Measuring the Successful Implementation of Activity Based Costing (ABC) in the South African Post Office.

By

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MINI DISSERTATION

Submitted in partial fulfillment of the requirements for the

MAGISTER TECHNOLOGIAE:
BUSINESS ADMINISTRATION

(M TECH: BA)

COLLEGE OF ECONOMICS AND MANAGEMENT SCIENCES

UNIVERSITY OF SOUTH AFRICA

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SEPTEMBER 2005

ACKNOWLEDGEMENT

The work of this nature will not and is usually not the work of one person. The writing of this dissertation has been the assistant by generous help of many special people. I feel that I was very fortunate to receive assistance from them. I wish to express my sincere appreciation to them.

First and foremost, I am indebted to my supervisor, Dr Johan Le Roux who has been very supportive at every stage of this dissertation. I wish to express my almost gratitude to his invaluable advice and patience in reading, correcting and commenting on the drafts of the dissertation and, more importantly, for his generosity which I received throughout my entire masters program. His kindness and spiritual support has made me feel more confident during the study period. Without his generous assistance and encouragement, this dissertation could never have been completed.

I am especially grateful to my co-supervisor, Professor Dominic Iwisi, for his kindness and encouragement. I appreciate his reading, guidance and comments on this dissertation, as well as his provision of kind support and valuable information for the dissertation.

I wish to express my special thanks to Mr Makoto Matlala, the Chief Financial Officer of the South African Sports Commission for his helpful comments on my questionnaire. The special thanks to the Chief Financial Officer of SAPO, Mr Nick Buick for not hesitating in declaring a full support for my research in his finance department. The special thanks to all the finance staff members of SAPO for completing the questionnaires.

I also like to thank Yvonne du Plessis of the University of Pretoria for her wonderful work and energy of editing the language of this dissertation. Special thanks to my colleagues Papi Mokgwetsi and Tetelo Nkuna for helping me to achieve my objectives of completing this dissertation in time.

I will be making a mistake of not appreciating the support from my wife Hunadi and my three daughters Phethego, Puseletso and Dimpho for their tolerance when I ignore them to give the parental love. Also, I would like to thank my two brothers and three sisters for their support.

To my beloved mother Mogaleadi who gave me the parental love when I was young until today. To you mom, I won't forget the love and courage that you gave me.

The whole project is dedicated to my late father Mafuta who passed away during the middle of my studies. I will always remember the way you use to appreciate my success. ''Please dad may your soul rest in peace"

''To all of you may God Bless You''

DECLARATION

This dissertation '' Measuring the Successful Implementation of Activity Based Costing in the South African Post Office'' is my own work and contains no material which has been accepted for the award of any other degree or diploma in any university or other institution, and to the best of my knowledge, this dissertation contains no materials previously published or written by another person, except where due reference is made in the text of this dissertation.

Taba Makomane Lucas

ABSTRACT

Measuring the success of Activity Based Costing (ABC) is part of a more general challenge of measuring the success of any major change in managerial methods. The past thirteen years have seen accelerated rates of change in the South African Post Office (SAPO). However little is known about ‘’Measuring the successful implementation of ABC in (SAPO)’’.

The objectives of this study is to research the perceptions of staff regarding the successful implementation of ABC, the benefits of ABC implementation and the conditions that affect the potential benefits from the successful implementation of ABC. This will allow organisations and provide them with relevant information that will enable them to make better decisions with regard to measuring the successful implementation of ABC.

To achieve these objectives a questionnaire was prepared and handed out to the finance staff of the SAPO. They were asked to respond to the questionnaire on their experience and their perceptions on the implementation of ABC. 121 questionnaire were returned generating a 38% response rate.

The findings in this study highlighted that top management fails in giving active support to the implementation of ABC and the technical factors were perceived as standing in the way of the successful implementation of ABC. These were training, the high cost of implementing ABC, the lack of software packages, the lack of data requirements and co-operation between departments.

From the finding the recommendation was made were general strategies were suggested for the SAPO for measuring the successful implementation of ABC.

<u>Key terms</u>; Activity Based Costing, Fundamental of ABC, Implementing of ABC, Benefits of ABC, Limitations of ABC, Environmental effect of ABC.

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CHAPTER 1 INTRODUCTION

1.1. Background

The South African Post Office (SAPO) has been in operation as a company since 1st October 1991. Originally SAPO was a parastatal organisation under Post and Telecommunication.

The transition from a government department to a company was a strange and traumatic experience for the employees of the company. The transition demanded the employees to adapt to a different culture i.e. from a culture of non-profit to that of a profit orientated organisation.

Since 1991 SAPO reflected a loss. During 2000/2001, 2001/2002 and 2002/2003 it recorded a losses of R584m, R354m and R161m respectively. Due to the above situation, SAPO, together with the government, the Department of Communication assisted by ABC Technologies, are in a process of implementing Activity Based Costing (ABC) in order to improve the financial performance of the company. The Department of Communication funds this project which as an important initiative, is expected to benefit SAPO.

1.2. Problem Statement

In recent years ABC has been promoted as a basis for making strategic decisions and for improving profit performance. However, McGowan and Klammer (1997: 217) stated that although ABC has found rapid and wide acceptance, there is significant diversity of opinion, regarding the efficiency of ABC. Some writers pointed out that when ABC is used in conjunction with other management techniques, it would improve its successful implementation. Gupta, Baexendale, and McNamara, (1997:23) associated the successful implementation of ABC with the theory of constraints (TOC); Olsen, (1998:5), who indicated that ABC is a complement to total quality management (TQM),

while Roztocki and Needy, (2000:344) believed that ABC works better through the assistance of economic value added (EVA). However, McGowan, (1998:31) suggested that empirical research is needed to document the financial consequence of ABC implementation without the assistance of other business management initiatives.

The contribution of ABC to the improvement of an organisation's bottom line was still not clear. Tarr, (2001b: 9) felt that ABC adds the most value to an organisation when it is used as information basis of managing and improving business. Adding to this Dodd, Lavelle and Margolis, (2002:50) still maintained that ABC provides companies with a powerful tool for improving profit. Plowman, (2001:13) confirmed this and argued that ABC provides a means of enhancing profitability. Contributing to this, Rafig and Garg, (2002a: 5) found in their recent studies that there is a robust relationship between improved performance and implementation of ABC. However Cagwin and Bouwman, (2002: 4) suggested that other strategic business initiatives such as total quality management (TQM), just-in-time (JIT), business process reengineering (BPR), and financial management systems (FMS) must be used in order to associate ABC with improved financial performance. There has been no empirical evidence that demonstrates that ABC improves financial performance other than been used with TQM, JIT, BPR, FMS.TOC and EVA (Cagwin and Bouwman, 2002: 4, and Roztocki, 2001b: 3).

