process. To provide focus and avoid missing information, structured and semi-structured questions were used at the beginning of the interview. Then, unstructured questions were used to achieve clarity and a deeper understanding. Six key personnel, who are involved in the project of changing the costing system, were selected and invited to participate in the interview session. They are key personnel who can influence change and are: the assistant director of the accounting department, a costing manager, a senior costing accountant, a senior engineer, the resources utilization and planning manager, and a call center manager.

The employees of Company A were experienced in budget preparation and cost controlling. They became members of the ABC team and provided valuable information for this study. The assistant director of the accounting department, who has been working for Company A for more than 15 years, was assigned from the top management to implement ABC in practice. A costing manager and a senior costing accountant, who have worked in Company A for
nearly 5 years, are responsible for preparing cost information and costing reports. A senior engineer, who has been working for Company A for nearly 15 years, is responsible for preparing engineering budgeting and controlling costs and documenting the details of his department. The resources utilization and planning manager, who has worked in Company A for nearly 5 years, is in charge of utilizing and controlling resources for the Call Center. A Call Center manager, who has worked in Company A for nearly 9 years, is in charge of controlling and managing work performance and the costs of the Call Center.

There were three interviews and more than one participant attended each interview. Table 1 shows the list of participants who attended each interview.

**Table 1: The list of participants who attended each interview**

<table>
<thead>
<tr>
<th>No. of interviews</th>
<th>Designation of participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>An assistant director of the accounting department and a costing manager</td>
</tr>
<tr>
<td>2</td>
<td>A costing manager, a senior costing accountant and a senior engineer</td>
</tr>
<tr>
<td>3</td>
<td>A senior costing accountant, a resources utilization and planning manager and a manager of the call center</td>
</tr>
</tbody>
</table>

**Source:** Company A - interview profile

As seen from Table 1, one member of the accounting staff attended each interview. In response to the interviewer’s request, the costing manager introduced and invited new participants to attend the subsequent interviews. This style of interview has some advantages because the costing manager played an important role as a gatekeeper. She recruited only staff with relevant skills and knowledge to participate in the interviews. During the interviews, accounting staff explained concepts to staff from other departments which helped the interviewer to provide a structure to the information. However, in some circumstances, as believed by the researcher, the confidence of participants might have been reduced due to what they said might be reported to their boss or top management by other participants who attended the interview session with them and therefore they may have not answered questions accurately. For example, they did not disclose anything about resistance to or some criticisms about the project.

The interviews were conducted in the Thai language which is the native language of the participants and all were audio-recorded and transcribed. To avoid missing specific meanings and expressions when analyzing data, transcriptions were made in Thai. Major & Hopper (2005) mentioned that translating interviews from other languages into English could diminish the quality of analysis. Consequently, two visits were made to follow up and validate the data and information collected through the interviews. As well, time was spent on collecting company cost records and other relevant information. Follow up was done by e-mail or telephone interviews in the case of unclear information. A draft of the respective transcribed interview report was given to each interviewee with a request for that person to identify any inaccuracies, misrepresentations or areas of concern in the report. None of the participants suggested any major revisions to the content of the report, which implies that the interview data were properly and accurately transcribed.

Public documents were collected and assessed through accessing research journal articles, books, newspapers, conference proceedings, working papers, websites, annual reports (1998 - 2010) and reports of international organizations for a better understanding of the adoption, implementation and the application of ABC direct and indirect costing methods. During these processes company archival records such as company cost records, meeting minutes and internal circulars relating to ABC were collected and reviewed.
Nvivo software was used to analyze all data in order to identify the factors influencing the implementation of ABC and its success. Narrative analysis was used to describe the four stages of the implementation because it constructs characters, themes and events in an ordered structure (Llewellyn, 1999).

5. Results

Before identifying factors influencing the implementation of ABC; understanding the whole process is necessary. It helps to describe factors influencing each stage of the implementation from the story which was described by the participants. This section discusses the process of ABC implementation and identifies key factors that influenced the process.

5.1 The process of ABC implementation by Company A

The process of ABC implementation by Company A is divided into four stages which includes initiation and adoption, design, implementation and the use of information using Arnaboldi & Lapsley (2005) model.

**Stage 1: Initiation and adoption**

Company A (an appellation used in this study) was established in 1989 to provide a wide variety of telecommunications services. Company’s 1998 Annual Report states that it conducts its business at a frequency of 900 MHz under a concession from the TOT (Telephone Organization of Thailand) in the category of BTO (Build Transfer Operate) for 25 years ending in 2015. When Thai economy recovered after the economic crisis of 1997, the mobile phone industry growth rate peaked at 22%. To maintain existing customer base and to increase new customers, Company A’s marketing strategies focused on improving its network and service quality, customer satisfaction and the innovation of new products. Due to the implementation of corporate governance in accordance with the Code of Best Practices of the Stock Exchange of Thailand in 2000, Company A was confident about creating sustainable growth based on a high quality network and services.