In this study the focus will not be on the empirical testing of the successful implementation of ABC in SAPO, but the analyses of the perceptions of staff regarding the successful implementation of ABC in SAPO.

1.3. The objectives of the research.

The objective of this research is as follows:

To establish the perceptions of staff regarding:

1. The successful implementation of ABC.
2. The benefits of ABC implementation.
3. The effects of the environment on the successful implementation of ABC.

1.4. Value of the research

The value of this research is to provide relevant information to the managers of SAPO enabling them to make better decisions with regard to the successful implementation of activity based costing.

1.5. Research Methods

1.5.1. Research design

The research method is an exploratory and descriptive study making use of questionnaires. In order to achieve the objectives of the study, the questionnaires were designed with the intention of answering the research questions.

1.5.2. Population and sampling procedures

The population and sample answering of this questionnaire was targeted on the finance staff in the South African Post Office. The reason selection is due to the fact that they are in contact with a cross-section of the company's members and can provide the necessary technical and organisational detail regarding the implementation of ABC.

1.5.3. Data collection

The data was collected by means of structured questionnaires with multi-item measures (Sapsfort, 1999:52, and Stockburger, 2004:16), which were mailed to

the participants in the finance department of SAPO. According to Roberts, (1999:53) such structured questionnaires will present multi-item measures; which inhibits misunderstanding or misinterpretation.

1.6. Data analyses technique

For this exploratory and descriptive study, composite tables and graphs are used. The mean values are used to resolve the research question. The most positive and most negative responses are also discussed. This will reveal how the staff perceived the implementation of ABC.

1.7. Methods of reliability

In reliability one refers to the degree of dependability, consistency or scale of stability. In order to ensure reliability and validity;

- the questionnaires were reviewed;
- had a covering letter from the Chief Financial Officer;
- a second follow-up e-mail to the non-respondents within two weeks;
- If no reply, a phone call to the non-respondents were contacted telephonically;
- Lastly, there was a utilization of appropriate statistical techniques for analysing the data.

1.8. Exposition of final report

This mini dissertation is divided into the following chapters;

Chapter 1: Introduction

This chapter outlines the background of the study, the problem statement, and objective of the research, value of the research, research methods, data analyses

techniques, methods of reliability, and the exposition of the report. The following chapter will deal with the literature review of the study.

Chapter 2: The Literature Review

This chapter is consists of two parts. In the first part the general aspects of the implementation of activity based costing (ABC) are discussed as a background to the study. In the second part of this chapter a literature study is done to identify factors that could be used as basis to develop the questionnaire.

Chapter 3: The Research Methodology

The purpose of this chapter is to measure the successful implementation of activity based costing. The discussion of the research questions, data collection, population and sampling techniques, variables, questionnaire design, methods of reliability and data analyses techniques are captured in this chapter

Chapter 4: The Results of the Research and Discussions

This chapter consists of two parts. The first part deals with the discussion of statistical analyses, whereas the second part deals with the results of the questionnaires.

Chapter 5: Summary and Recommendations

In this chapter, summary of the research results, as well as the recommendations and limitations are discussed. Several suggestions for future research opportunities are also discussed in this chapter.

CHAPTER 2: ACTIVITY BASED COSTING

2.1. Overview

This chapter comprises of two parts. In the first part the general aspects of the implementation of activity based costing (ABC) are discussed as a background to the study. The second part represents a literature study, done to identify factors that were used as basis to develop the questionnaire

2.2. General aspects of Implementation of ABC

In this part the implementation of ABC will be discussed under the following headings:

- General description at ABC,
- The implementation of ABC.
- The benefits of ABC, and
- The limitations of ABC,

2.2.1. A General description at ABC

Activity Based Costing (ABC) is a costing system that has gained popularity in the last decade and the most written and talked about in management accounting since 1985 (Lere, 2002:6; and Taylor, 2002:2). In recent years, academics and management accountants have demonstrated a great interest in ABC (Bjoernenak and Mitchelle, 2002: 481; and Naughton-Travers, 2001:48).

2.2.1.1. What is Activity Based Costing?

ABC is not the same as estimating or quoting, it provides information that makes estimate and quoting more precise and reliable. ABC is a cost management method that addresses the shortcomings inherent in traditional costing methods

for handling the indirect costs (Needy and Bopaya, 2000:31). ABC was originally developed by companies to deal with the problem of product cost subsidisation in the traditional costing system (Barton and MacArthur; 2003:1; Roztocki, 2001d: 2)

ABC is the foundation for better understanding of the accurate profitability of products and services and to identify improvement initiatives (Haggarth, 2003:1). ABC is a means to link costs with activities and the jobs or products that led to the activities (Albert, 2001:2). ABC is a method that is able to allocate costs to products and services and provides focus for process improvement (Baxendale, 2001:61). ABC is a reliable cost analysis, which is a highly effective tool for strategic decision-making (Roztocki and Needy, 2000:341).

It would therefore seem that the consensus is that ABC is instrumental to better understanding of the relationship between cost and activities of an organisation.

2.2.1.2. Fundamentals of Activity Based Costing

De Vries and Pholbud, (2002:1) and Hamilton, (2001:5) indicated that ABC has emerged in recent years to provide managers with more accurate cost information. Demmy and Talbott, (1998: 18) confirmed that ABC provides and facilitates the evaluation of profitable product lines; and estimates the bottom line figures accurately. In Figure 2.1, La Londe and Ginter, (1999:2) and Vieira, (2000:7) demonstrated that ABC uses two stages of a cost assignment approach. In the first stage, the resource costs are assigned to activities based on the amount of resources consumed in performing the activity. An activity cost would equal the sum of all the resources consumed in performing the activity. In the second stage, activity costs are traced to the frequency of the activity of the product of service is performed in support of the cost object.

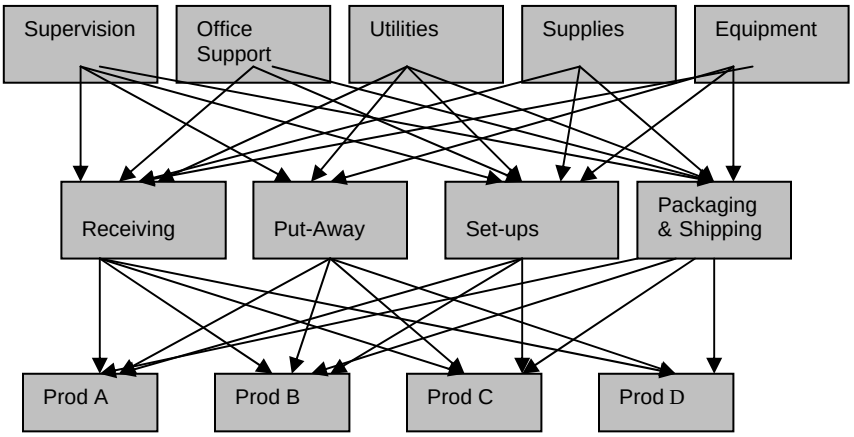

Figure 2.1: Two-Stage Assignment Process (La Londe and Ginter, 1999: 2)

Munck, (2001:1) agreed that in ABC the costs are distributed according to the activities. Gurses, (1999: 8) confirmed this and added that the unique feature of ABC is that the focus on this approach is on activities and the cost of those activities, rather than on products as in the traditional costing systems. It is this feature of ABC that gives management the necessary information to identify opportunities for process improvements and cost reductions. By using ABC information, managers can observe the cost of each major overhead activity performed in a business unit separately, and can therefore make a more informed decision e.g. to reduce costs.