According to information from Company’s Annual Reports between 1999 and 2002, the Thai Government had a commitment to the World Trade Organization (WTO) to liberalize the telecommunications industry by the year 2006 in order to create free and fair competition under the provisions of the Thai Constitution of 1999. Liberalization of telecommunications led to an increase of competitors and a dramatic expansion in the mobile phone market. The International Mobile Equipment Identity (IMEI) was unlocked in 2002 which liberalized handsets and triggered high competition in the market, especially in the price-awareness segment. Existing customers who preferred pricing to quality may have switched to other systems due to low usage and opportunity to save on bill payments.

Also, a new competitor cut prices which led to a pricing war in 2002. Other companies in the telecommunication industry thought this strategy was not sustainable in the long term. Therefore, they launched the ‘Creative Growth’ campaign during which operators competed on quality and over the variety of products and services. Nevertheless, pricing competition has continued since then.

In addition, the rapid change of mobile technology changed customers’ behavior to wireless services (using internet via mobile phone). Company A had to invest in new technologies in order to respond to customer’s needs and to retain market leadership. The growth of the network led to a dramatic increase in operating expenses (indirect costs) and in engineering costs that included depreciation of communication tools and equipment, refuse disposal, maintenance and engineering salaries.
The marketing department also wanted cost information for setting strategies in response to the changes in the competitive environment but its existing management accounting system (MAS) was inadequate for it. The following statement is from interviewee 1, who said: “As far back as 2003, competition was high in the telecom market and our Marketing Department wanted to know the lowest costs of products and services for us to be competitive. Unfortunately, we did not have much cost information available then”. Not only Marketing, but managers from other departments also needed more accurate cost information for cost control and investment appraisal.

Prior to 2003, Company A did not have a professional costing system. The Accounting Department only prepared standard financial statements. As the statement of interviewee 1, all business transactions were analyzed, recorded and posted to the relevant accounts such as assets, liabilities, equities, revenues, and expenses.

Company A lacked complete information about individual costs incurred by each department and some costs were assigned to cost centers which had not created them. As interviewee 5 said: “In the past, costs of the IVR (Interactive Voice Response) System were assigned to more than 40 cost centers in the Call Center Department. In fact, the PA (personal assistant) Team did not consume these costs because customers contacted the Team directly without going through the IVR system.”

At this stage, staff of Company A could only observe the total cost of services that included total selling and administrative expenses. Total cost was not calculated in services (units) and was therefore difficult to use the total cost information for decision making, planning and controlling.

In 2001, Company A started to restructure some parts of its organizational structure in response to the rapid changes of competition and technology. Also, it needed to prepare for changes in the costing system by assigning key staff in each department to document working processes. Figure 1 shows the time frame for ABC implementation by Company A.

Between 2002 and 2003, the CFO (Chief Financial Officer) and the marketing department had a meeting with the accounting, engineering and IT departments about this problem. The consensus of the meeting was the need for an effective costing system such as ABC that could provide accurate and useful management information. Company A pushed forward the implementation of ABC to the design and implementation stages. The first set of the cost information was ready to use in 2004.

**Figure 1: Company A’s time frame for the implementation of ABC**

![Figure 1: Company A’s time frame for the implementation of ABC](source)

**Source:** Prepared by the researcher based on Company A interview profile

**Stage 2: Design**

Staff in the accounting, marketing, engineering and IT departments were assigned by their managers to participate in a project of implementing a new costing system. Staff who had been selected knew about the intimate workings of
their departments and thus, their knowledge would be essential to the design of a costing model based on the ABC concept.

Top management, who knew the ABC operating process and had experience of it, gave the ABC team a précis of ABC. Once the team had an overview of the ABC concept top management decided to use accounting software for cost allocation. Well-known accounting software called Oros¹ software was selected based on a consensus of top management and staff in the accounting department. They considered the reputation of each software package and that of the manufacturing company, software ability, installation methods and pricing in order to select the most effective one for them.

The ABC team was trained to use Oros software by consultants of Oros company. The basis and design of ABC including identification of activities and a selection of cost drivers were also taught. Then the ABC team designed a costing model which they discussed with colleagues and managers from each department to adjust and confirm its suitability. The confirmed model was discussed with staff in the accounting department to ensure it could provide the right output. The completed model was presented to top management for permission to continue to the next stage of the implementation process.

Company A found that the activities and cost drivers of some departments during the design stage process was difficult to identify and these threatened the full implement of the ABC system. The departments that could identify activities and cost drivers made an attempt to follow the ABC concept as they knew it would increase efficiency. Other departments that could not follow the ABC concept continued using the functional costing as previously mentioned and because of this limitation, accounting staff did not want to describe that every section of Company A used the ABC system.

To find and select cost drivers as input data for the new costing system, Company A considered two basic conditions. Firstly, cost drivers should be identified from existing information. Secondly, if these cost drivers cannot be found in the existing information, the ABC team would create a new way to collect them. However, it must be cost beneficial to collect new cost drivers; if it was difficult or costly to find such data then the ABC team would find other sources to provide cost sensitive and quality data. Moreover, cost drivers would be updated when the operating processes were changed and the changes would affect the cost drivers. For example, interviewee 4 said, “In the engineering department, there is a huge number of network equipment. Some have lots of sub-equipment or are able to perform more than one function. It is difficult to identify activities and select cost drivers, thus we focus only on the main equipment that causes significant costs.”