2.2.1.3. Why is Activity Based Costing needed?

Cokins, (1999*b*: 29) reported that ABC is essential as companies are not aware of which activities comprise their output or how each activity's cost is consumed. For example, due to the technological change in manufacturing and non-manufacturing environments, traditional cost accounting is rapidly disappearing. Gurses, (1999: 10) found that in today's world; manufacturing companies are

changing and becoming more information intensive, highly flexible, and immediately responsive to the customer expectations.

Furthermore, Bhimani and Gosselin, (2002:3) reported that during the 1990s, organisations have been challenged to change their costing practices more specifically to adopt new cost management innovations, such as activity based management, and the impact of these pressures seems to have varied from one organisation to another. Campbell, Brewer and Mills, (1997:16) reasons that by implementing ABC appropriately, it can assist companies to close the communication gaps between the departments and support cross-functional decision making. Cokins, (1999*a*: 2) further noted that ABC was developed as a practical solution for problems associated with traditional cost management.

2.2.1.4. Conclusion

Before embarking on any project, it is important to determine what the project is expected to accomplish. A project to implement ABC is no exception. Gurses, (1999: 12) stated that as with any course of action, the implementation of ABC is justified if costs of installing and operating the system are more than offset by the long-term benefits. However, Roztocki and Needy, (1999*a*: 17) found that if a company is unable to generate enough economic profit overtime, its survival is questionable.

2.2.2. The Implementation of Activity Based Costing

There are various approaches for designing and implementing a successful ABC system. There is no ‘’one approach fits all’’ solution. Without a clearly stated purpose, the ABC system resulting from the project will not meet the needs of the organisation in a cost-effective manner. The implementation procedures of ABC will be discussed next.

2.2.2.1. The implementation procedures

The implementation procedures are performed in seven major steps (Roztocki, Valenzuela, Porter, Monk and Needy, 1999: 279), namely: review the company's financial information, establish objectives and requirements of the ABC system, identify main activities, trace overheads to activities, trace overhead to cost objects, calculate product cost of each cost object, and, use the ABC analysis for strategic decision-making and improvements

Step 1. Review the company's financial information

The objective of this step is to identify the company's direct costs, overhead costs, and capital costs. Roztocki and Needy, (1998:78) pointed out that all the required financial information could be obtained from the company's income statement and the balance sheet as the performance of the company is reflected therein. (Roztocki and Needy, 1999c: 462)

Step 2. Establish objectives and requirements of the ABC system

During this step, management must decide upon the main objective of the costing system. A costing system, for example, will be used to control costs, establish pricing policies, or assess inventory. In addition, management must decide upon the level of accuracy and reliability required in their costing system. The higher the level of accuracy, the higher the effort and cost of data collection.

Step 3. Identify main activities

During this step, the main activities, which cause overhead expenses, are identified. Strayhorn, (2001:2) regard activities as those functions that an organisation performs to fulfil its mission, its reason to exist. The number of

activities identified, used as a medium to trace overhead is determined by the level of accuracy and reliability desired.

Step 4. Trace overheads to activities

Expenses that can be associated with a particular cost object are considered "direct". Expenses, which cannot be associated with a particular cost object, are defined as "overhead". Overhead, which is the focus of the ABC analyses, is traced to main activities.

Step 5. Trace overhead to cost objects.

The overhead costs are traced from activities to cost objects. To systematically relate activities to cost objects and to identify the cost object's overhead consumption rate can be used. (Roztocki and Needy, 1999b: 8).

Step 6. Calculate product cost of each cost object

During this step, the direct and overhead costs of each cost object are added together, in order to obtain the product cost. Once the product cost is calculated, for example it can be used to judge profitability, make well-founded pricing decisions, and identify opportunities for cost savings, introduce a new product line, or drop an existing one (Roztocki, 2001b: 3).

Step 7. Use the ABC Analysis for Strategic Decision-Making and Improvements

During this step, the product cost information as provided by the ABC system would not automatically lead to better business performance. However, with ABC analysis, the decision-makers would be challenged to interpret the data that will improve the efficiency of the business.

2.2.3. The benefits of ABC.

The benefits of ABC are adapted from the work of Rafig and Garg (2002b: 10):

2.2.3.1. Costing Transaction

The ABC system will usually present costing for any unique transaction profile at an aggregate level, i.e. it will present the total costs for performing these types of transactions. Most current ABC software systems have the unit costing functionality. However, in general computing the cost of a particular unit transaction for a profile may require reliance on a reporting tool, for example, Microsoft Excel or an online analytical processing tool. Once this is done, comparison with the traditional cost accounting methods and other value added analyses can be performed.

2.2.3.2. Decision Analytics

ABC creates a unique opportunity for a variety of rich strategic analyses that is not usually accessible through traditional profit and loss data. A number of different options are available to the financial institution. The options will either be of a strategic or more tactical or operational nature. Furthermore, some options will be available immediately and some will have a long-term horizon.

Three of these options, which illustrate the virtues of ABC and the valuable information it can provide, are briefly described.

a. The S-Curve

The post implementation framework demonstrates one of the immediate benefits of ABC (Figure 2.3). This allows a business to rank each service or product by profitability to determine which product or customer segments are most attractive.

This kind of analyses is called the S-Curve in which products are ranked according to how ABC costing compares with traditional costing. Where

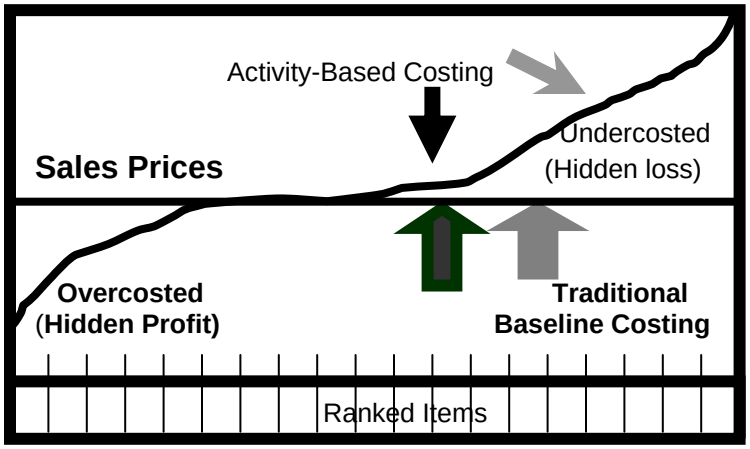

Figure 2.2. ABC Post Implementation Framework (Rafig and Garg, 2002b: 10**)**

products are overcosted (i.e., products on the left side of the diagram of figure 2.2 above), ABC reveals hidden profit. Conversely, where ABC costing is above traditional costing (i.e., products on the right hand side of the diagram of Figure 2.3 above), hidden losses are revealed. For one bank where this analysis was carried out after ABC implementation, it was discovered that seven out of their top ten products were overcosted by traditional accounting (Rafig and Garg, 2002b: 10).