Due to the complexity of network equipment, the engineering department designed its costing system as shown in Figure 2. In this department, cost objects were identified based on main products and services including voice, SMS, data and valued added services (VAS). The main activity of the engineering department is to provide connection services to customers. Costs of investment or capital expenses were identified as direct costs because these costs were spent directly on each product and services.

¹ Oros is an activity-based costing and performance management software which provides integrated activity-based cost modeling, score carding/performance measurement and planning capabilities enabling organizations to increase profits, seek growth opportunities, reduce costs, and streamline operations (SoftScout, 2011).
Electricity, site rent, maintenance of network equipments, and staffing costs for engineering and IT were identified as indirect costs. Engineering staffing costs were assigned to cost objects based on the proportion of the use of voice, SMS, data and VAS by customers in each service area because the frequency of engineering work was depended on the frequency of the use of each product by customers. This proportion was collected by the network equipment. Electricity, site rent and maintenance of network equipment were assigned by using the same cost driver as that used for Engineering staffing costs because as interviewee 4 said, “We cannot identify how much electricity, site rent and maintenance should be allocated to each activity, so we use proportion of the use by customers as a cost driver instead.” IT department was a supporting department which installed and maintained IT systems for every department across the company. As IT staff worked for Engineering, IT staffing costs were first assigned to an activity cost pool for supporting Engineering based on the frequency of works IT worked for Engineering. Then, the costs of this cost pool were second assigned to cost objects by using the same cost driver as that used for Engineering staffing costs.

As IT staff installed and maintained all IT systems which were used by Engineering, IT staffing costs were assigned to cost objects based on the frequency of work that IT staff performed for Engineering.

**Figure 2:** An example how indirect costs were assigned to cost objects in the Engineering department

![Diagram of cost allocation](image)

**Source:** Prepared by the researcher based on Company A interview profile

In the past, the call center department used total costs of the department to assess its work efficiency. After adapting ABC concept to the new costing system, it found out that the nature of training agents and servicing customers (providing information to customers) were different. As interviewee 5 said “A key task of the call center is to receive calls from customers. Customer satisfaction and the number of received calls are KPIs for our department. However, our performance in work assessment was worse at that time which was in contrast to the evidence. Finally, we found out that we had spent a lot of money each year in training new agents which caused the high total cost of our department and this cost did not relate to our main task. Then we decided to separate training activity from our
main task and set it as one of our cost centers. Thus only costs relating to our main task are used for work assessment.”

The design of the ABC System in the Call Center Department is the second example of how Company A assigns indirect costs to the cost object. The Call Center classified cost objects based on its operational functions which include more than 40 teams. The teams handle GSM, One-Two-Call, billing, promotions, web multimedia, international languages, serenade, personal assistant, training and IVR.

The main activities of the Call Center Department are to provide information services to customers and the derived cost information showed the majority of costs were incurred from labor hire, training and running system. Most indirect costs were incurred through maintaining a support team or back office that included staffing costs for administration, QA (Quality Assurance), HR (Human Resources), IT expenses related to supporting systems (Knowledge Base Management: KB), training expense and utilities. To assign indirect costs to cost objects is dependent upon on the functions the supporting team performs for the operating team. Figure 3 shows how indirect costs were assigned to cost objects in the Call Center. For instance, the main task of the QA staff is to monitor call quality. During this month, the QA staff monitored the quality of calls from the One-Two-Call and GSM Teams, QA staff costs were assigned to One-Two-Call and GSM based on the frequency of work the QA staff was assigned for each Team.

Figure 3: An example of how indirect costs were assigned to cost objects in the Call Center

Source: Prepared by the researcher based on Company A interview profile

Administrative staff and HR staff is responsible for supporting the Call Center teams. Therefore, staffing administrative and HR costs were assigned to each call center team based on the number of call agents working in
each team. The Call Center used the KB system to prepare information for call agents during their working hours, therefore, these expenses were assigned to each Call Center team in the same way as staffing costs for administration and HR. Training expenses and expenses related to the IVR system were directly assigned to the training team and IVR team respectively.

In addition, each team could receive inter-charge costs when it asked staff from other teams for assistance in receiving calls. For example, the billing team helped the promotion team in receiving calls. Inter-charge costs (cost per call of the billing team is multiplied by the number of calls that the billing team received for the promotion team) was added into the cost for the promotion team. It was deducted from the costs of the billing team. Then, the costs for each team were divided by the number of calls that each team received and number of inter-charge calls (depending on the team) in order to find the cost per call.

When the ABC team completed the design of the costing model, top management hired a consulting company to design an alternative model to compare with its own for validation purposes. Top management used the costing model from the consulting company as a benchmark in order to confirm the model designed by the ABC team. The output of both models showed subtle differences. Thus top management decided to use its own model rather than the model recommended by the consulting company.

**Stage 3: Implementation**

After finishing the design of the cost allocation system, all the input data was collected from the information system and then uploaded into and processed by Oros software in order to implement the new costing system. Indirect costs and cost drivers were transferred from SAP\(^2\) (main accounting information system of Company A) and collected from each department. Some indirect costs and cost drivers had to be rearranged or recalculated before being uploaded to Oros. For instance, indirect costs such as QA and IT salaries, electricity and maintenance were transferred directly from SAP to Oros. A Cost driver, such as the proportion of the use of voice, SMS, data and VAS by customers in each service area was collected from the engineering department.

The responsibility to transfer data from SAP to Oros was undertaken by the IT department. To collect some data from each department was undertaken by the accounting department. Once each department was familiar with the system, it had to prepare and send data to Accounting for allocating costs as a routine task.

During the first period of implementation, it was difficult to collect input data due to the lack of participation from other staff in Company A. As a result, the project had not progressed as much as the ABC Team expected by the end of the year. This quote from Interviewee 4 describes the experience, “Normally engineers like working with machines; but hate collecting data. When we were asked to get some data, we thought they were disrupting our work. The happened during the period of network growth and most engineers were very busy. They did not realize the benefits of collecting data.” The ABC team had to find other ways to collect data and asked other engineers who knew about the data they wanted, to collect it. Then, the team reported this problem to Accounting and suggested that the ABC project needed to be formalized to provide it more authority.

\(^2\) SAP is a client/server enterprise resource planning (ERP) system, started in 1972 by five former IBM employees in Mannheim, Germany, is a powerful technology to integrate various business functional areas and can address or facilitate changes in business processes (Bancroft, et al., 1998).
The ABC team found that this problem was a result of the informal nature of the ABC project. At the time, only ABC team members and few staff knew about the project. The objectives of the project were unclear and other staff in the Company did not participate in it. These problems had been considered by top management and as a result formalized the status of the ABC team. All staff were informed about the new costing system project and requested to support it by providing adequate and accurate information from the Company’s respective departments. Consequently, there was a high participation rate from every department to support and provide information to the project.

Moreover, Company A restructured the organizational structure by establishing a sub-department that was called the Budgeting and Cost Analysis department in order to support the engineering department and respond to the rapid growth of competition and technology. This reorganization was completed before the implementation of ABC.

The sub-department was a means of reducing the problem of communications between the engineering and accounting departments. During the growth of the network, operation expenses dramatically increased and top management assigned Engineering to do budgeting in order to control costs. Engineering and Accounting experienced inter-departmental communication difficulties because they had different goals. Interviewee 4 said “In the past, it was difficult for an engineer to communicate with purchasing staff. An engineer wanted to invest in good quality of network equipment whereas, purchasing staff wanted to save costs. No one could mediate between them.” Therefore, the sub-department acted as a mediator to explain what Engineering wanted to Accounting and what Accounting wanted to Engineering. Engineering and Accounting developed a better understanding about the needs of each other.

Another benefit of the sub-department was that Engineering became willing to support the implementation of the project.

All collected data was checked and analyzed by the accounting staff and rechecked with the originating department before uploading the input data into Oros.

**Stage 4: The use of information**

The output from the new costing system was in the form of costing reports which would be sent to every department. No one was interested in using the information from the first set of outputs except top management. Once the highly competitive and rapidly developing telecom technologies (e.g. smart phone, 3G technology and video calls), were expedited top management allowed every department to design its own response to these new environments.

Finance and Marketing used the costing information for pricing strategies. Interviewee 3 said “The Accounting Department sends costing reports to Finance for estimating the price of products and services. When Marketing wanted to launch a new promotion or campaign, Marketing would deal with Finance about what suitable price should be.” Top management used the information for business strategies, planning for new investments and for the control of operating costs. Other departments and sales outlets used cost reports to find non-value adding costs and to identify inefficient activities.

The new costing system helped Company A reduce non-value adding activities and costs and to improve its operational effectiveness. Call Centers are considered the most efficient departments for gathering and using cost information to achieve greater operational efficiency a lower costs. Interviewee 5 said “We cannot reduce total costs but we can reduce costs per call by improving our productivity. We improved our working processes in order to reduce handling time. If we can reduce only 15 second minutes in each call, we can action more waiting calls.” The
Company’s managers also decided to use IVR as an alternative to employing customer staff as costs would be further reduced costs and good services to customers retained. Furthermore, the Call Center used cost information for benchmarking and pricing because it provided services to outside organizations and these can help the Company to evaluate its competitive position and apply suitable strategies.

Other departments used the cost information “to control costs, increase revenue and evaluate costs in various dimensions,” said Interviewee 2. Interviewee 1 said that, “Service Shops want to know how many costs they have consumed as they use cost information to improve their effectiveness and reduce their costs.” Engineering also used cost information to control costs and to make decisions about investment in infrastructure and the network.

Figure 4 represents movement in revenues, cost of services, equipment rental, cost of sales and cost of administration collected from the Annual Report 1998 to 2010. Revenue declined from 2004 to 2006 because of the pricing strategy which was used by a new competitor. Cost of services and equipment rental was dependent on the contract made with TOT. The process of ABC implementation had run between 2000 and 2004 and since 2006, the cost information has been used across the organization. It can be seen that cost of sales and cost of administration continued to slightly decrease.

**Figure 4: The proportion of revenues and key costs of operation by Company A from 1998 to 2010**

Despite the fact that this project has been completed, the company did not provide any rewards to the ABC team. The employees believed that if they were successful the Company’s profit would be greater and as a result they would receive increased bonuses at the end of the year. Moreover, The Company used KPIs (Key Performance Indicators) for work assessments. Employees were assessed by their colleagues from within and from external departments as well as from their managers twice a year.