Given that popular products are usually 'marker' or 'comp' products, i.e., those that the customers use to compare prices across competitors, overcosting these products and by implication, overpricing these products can have significant implications on market share. Given the information, there is a valid reason to pursue a different strategy that of reducing the price of these products to attract clients to the bank and to attempt to increase market share (obviously dependant upon the price elasticity of these products).

b. Customer Segmentation Analysis

Figure 2.3, reflects that ABC data permits more rigorous customer segmentation analysis. Clients can be segmented based on two criteria: net price realized and cost-to-serve. In ABC the important dimensions available can be the distribution/order channel; to generate accurate and reliable data; and to determine the exact cost to serve for each customer segment. Through this kind

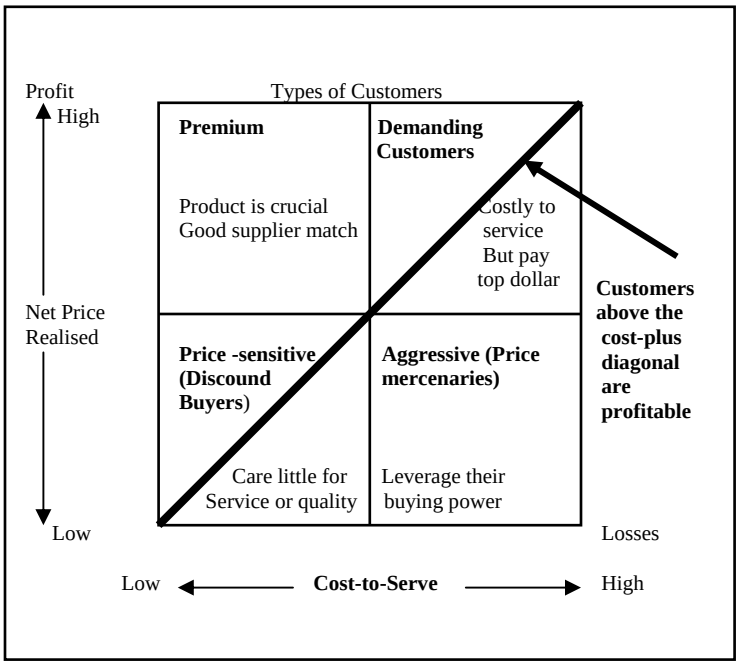

Figure 2.3. Customer Segmentation Analysis (Rafig and Garg, 2002b:10)

of segmentation analyses, financial institutions can turn the 'demanding customers' (high cost to serve but profitable customers), into highly profitable clients. This is achieved by effectively planning customer migration strategies to serve them through lower cost-to-serve channels, such as web-based solutions. In the future business of a major investment bank, the cost per transaction is seven times higher for orders that were received through trading desks than for orders that were received through the electronic channel. To the degree that "demanding customers" can be carefully and thoughtfully migrated to electronic

order channel, this can substantially boost bottom line profitability. With decisions-makers having complete visibility on costs by product, customer, and order channel, they can plan specific price and product package tailored for particular customers by product and by order channel.

c. 'Insource' versus ' Outsource' Decisions

Another popular tactical use of ABC is in supporting complex 'insource' versus 'outsource' decisions. This is especially true for certain information technology activities such as personal computer support, which might be considered for outsourcing. The true resource cost of performing these activities can be accurately costed through ABC. For financial institutions where IT accounts for a large allocation of the annual budgets, this is a significant benefit. The financial institutions have increasingly been using ABC budgeting to effectively plan their budgets and resource requirements.

2.2.3.3. Care and Maintenance

However, to sustain the benefits of ABC, care and maintenance which is often an overlooked part of ABC implementation, needs to be ensured. Once the model is up and running, it is often assumed that the model is self-sustaining. This is rarely the case, as in the first few months while some of the data feeds are automated the ABC model, still requires some manual intervention. This is a crucial time for sustainability of the model. If most of the data feeds are not automated, then upkeep of the ABC model will become arduous. Therefore it is imperative to automate as many elements of the ABC model as possible, and as early as possible. It is also important to understand that the ABC model will only deliver indicative results in this early gestation period. The model needs to be run for at least six months and ideally a year to capture the impact of seasonality or other such variations. In six months the results of the ABC model will stabilise, providing accurate and robust data for analyses.

Care and maintenance functions need to be sustained. Continued refinement and testing of the model should occur, after all, a business is not static and so the ABC model should never remain static. As new activities are introduced and others erode, this should be reflected in the model. ABC produces rich results, but it also requires a resource commitment to make sure that is populated with data that is continuously updated.

2.2.4. Limitation of Activity Based Costing

Friedman and Lyne, (1995:17) argued that ABC is still an allocation system, which must, by nature of allocations, be arbitrary. Furthermore, it is added that there couldn't be a 'true' product cost if there are overhead costs, which need to be allocated. The traceable notion of ABC is questioned. There are instances where cost drivers are not unique and different methods of performing the cost driver analyses could produce different product costs. It is argued that decisions based on allocated costs will always be doubtful, since more than one way of allocation can exist, with equally valid rationales.

The traditional view is that short-run decisions should be made on the basis of variable costs or contribution (Friedman and Lyne, 1995:18). Since ABC is a measure of the long-run consumption of resources it does not provide this information. Activity based costs are a measure of resources consumed to enable a product or service to be manufactured or provided and is not a variable or marginal cost. Therefore ABC cannot be used directly to make short-run decisions on marginal projects or small changes in the volume of output.

Furthermore, cost-benefit analyses of ABC may show that the benefits of activities may be minimal, as either the activity-based costs will not be significantly different from the current costs, or the costs of obtaining reliable information will be too high (Friedman and Lyne, 1995:18).

Under ABC, it is assumed that almost all of the costs are variable, and according to the output level. However, in the short run, there are many fixed

costs such as the cost of labor, rent and equipment, etc. The company will incur these costs whether the product is produced or not. Consequently, ABC may give inaccurate information regarding short-run decisions as a result of not reflecting the actual costs the company will incur in the short-run (Gurses, 1999:32).