Over the past eight years of the implementation of the costing system, the team accepted that this costing system was built on the ABC concept but was not a full ABC system. The complexity of telecom technology made it difficult to identify activities and find available cost drivers. The system is to be developed in the future, especially with regard to input data once the Company A has put systems in place to collect it more accurately and efficiently.
5.2 Factors influencing the implementation of ABC

5.2.1 Factors influencing the process of ABC implementation

A competitive environment, shaped by telecommunication liberalization and changes in customer behavior due to pricing competition, has a considerable influence on ABC implementation. This is particularly noticeable at the initiation and adoption stage and consistent with the findings of Anderson (1995), Vieira & Hoskin (2005) and Al-Omiri & Drury (2007). The rapid change in mobile and telecom technologies has become a key factor in competition in the telecommunications industry. It also forces Company A to need more accurate cost information. However, Company A did not have a professional costing system and this led to the implementation of ABC, consistent with findings by Anderson (1995), Krumwiede (1998) and Askarany et al. (2007). Furthermore, a competitive environment motivates the application of ABC information in the making of business decisions, planning and controlling, finding non-value adding activities and eliminating unnecessary costs.

The growth of the telecom market and technological advances in Thailand has provided fertile business opportunities for the Company to retain its market share, leadership and new market opportunities. Company A created product differentiation by improving the quality of networks and services and through introducing innovative products and services which led to an increase of capital expenses. Unfortunately, once Company A’s pricing strategy was acquired by its competitor, its market share was reduced as a result. Company A needs accurate cost information in order to set appropriate organizational strategies, control the cost of investment and respond effectively to competitive and technological environments. Consistent with Gosselin (1997)’s finding is that the strategy affects the adoption and implementation of ABC.

After completing the implementation, it was found in Company A’s Annual Report 2006 that Company A used cost information to change the marketing strategy from mass to segmentation by offering special charges for calls within a user group. Company A, which used high product differentiation would positively adopt ABC. Therefore, accurate cost information from ABC systems was needed for the price setting of new products and services. Porter (1996) found that ABC would support both product differentiation strategies and low price strategies (Innes & Mitchell, 1995; Kennedy & Affleck-Graves, 2001).

The change of organizational structure in Company A was influenced by a competitive environment. Initially, this change was not primarily focused not on the implementation of ABC but for increasing organizational capacity in an intensely competitive environment. This change also supported the implementation of ABC. Organizational structure of Company A was a mix of mechanistic and organic forms. One form is likely to be one of hierarchical control with authoritarian channels of communication, clear and functional positions with a high level of centralization and formalization; characteristics of the mechanistic form of structure (Burns & Stalker, 1961). Another form has a minimal hierarchy, specialization of functions and thrives on the power of personalities, flexible procedures and communication. This type of structure can react quickly and easily to changes in the environment and are characteristics of the organic form of structure. However, the form of organizational structure in Company A tends towards the mechanistic rather than the organic form. The organic form was used only during times of change. Interviewee 1 said, “If there is urgent work, relevant staff can be immediately contacted.” Consistent with Anderson (1995), Gosselin (1997), Liu & Pan (2007) and Kallunki & Silvola (2008), ABC is easier to implement in mechanistic organizations.
Moreover, Company A also used the integrated form of organizational structure which contributed to the successful implementation of ABC. The structural integration incorporates departments for the purpose of achieving the organization’s objectives (Lawrence & Lorsch, 1967). Company A established an ABC team that included staff from Accounting, Marketing, Engineering, IT and other departments to brainstorm how to implement ABC. The Budgeting and Cost Analysis Department was instrumental in improving communications between Accounting and Engineering. It not only helped Company A to respond to a competitive environment but also supported the implementation of ABC.

Company A implemented corporate governance and focused on Corporate Social Responsibility (CSR) in accordance with the Code of Best Practices of the Stock Exchange of Thailand in 2000. Company A is committed to increasing its support for its customers, its employees, the Thai community and the environment. Company A applied the concept of corporate governance to create its main strategy which is sustainable growth through the provision of high quality services. As a result, Company A is well-known for providing a high quality network and services. CSR is committed to increasing staff effectiveness through development programs that increase skills and enhance motivation. The Company is also family friendly. Staff has developed competencies and is motivated to work for the increasing benefit of the company and this has created an organizational culture.

The principle of work in Company A was abbreviated to ‘FAST MOVING’- it means - F: Forward Looking, A: Accountability, S: Service-minded, T: Teamwork, M: Mentality, O: Openness, V: Vision Focus, I: Initiative and Improvement, N: Non-Bureaucracy, and G: Guard. Employees had been trained to believe and work under these principles. Interviewee 1 said: “Everyone has to follow this concept. Thanks to Human Resource department for adding the concept in our blood.” Through its innovative culture, it was not difficult for Company A to accept and succeed in the implementation of new costing system. With a strong culture of innovation (such as teamwork, participation and openness to change) Company A has a higher potential of implementing new management accounting systems, similar to the findings of Chongruksut (2009), Baird et al. (2004), Morakul & Wu (2001), Eldenburg et al. (2010) and Fei & Isa (2010a).

**Figure 5: Relationships between identified factors**

![Diagram](image-url)

**Source:** Prepared by the researcher based on Company A interview profile

As previously explanation, six contingent factors influenced the implementation of ABC in Company A. Each factor has an influence on other factors. The relationships between identified factors are represented in Figure 5 and Table 2.
Implementation Strategy

Culture

CSR

Structure

Technology

Competition

Government

Table 2: The evidence describing relationships between identified factors

<table>
<thead>
<tr>
<th>The relationship</th>
<th>Exploratory Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government → Competition</td>
<td>- The Government has a commitment to the World Trade Organization (WTO) to liberalize telecommunications industry by the year 2006. This created a more competitive environment for the telecommunications industry. - The 8th National Economic and Social Development Plan stated that telecommunications liberalization will render the market more competitive.</td>
</tr>
<tr>
<td>Government → CSR</td>
<td>- Company A implemented a corporate governance plan in accordance with the Code of Best Practices of the Stock Exchange of Thailand.</td>
</tr>
<tr>
<td>Competition → Technology</td>
<td>- The rapid changes occurring in consumer behavior to use more wireless services lead to the development and investment in mobile technology in response to customers’ needs.</td>
</tr>
<tr>
<td>Technology → Competition</td>
<td>- The rapid change in technology has become a key factor of competition in the telecommunications industry.</td>
</tr>
<tr>
<td>Competition → Strategy</td>
<td>- In order to respond to the price competition in 2001, Company A changed its strategy from mass to market segmentation and offered special charges for calls within a user group in 2006. - Company A introduced new mobile technologies, retained a high quality of network services, a variety of products and services and increased customer relationships.</td>
</tr>
<tr>
<td>Strategy → Competition</td>
<td>- Company A has five key strategic areas to increase its competitive advantage including network quality, products and service expansion, service excellence, privileges and benefits and CSR.</td>
</tr>
<tr>
<td>Competition → Structure</td>
<td>- Competition forced Company A to restructure its organization. For example, Budgeting and Cost Analysis was established to improve communication between Accounting and Engineering.</td>
</tr>
<tr>
<td>Structure → Competition</td>
<td>- Establishing a sub-department known as Budgeting and Cost Analysis helped to balance the cost and quality of the network and respond effectively to changes in competition.</td>
</tr>
<tr>
<td>Technology → Strategy</td>
<td>- Due to the rapid changes in technology, Company A became a leader in mobile technology and introduced updated technology to customers.</td>
</tr>
<tr>
<td>Strategy → Technology</td>
<td>- Being a leader of mobile technology and a high quality network are key strategies for Company A. Technologies installed by Company A are always being developed.</td>
</tr>
<tr>
<td>Technology → Structure</td>
<td>- Due to the rapid change in technology, Company A needed to invest more in infrastructure and networks. The difficulty in communications between Engineering and Accounting resulted in slow decision making. Technologies installed by Company A are always being developed.</td>
</tr>
<tr>
<td>Structure → Technology</td>
<td>- A new sub-department, Budgeting and Cost Analysis improved effectiveness of investment in terms of cost saving and time using while at the same time, using high quality technology.</td>
</tr>
<tr>
<td>CSR → Culture</td>
<td>- After implementing CSR, Company A increased the effectiveness of staff by implementing an integrated way of working. CSR focused Company A to become more concerned about staff. For example, Company A provided skill development programs and educational scholarships to staff children etc. Staff goals became unified which improved the working environment; staff loyalty reduced conflicts.</td>
</tr>
<tr>
<td>CSR → Strategy</td>
<td>- CSR became one of company’s strategies in 2001 by creating sustainable growth based on high quality services.</td>
</tr>
<tr>
<td>Competition → Implementation</td>
<td>- Marketing needed cost information for pricing due to price competitiveness. As Interviewee 1 said “In the past, we reviewed mass information when we wanted to sell in bulk; we couldn’t sell it at the same price as we sold one number only otherwise we couldn’t compete with our competitors.” - The competitive environment has forced Company A to apply cost per product and service.</td>
</tr>
<tr>
<td>Technology → Implementation</td>
<td>- Due to a huge investment in mobile technology, infrastructure and networks, Company A needed cost information to make decision for effective investment.</td>
</tr>
<tr>
<td>CSR → Implementation</td>
<td>- Since implementing CSR, Company A has become involved in many activities inside and outside the organization. It needs to know the amount spent on these activities.</td>
</tr>
<tr>
<td>Culture → Implementation</td>
<td>- With strong and active organizational culture, Company A had fewer problems in the implementation of ABC.</td>
</tr>
<tr>
<td>Strategy → Implementation</td>
<td>- In order to respond to the price competition of 2001, Company A needed more accurate cost information and this lead to ABC implementation.</td>
</tr>
<tr>
<td>Structure → Implementation</td>
<td>- Budgeting and Cost Analysis was established to communicate between Accounting and Engineering in order to respond to competition. This supported ABC implementation by increasing the level of participation from Engineering. - The work structure of the Call Center is categorized discretely and information is collected in detail. The Call Centre also knew about the handling time per call of each agent. Therefore, in the implementation of ABC it was not difficult for the Call Center to provide input data and identify cost drivers.</td>
</tr>
<tr>
<td>Implementation → Competition</td>
<td>- The cost information from the ABC system helped Marketing to mark up prices for new products and services. Service Shops to improve their effectiveness or reduce/control costs and the Call Center to manage its cost and evaluate its performance.</td>
</tr>
<tr>
<td>Implementation → Technology</td>
<td>- Engineering used the cost information to control costs and to make decisions about the investment in infrastructure.</td>
</tr>
<tr>
<td>Implementation → CSR</td>
<td>- Company A was able to identify costs per CSR activity and used this information to evaluate its performance.</td>
</tr>
<tr>
<td>Implementation → Culture</td>
<td>- The cost information helped staff to improve its working effectiveness and to create active culture.</td>
</tr>
<tr>
<td>Implementation → Strategy</td>
<td>- Marketing also used the cost information for setting strategies and marking up prices for the new products and services. - After ABC implementation, in 2006, the company changed strategy from mass to market segmentation such as offering special charges for calls within a user group and continued to create confidence among consumers through network quality, services and promotions.</td>
</tr>
<tr>
<td>Implementation → Structure</td>
<td>- The implementation forced Company A to restructure some departments in order to collect input data and allocate costs easily. It provided the way for staff to control its work and develop working systems.</td>
</tr>
</tbody>
</table>