Another weakness of ABC is that it does not involve the constraints of a system into the analysis. Therefore, in the short-run, the capacities of all the activities are fixed. Furthermore, Cohen, (1999: 32) indicate that ABC provide partial solutions during product costing, customer costing, channel profitability, process improvements, product mix and volume decisions.

Clarke and Mullins, (2001: 18) indicated that the desire to change to an ABC system is often met with reluctance at management level. Clarke and Mullins, (2001: 18) viewed that problems are often encountered in identifying appropriate cost pools and related activity cost drivers. Clarke and Mullins, (2001: 18) found that ABC implementation is costly and time consuming. This includes the costs involved in adapting the internal accounting system together with the time involvement of all staff involved and training in the new accounting system.

Additionally, Clarke and Mullins, (2001: 18) stated that ABC systems might be too complex for the needs of the organisation. Complexity is brought about by a desire to cater for a vast number of activities, cost drivers, product/services and cost elements. However ABC systems that are too complex often fail to meet management requirements. It is therefore important to evaluate the scope and the role for the proposed system, if implementation is to be successful.

Tarr, (2001a: 3) found that ABC is still a financial review of cost and takes into account little or no operational information. Detail analyses of accounts is required resulting in a time consuming analytical process. This approach is static, therefore substantial changes in product mix or process volume requires

a reanalysis and rebuilding of the model. It provides no understanding of how key business process affected costs.

Roztocki, (2000*b*: 1) found that despite it's advantage over traditional costing system, ABC fails to account for capital costs, investment risk and cash flow factor due to non-consideration of balance sheet, ABC tends to under-estimate the total product cost. Roztocki, (2001*a*: 1454) intimated that although it outperforms traditional methods in terms of its reliability and efficiency, it still disregards capital costs.

2.2.4.1. Conclusion

ABC systems may be too complex for the needs of the organisation. Complexity is brought by a desire to cater for a number of activities, cost drivers, products, services and the cost elements. However ABC systems that are too complex often fail to meet management requirements. It is therefore important to evaluate the scope and the role for a proposed ABC system.

2.3. Discussion of the factors that can be used for the questionnaire

In this part of the chapter a literature review will be used as basis to indicate which factors could possibly be included in the questionnaire. The discussion will be done under the headings that coincide with the objectives of the study. Finally the section will be concluded with a general discussion of factors which could be included to achieve the following objectives:

- Factors that is important to determine the success of the implementation of ABC.
- Factors that are important to determine the benefits derived from the implementation of ABC.
- Factors that is important to determine the effects of the environment on the successful implementation of ABC.

2.3.1. Factors that are important to determine the success of the implementation of ABC.

Projects fail as there was never any significant planning at the front-end that took the risk involved in consideration (Raffish, 2001:2). Furthermore, ABC projects falling short of expectation have nothing to do with ABC methodology or the technology that supports it, but the behavioural and organisational variables during ABC implementation Cokins, (2001:13; Anderson and Young, (1999:525). Shield and McEwen (1996: 15), confirms this and adds that a significant cause for the unsuccessful implementation of ABC of several companies was the emphasis of achitecteral and software design of the ABC system and overlooking behavioural and organistional issues

Therefore it can be concluded that the behavioural and organisational variables influence the successful implementation of activity based costing (Venieris, Cohen and Kaimenaki, 2003: 2). However, the behavioural and organistional variables can be overcome at each stage in the implementation of ABC and can lead to the successful implementation of ABC (Krumwiede and Roth;1997: 5).

Ross, (2002:1) indicated that once ABC is properly implemented, it would provide a different picture of the actual cost of a product or service that may be more accurate than the traditional accounting methods. Lancashire and Edward, (2001:2) noted that the benefits of implementing ABC could deliver up to 1,000 percent payback within the first two years of implementation.

Turney, (1996:15) also suggests that the initial steps needed to succeed in implementing ABC are to generate interest in ABC at all levels of the company, to remove any barriers to adopt ABC and to obtain management's commitment to support the implementation of ABC. The study of Norris (1997:180), confirmed that internal commitment of the individual managers to the change influences the successful implementation of ABC. Chongruksut (2002: 49), also claims that the

implementation of ABC is likely to be unsuccessful without the commitment and sponsorship of users, and senior management. McGowan and Klammer, (1997:222) contend that the most essential factor influencing the successful implementation of ABC is top management support, which means the encouragement, by top management, of ABC developing teams. It is possible that top management support may be one of the most important factors in implementing ABC in SAPO environment on the grounds that top executives and/or senior managers in SAPO are the ones who have the power to take action and influence/make most of the decisions in the organisation (Morakul and Wu, 2001:145).

2.3.1.1. Conclusion

For ABC to be successful and to produce any meaningful results, employees must embrace ABC and be held accountable. Effective sponsorship and how the rationale for ABC implementation is communicated to employees is important. If this does not occur, ABC implementation will be nothing but a house built on sand. Therefore several aspects on commitment by all parties as well as the support of top management will be included in the questionnaire when evaluating the perception of the respondents regarding the successful implementation of ABC.

2.3.2. Factors that are important to determine the benefits derived from the implementation of ABC

ABC is claimed to furnish several benefits of traditional costing techniques: enhanced product cost accuracy; more comprehensive cost information for performance measurement; more pertinent data for management's decision-making; more potential for sensitive analyses; and providing a model prospect on value-adding organisational transaction and activities (Chongruksut 2002:48).

ABC is also used to advocate strategic decisions, such as customer profitability and pricing and product mix. Due to the increasing accuracy of output costs, ABC information enables managers to make better decisions on product, product design, process improvement, market segments and customer mix (Chongruksut, 2002: 49).

According to Shim and Stagliano, (1997:39), Booth and Giacobbe, (1997:3) and Chung, Schoch and Teoh (1997:125), ABC is a significant source of information for decision-making, product costs and product-line profitability. Chongruksut, (2002: 49) claim that accurate product costs are critical to pricing decisions, new product introduction, and decision to drop out-of-date products and decision on how to respond to products of competitors correctly.

In addition to the above factors, the decision of implementing ABC is often driven by the need to improve customer profitability analyses (Kocakulah, Fowler and MacGuire, 2000:5, and Tayles and Drury, 2001:4), to prepare relevant budget (Bescos, Cauvin, Gosselin and Yoshikawa, 2001:4) or to remain competitive in the industry (Friedman and Lyne, 2000:3).

Other studies also reveal that many companies proceed with the implementation of ABC as they wish to modernise their cost accounting in order to meet the reality (Malmi, 1999:218); to improve their business processes (Brown, Booth, and Giacobbe, 2001:18), or to use more reliable cost information for external and internal benchmarking purposes (Friedman and Lyne, 2000:4).

2.3.2.1. Conclusion

The question that must be answered before implementing ABC, is what does the company intend to achieve and how it views its business? From an economic and a business perspective, this means understanding the business and its 'drivers'. Therefore most of the factors discussed above will be included

in the questionnaire when evaluating the respondent's perception of the benefits of ABC implementation.

2.3.3. Factors that is important to determine the effects of the environment on the successful implementation of ABC.

The benefits and successful implementation of ABC are normally realised under specific environmental conditions. However, it should be stressed that the implementation of ABC is often accompanied by challenges. Firstly, many companies that have cited that during the implementation of ABC, they faced reservations from employees or managers regarding the usefulness of the new system (Norris, 2000:3; Tayles and Drury, 2001:4), challenges in identifying and selecting activities or cost drivers (Clarke, Hill and Steven, 1999:446; Hussain, Gunasekeran, and Laitinen, 1998:58), problems in accumulating cost data for the new system (Hussain, Gunasekeran, and Laitinen, 1998:58; Tayles and Drury, 2001:4) or lack of resources (Clarke, Hill and Steven, 1999:444; Adler, Everett and Waldron; 2000:131).

In practice, the implementation of ABC has various problems. The results of the studies by Innes and Mitchell, (1998: 1), and Chen, Firth and Park, (2001:37) show that the main problems with the implementation of ABC is the difficulty of data collection. ABC involves the collection of a great deal of data relating to cost-drivers and item's relationships to specific products (Booth and Giacobbe, 1997:6).

Booth and Giacobbe, (1997:6) and Innes and Mitchell, (1998:1) also found that the other higher priorities were the pre-eminent problems for companies considering or rejecting ABC, especially small companies, as they thought that ABC was a big change for their companies. In addition Roberts and Silvester, (1996:3), Innes and Mitchell, (1998:5) report that problems in practice include activities crossing departmental boundaries and difficulties of choosing suitable cost drivers. Chung, Schoch and Teoh, (1997:125) and Chen, Firth and Park,

(2001:37) studies also indicate that the inability to integrate the current system is a major problem of implementation of ABC.

Howardell, (2001*a*: 2) indicated that the company that wants to be successful in this new environment would have to create a faster, smarter and better organisation. Dougherty, (2000:3) suggested that companies should reinvent their existing processes in order to maintain the pace with a rapidly changing environment. Anderson and Young, (1999:525) argue that even if the innovation process is significant to the successful implementation of ABC, the process and the outcomes are directly affected by the organisation's initial environment. Garrido, (2002:5) believes that companies react to environmental conditions adapting their structures in order to maintain internal efficiency. In addition, Howardell, (2001*b*: 3) studied that thriving in a changing environment is one of the most critical new skills for people today.

2.3.3.1. Conclusion

The implementation of ABC may have some problems, but the enhanced knowledge and grasp of ABC implementation makes it valuable. Many companies implementing ABC may only use it successfully if they perceive the behavioural, organisational and political aspects of implementation of ABC. The difficulties of data collection is usually the problems that both companies implementing ABC and companies rejecting ABC confront Therefore the factors as discussed above will form part of the questionnaire that will evaluate the perception of the respondents, in respect of the effects of environmental factors on the successful implementation of ABC.

2.4. A general discussion of factors

To conclude this section, a short discussion on the factors that could be included in the questionnaire will be presented. Based on the literature review, the most important eight factors identified is as follows: top management

support, competition, training, non-accounting ownership, resources, information technology, size and consultants. These factors were used as a guide to develop the questionnaire that was used in this study.

2.4.1. Top management support.

Top management support is the most crucial factor in the success of ABC implementation. Garrison and Noreen, (2000:325) argue that top management is needed as it is difficult to implement changes in an organisations without their full support, and to make sure that the system is used for its intended purpose (Roztocki, 2000b: 2). These findings are in fact consistent with the more general finding that almost all successful innovation requires the support of top management. Top management should commit resources and develop goals and strategies to enable the implementation of ABC. Top management must demonstrate a commitment to ABC by using it as the basis for decision-making. Pryor, (2003:2) found that ABC can become a key piece of the decision puzzle, as this requires time, and relentless effort from the top and bottom of the organisation.

2.4.2. Competition

Chongruksut, (2002: 65) and Wessels, (1999: 36) stressed that the linkage of the ABC system to competitive strategies is necessary since ABC information is vital in improving a competitive position and profitability of firms. For example if a firm utilises a low-cost strategy in competition, the ABC system will prepare precise assessments of product or process costs for designers to know the costs of customisation. However, Roztocki, (2000*a*: 84) noted that many companies facing fierce competition in domestic and global markets, implement strategic management tools like ABC in order to increase their competitiveness. In addition, Gunasekeran, Marri and Yusuf (1999:286) and Tarr, (2001b: 1) confirmed that increasing competition both globally and locally, makes the business know

accurately and understand the source of process, product, service cost within organisation when using ABC.

2.4.3.Training

Managers need to be well trained. Gurses, (1999: 19) indicated that training is important to help people understand how ABC differs from traditional cost accounting and why ABC provides a superior economic measurement and information system. Chongruksut (2002: 66) believes that training reduces the employees' lack of confidence in ABC and prevents them from feeling pressured by the implementation process. However, Howardell, (2001*b*: 1) cautioned that training should not include only review and measurement procedures but also problem-solving methodology such as the causes and effect analysis.

2.4.4. Non-accounting ownership

Gurses, (1999:19) stated that when accountants own ABC, there is a danger that it might be used only to satisfy their needs. An important reason why some companies have not had positive implementation experiences is that the accountants have retained ownership and have not succeeded in sharing ownership with non-accountants. For this reason, not only accountants but also non-accountants should be seen as owners of the new system. Non-accountants should be involved in the initial decision to invest in ABC, and in the design and implementation of ABC. In this regard, the chance that non-accountants will support and promote ABC, and be committed to its use, will increase (Shield and McEwen, 1996:15).

2.4.5. Resources

The process of designing and implementing an ABC system requires companies to have adequate resources (Forrest and Forrest, 1999:4). The necessary

resources primarily include the time and commitment of accountants, top management, operating employees, software, and external consultants. The implementation of ABC often takes more time than expected. The amount of time necessary to reach the usage stage varies with the size of the company (Krumwiede, 1998a: 32). Shield and McEwen, (1996:15) found that having adequate employee resources is one of the most important factors for ABC success. Interestingly, the other types of resources, such as commercial or custom-made software and external consultants, did not prove to be so important to the success of ABC implementation.