Source: Prepared by the researcher based on Company A interview profile & Company A’s Annual Reports from 1998 to 2010
5.2.2 Factors related to the ABC implementation success

In order to reach a better understanding of how Company A succeeded in the implementation of ABC, Shields and Young (1989)’s model is used to discuss the factors related to the process. To implement ABC by Company A, seven key success factors were identified by Shields and Young (1989) and found in the case of Company A as well.

The word ‘success’ is difficult to define; different people have a different definition of success which depends on experiences and knowledge. In this study, ‘the ABC implementation success’ is based on the perceptions of the participants. Interviewee 1 said “We got what we expected. At the moment we still want to develop more detailed input data. If data is a bit more detailed, we will be happier as at the moment we get rough data. For example, we prepare information for the call center quite well. It uses our information to solve problems about human resources. It found the most effective way to maximize call agent and IVR staff responses in order to reach optimization, effectiveness and lowest possible costs.” From this statement, the accounting department staff believes that the success of the implementation can be measured through being able to identify specific costs and allocate these costs to discrete cost objects. This information is used as cost information for effective management and cost saving. Participants said they were reasonably satisfied with their ABC implementation as it provided the cost information to increase their competitive advantage even though the cost information was not sufficiently accurate.

To implement ABC successfully, top management played an important role. It had the authority to motivate employees to participate in the process and supported it with resources such as Oros software, training and time. Consistent with the findings of previous studies, top management was the most important factor in the completion of ABC implementation (Al-Omiri & Drury, 2007; Anderson, 1995; Anderson & Young, 1999; Arnaboldi & Lapsley, 2005; Chongruksut & Brooks, 2006; Fei & Isa, 2010b; Foster & Swenson, 1997; Krumwiede, 1998; Lee, et al., 2010; Liu & Pan, 2007; Melah & Ibrahim, 2007; Majid & Sulaiman, 2008; Major & Hopper, 2005; Shields, et al., 1995; Tupmongkol, 2008).

Rewards or compensation as rival factors in studies by Shields (1995) and McGowan & Klammer (1997) were not linked with the successful implementation of ABC in Company A (Major & Hopper, 2005). Top management assigned the ABC project as a general task so the ABC team had to undertake this project on top of their normal work. Why were they willing to support the project despite the fact that their work load was doubled? Company A had a strong organizational culture and employees believed in ‘FAST MOVING’ that enabled the company to reach its goals. Using KPI as a work assessment system also encouraged employees to develop themselves and at the same time actively work for the company.

Adequate training and understanding ABC were found as factors influencing ABC implementation success (Al-Omiri & Drury, 2007; Arnaboldi & Lapsley, 2005; Krumwiede, 1998; Majid & Sulaiman, 2008; Shields, 1995; Tupmongkol, 2008). The ABC team was trained about the system by external consultants as non-accounting ownership was another factor influencing implementation success (Al-Omiri & Drury, 2007; Anderson, 1995; Anderson & Young, 1999; Krumwiede, 1998; Shields, 1995). Not only external consultants provided ABC knowledge to the team, but internal experts could do it for the company as well. Internal experts were top management who had an overview of the operating process or had knowledge of ABC. They could provide an implementation guideline for ABC to the team which resulted in success.
Adequate internal resources were also important to the ABC implementation such as Information Technology (IT) and organizational culture. Krumwiede (1998), Majid & Sulaiman (2008) and Tupmongkol (2008) suggest that a strong existing IT is needed to achieve the implementation of ABC. Company A had effective information technology as SAP and some additional applications which provided in-depth input data for the costing system. Company A realized that input data was important in providing accurate cost information and as a consequence it focused exclusively on the development of information technology. Organizational culture supports Company A in achieving the implementation of ABC as mentioned in a previous section. The staff of Company A was trained in a new way of working in Company A; known as FAST MOVING. This concept of work reduces organizational conflicts and improves the working potential. With a strong organizational culture, all problems that occurred during the implementation of ABC were solved quickly.

‘Non-accounting ownership’ includes staff from every department, except staff from Accounting, who provide cost information input data and use output data from the ABC system. For the implementation of ABC, active support from all staff was required because in-depth data from the whole company was necessary. Staff who worked in each department knew how to provide this data to the accounting department and only the accounting department itself did not have the ability to get all data in order to identify accurate activities and cost drivers. Non-accounting ownership is also crucial for the implementation of ABC and consistent with the findings from previous studies (Al-Omiri & Drury, 2007; Anderson, 1995; Anderson & Young, 1999; Krumwiede, 1998; Maelah & Ibrahim, 2007; Shields, 1995).

Linking ABC to competitive strategies, particularly quality and speed strategies, is another successful factor in implementing ABC and consistent with the findings of Shields (1995) and Majid & Sulaiman (2008). Company A expected to use ABC information to improve its competitive position and profits. Interviewee 1 said that Company A needed information for making decisions and running business effectively. They needed information that could support the launch of new products in order to respond to the customer’s immediate demands and also remain network quality.

Consensus about and clarity of the objectives of the cost management systems was found to support the ABC implementation success in Company A. However, previous studies did not identify the same factors as this study. During the first stage of ABC implementation, only the staff involved with the ABC team knew about the project. Other staff did not want to participate in the project because they lacked sufficient information about it. Once top management formalized the status of the ABC team and communicated the objectives of the project to all staff high participation resulted.

6. Conclusion

The aim of this case study was to identify factors and explore the process influencing the implementation of ABC in a Thai telecommunications company. The factors were identified from eight propositions (competition, technology, culture, organizational structure, and organizational strategy) and were developed using contingency theory. In order to achieve the objectives of the study, in-depth interviews with six key personnel in the company were used as a primary research tool.

All the findings of this study describe the experiences of the participants regarding ABC implementation. The study identifies two types of factors affecting the implementation of ABC in Company A. Firstly, factors influencing
the process of ABC implementation consisted of four stages: initiative and adoption, design, implementation and use of information. Five contingent factors influenced different stages of ABC implementation.

The external environment as a competitive environment and also technological sophistication were crucial to the implementation of first stage of ABC implementation into Company A. The Thai Government has indirectly affected the implementation of ABC by increasing levels of competition in the telecom industry. The competitive environment motivated users in Company A to source information about ABC during the familiarization stage of the process. The company’s competitive environment affected organizational strategies and organizational structure which consequently but indirectly supported the implementation of ABC. It is important to note that current leadership combined with product differentiation form part of the organizational strategies that influence the initiative and adoption stage.

The findings of the previous studies found that ABC is easier to implement in mechanistic organizations (Anderson, 1995; Gosselin, 1997; Kallunki & Silvola, 2008; Liu & Pan, 2007). In the case of Company A, the organizational structure combines mechanistic, organic and integrated forms that support the implementation of ABC, especially during the design and implementation stages. The form of integration seems to be important to the implementation of ABC although it is not common to previous studies. Company A had a strong innovative culture which influenced this phase due the implementation of CSR. It can be seen that CSR had an influence on the implementation of ABC in terms of improving the employee’s working skills and the loyalty of employees. The key contingent factors which were found in this study are different from other studies which studied the implementation of ABC in developing countries such as China, Taiwan and Iran. Organizational structure (Liu & Pan, 2007), organizational strategy (Ahmadzadeh, et al., 2011) and organizational culture (Eldenburg, et al., 2010; Fei & Isa, 2010a; Lee, et al., 2010; Morakul & Wu, 2001) have been found to influence the implementation of ABC in developing countries.

Secondly, factors related to the success of the implementation of ABC were explained by using Shields & Young’s model (1989). All factors are important to the successful implementation of ABC in Company A which is different from the findings of the study in Malaysia. Majid & Sulaiman (2008) studied the implementation of ABC in two Malaysian multinational companies. They found that top management support, linking ABC to competitive strategies and training in design implementation and using costing management systems were the most important factors related to the success of the process.

There are some limitations to this study. Firstly, although this study selected one Thai telecommunication company as a case study to gain in-depth knowledge about the implementation of ABC the results from interviews may not accurately represent the overall nature of the process for all Thai telecommunications companies. Secondy, since the results from interviews were based on cognitive based knowledge, qualifications and the experience of interviewees incomplete or biased information may result which will affect the results of the study.

Future research on the factors influencing the implementation of ABC could expand to other industries or companies in the same industry in Thailand. The comparison of two companies in different industries or two different companies in the same industry will discover the differentiation and similarity of factors between them. Some hidden factors or interesting issues will be found. Moreover, the comparison of two companies in the same industry but in different countries would reveal factors that are influenced by different nationalities.
7. References

7.1 Primary interviews

- Interviewee 1: An assistant director of the accounting department
- Interviewee 2: A costing manager
- Interviewee 3: A senior costing accountant
- Interviewee 4: A senior engineer
- Interviewee 5: The resources utilize and planning manager
- Interviewee 6: A manager of call center

7.2 Secondary references