2.4.6. Information Technology

Gurses, (1999: 20) indicated that information technology appears to be an important factor in reaching the usage stage of ABC for most of the companies studied. Roztocki and Imai, (2003:1480) found that permanent gains in productivity are largely attributed to the utilisation of ever–new technologies. ABC implementation will be much easier if information technology of a company has the good subsystem integration; user-friendly query capability; available sales, cost, and performance data going back 12 months; and updates of all these types of data (Krumwiede; 1998*a*: 32). Nevertheless, Nakcharoen and Rogers, (1999: 1) suggested that the ABC system should be designed to be complementary with technological changes in factories due to enhanced global competition. De Vries and Phobud, (2002:1) noted that the increased use of information technology and the effect of globalisation have created a more competitive environment in which a low cost structure often becomes a critical success factor.

2.4.7. Size

There are a number of studies on the adoption of ABC that examine firm size. Van Nguven and Brooks, (1997:3), Bjoernenak, (1997:3) and Krumwiede, (1998b: 239) found that the rate of adoption was higher among larger firms.

There is a wide range of explanations for these findings. Van Nguven and Brooks, (1997:1) pointed out that larger firms are more likely to have greater access to individuals with the knowledge to design and implement ABC. Booth and Giacobbe, (1998:3) explained that larger firms have more discretionary resources such as personnel, computing facilities and time, and therefore are more inclined to adopt ABC. Roztocki and Needy, (1998:77) noted that small manufacturing firms are prevented from implementing ABC due to lack of data, technical resources and adequate computerisation and furthermore, information needed for ABC is costly and small firms are typically constrained financially. Rostocki and Schultz, (2003:6) confirm that the adoption of ABC is more significant related to firm size, with larger firms being more likely to adopt this method than smaller firms. However, Hicks, (1999:1) argues that ABC doesn't require a massive effort to implement and it is effective for any size of business, hence, ABC is not only for large companies, it works for small business organizations as well.

2.4.8. Consultants

Companies are increasingly using outside experts or consultants to help deal with organisational challenge (Cohen, 1999: 32). Anderson, (1995:51) found that once the problem with the current costing system has been identified, the influence of external experts become an important factor. In fact, Anderson, (1995: 42) found that having identified problems with the cost system, the choice of ABC was profoundly influenced by opinions of external experts. Friedman and Lyne, (1999: 52) examined the issue of consultants under the general heading of information sources, arguing that active propagation of ABC by consultants lead to the adoption of ABC by companies, and concluding that it is not statistically significant, as the use of consultants by companies adopting ABC is greater than that of companies that rejected the innovation.

2.5. Summary

The importance of a powerful tool such as ABC cannot be overemphasized. With the complex and critical choices awaiting decision-makers in financial service institutions, the deployment of ABC can be of tremendous value as explained in this chapter.

The successful implementation of ABC is dependant on factors such as support of management; provision of adequate resources and clarification of objectives by both the designers and the users.

The benefits that could be gained include results like: more accurate product and service cost; improved overhead cost allocation and improved assistance in product and service design.

Problems that can be encountered by organisations when implementing ABC could include: a higher priority of other projects; resistance to change and the high cost of implementing ABC. The following chapter will outline the research methodology.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Overview

The purpose of this chapter is to measure the successful implementation of ABC. This will be done by discussing the research questions, the data collection, population and sampling techniques, variables, questionnaire design, methods of reliability and data analyses techniques.

3.2. Research objectives

As stated in Section 1.3, the three objectives of the research are to establish the perception of the staff regarding;

1. The successful implementation of ABC.
2. The benefits of ABC implementation.
3. The effects of environmental factors on the successful implementation of ABC.

According to Hurst, (1995:2), when a business is in economic recession, the company will learn to survive by reviving itself, such as re-organising or adopting new techniques or innovations. Especially, in a borderless era accurate information is necessary for the company to seize competitive advantages (Suwongwarn, 1998:86). ABC, which is an advanced management accounting system focusing on accuracy of product costs, is claimed to be able to overcome the information distortion of the traditional cost systems and to furnish huge benefits leading to improved organisational performance and profitability (Chongruksut, 2002:97).

In addition, some empirical evidence shows that an organisation encountering increasing competition is predisposed to adopt an innovative management control system (Yakhou and Dorweiler, 1995:99). Therefore, the adoption of ABC may be one of many modes of transformation for SAPO to revitalise and

survive in a changing environment. The implementation of ABC could solve the shortcomings of the traditional cost system and improves financial performance.

3.3.Data collection

The data was collected by means of structured questionnaires with multi-item measures (Ravid, 2000:49; Sekeran, 2000:16), which will be mailed to the finance staff of SAPO. According to Roberts, (1999:53), such structured questionnaires will present multi-item measures in order to eliminate misunderstandings or misinterpretations. The initial e-mail was sent out on 28 September 2004. A follow-up questionnaire was e-mailed on 14 October 2004 to non-respondents (Gosselin, 1997:105, Brynman, 2000:5). As the response rate for the first initial e-mail was very low, telephonic approval was adopted. The researcher contacted the sectional heads or managers of all the finance staff telephonically in SAPO which includes management accounting, financial accounting, banking, risk management, internal audit, and money transfers and debtors sections. The objective was that managers encourage their staff to complete the questionnaire. To further increase the response rate, the individual finance staff members were phoned requested and encouraged to complete the questionnaire. The telephone interviews provided interesting feedback as to why the finance staff had not responded to the original e-mail sent. Various reasons included:

- they are not used to completing or participating in surveys,
- they don't know what is ABC,
- they were too busy,
- directive to complete any questionnaire normally comes from their managers/supervisors,
- they were busy with the year-end budget and monthly reports,
- the information requested in the survey was too sensitive to the company/ SAPO, and
- the questionnaire was too long.

3.4. Population and sampling procedures

McGowan and Klammer, (1997: 297) and Forster and Swenson, (1997: 63) have found that the perception of ABC depend on the role played by the individuals such as those who present and prepare the report. This study will mitigate this limitation by utilising the finance staff as respondents. The respondents answering the questionnaire were all the finance staff in SAPO. The SAPO population consist of 17 166 employees. Of these employees 409 are financial employees as defined previously. A sample of 319 was drawn randomly from all the finance staff of SAPO. The reason these individual were chosen is that being ‘’information staff’’, they tend to span organisational boundaries and are in contact with a cross-section of the company's members and can provide the necessary technical and organisational detail required for answering the questions (Krumwiede, 1998b: 239). In addition, previous studies have used individuals in the same position providing increased comparability of results (Howell, 1997:7; Cagwin and Bouwman, 2002: 16).

3.5 Questionnaire Design

The questionnaire is classified into three categories that address the objectives of the study:

- Factors that is important to determine the success of the implementation of ABC.
- Factors that are important to determine the benefits derived from the implementation of ABC.
- Factors that is important to determine the effects of the environment on the successful implementation of ABC.

Some questionnaire items were developed from existing studies as they had been shown to be reliable. Nevertheless, additional questions were developed to address the objectives of the study specific to SAPO, and are also easy to

analyse. All questions were designed in closed form as the closed questions have guided answers that may encourage the respondents to have more interest in answering the questionnaire. Key questions used a Likert-type scale. Factors influencing the success of implementation of ABC and the benefits were scored on a five-point numerical scale, from 1 = strongly disagree to 5 = strongly agree. The five-point itemised rating scale, anchored from 1 = not important to 5 = critically important were applied to questions for environmental effect of implementation of ABC

The written questionnaire consists of three categories or section A, B, and C of thirteen, eighteen and nineteen questions respectively. The definition of 'ABC' was stated clearly at the beginning of the section.

Section A relates to the perception of the respondents regarding the level of success of the implementation of ABC. Several variables influencing the success of cost management systems that have been widely used in the ABC literature were included in the questionnaire. The purposes of section A, Question 1-13, is to establish which factors or variables influence the success or failure of implementation of ABC in the SAPO.

Section B aimed to scrutinise the perceptions of the respondents regarding the benefits that SAPO had gained from the ABC implementation. This section (Questions 1-18) addresses the benefits that could be gained by the implementation of ABC. Several studies have discussed diverse benefits of ABC and it is intended to examine the tangible ABC benefits that SAPO has gained using the guidelines of these authors as discussed in the previous chapter.

Section C involves the perceptions of the respondents regarding the environmental effect or problems of implementation of ABC that the company has experienced. This section's (Question 1-19) objective is to investigate the factors that are important in determining the effects of the environment on the successful implementation of ABC. Furthermore this section will highlight which

factors, affects or influences the success or failure of implementation of ABC in SAPO.

3.6. Methods of ensuring reliability

Reliability refers to the degree of dependability, consistency or scale of stability. In order to ensure reliability and validity;

- the questionnaires were reviewed;
- have a covering letter from the Chief Financial Officer;
- the second follow-up e-mail to the non-respondents within two weeks;
- If no reply, a phone call to the non-respondent was made;
- Lastly, utilize appropriate statistical techniques for analysing the data.

3.7. Data Analysis Techniques

The data was analysed by using tables and graphs. A summary is applied to each section of the questionnaire, while the most significant results are briefly discussed. Graphic presentations are utilised to further elaborate the results.

3.8. Summary

This study employed the single data collection method that includes a questionnaire survey. In respect of questionnaire design, all questions in the questionnaire were shown in closed form and key questions were based on a Likert-type scale. The results of data analysis and interpretation are explained in the next chapter.

CHAPTER 4 RESULTS OF THE RESEARCH AND DISCUSSIONS

4.1. Introduction

This chapter consists of two sections. The first section discusses the statistical analyses; the second section presents the results of the three questionnaires, which represent the study objectives.

4.2. Statistical Analyses

The discussion on statistical analyses of the following;

- Profile of the respondents
- Data analysis techniques
- Reliability and validity
- Non response bias

4.2.1. Profile of Respondents

A total of 319 questionnaires were e-mailed to sample of finance personnel of SAPO in the areas of: management accounting, financial accounting, banking, risk management, internal audit, money transfers and debtors control. These were considered the major section that deals directly with ABC.

319 questionnaires were acknowledged by the addressees. 121 questionnaires were returned by the participants who represent a responses rate of 38%. These responses were judged as representative of all above sections.

4.2.2. Data Analyses technique

For this exploratory and descriptive study, composite tables and graphs were used. The mean values were used to answer the research question. The most positive and most negative responses were also discussed. This will give insight into how the staff perceived the implementation of ABC.

4.2.3. Reliability and Validity

In order to provide stronger validity and reliability, multi-item measures were used in the measurement of the questionnaire. Such multi-item measures are important as it cannot be misunderstood or misinterpreted. The initial e-mail questionnaire was sent out on 28 September 2004.

A follow-up questionnaire was e-mailed on 14 October 2004 to non-respondents. As the response rate for the first initial e-mail was very low, the researcher decided to phone the sectional head or managers of the finance staff in SAPO i.e., management accounting, financial accounting, banking, risk management, internal audit, money transfers and debtors section. This was an initiation to encourage their staff to complete the questionnaire.

To further increase the response rate, the individual finance staff members were contacted telephonically and encouraged to complete the questionnaire. Since most of the measures in the questionnaire were developed and used in a number of prior studies, there was no need to pretest the instrument. In addition, the questionnaire was reviewed by Chief Financial Officer and finally adjusted for minor wording ambiguities.

4.2.4. Non-response Bias

When employing e-mail surveys to collect data, a non-response bias can result. The response after distributing the first e-mail was very poor; only 34 responses were representing 8.3%. To avoid non-response bias, follow-up telephone calls were made and a follow-up questionnaire was e-mailed approximately two weeks after the initial e-mail.

4.3. The three sections of the questionnaires which represent the three objectives

Under this section, the results of the three questionnaires, which represent the three objectives of the research, are discussed;

- In your opinion on which grounds do you think the company has succeeded in successfully implementing ABC?
- In your opinion which benefits do you think the company has gained by implementing ABC?
- In you opinion which environmental factors has affected the company in the implementation of ABC?

These results are discussed individually under the following headings;

- General discussion.
- Table and graph.
- General discussion of similar studies of the results.
- Detailed discussion of the results.
- Summary of the most significant results.
- Conclusion.

4.3.1. Determining the Successful Implementation of ABC

The results and discussions of assessing the perception of the participants regarding their opinion of on what grounds they think the company has succeeded in successfully implementing ABC are reported in this section.

4.3.1.1. General discussion

Individual respondents were asked to indicate that in their opinion, on which grounds the company has succeeded in the implementation of ABC. These questionnaires were ranked on a five-point scale (1 = strongly disagree and 5 = strongly agree).

4.3.1.2. Table and graph

Table 4.1 reflects the results of this section of the questionnaire on a composite table and graph. This graph i.e. Table 4.1, reflects the responses of the respondents. In this part of the questionnaire, the respondents were asked to indicate their opinion on which ground SAPO has succeeded in implementing ABC.

Implementation of ABC	**Mean**	**1 2 3 4 5**
✓ Top management has provided adequate resources to the ABC implementation.	4.4	
✓ Operating departments have shown commitment to ABC success.	3.8	
✓ Top management has a clear commitment to use ABC information.	3.7	
✓ The non-accounting/finance groups are committed to use ABC information.	3.7	
✓ The objectives of ABC implementation were clearly understood.	2.5	
✓ ABC has been closely tied to the competitive strategies of your company.	2.4	
✓ ABC initiative has the strong active support of top management.	2.4	
✓ Sufficient training about the design and objectives of ABC is being provided.	2.3	
✓ The management accountants have shared information with non-accountants.	2.2	
✓ Compensation systems designed to motivate employees to implement ABC.	2.1	
ABC data has been used for performance evaluation.	2.1	
✓ Education of ABC implementation has been provided.	2.1	
✓ ABC has the strong active support of top management.	2.0	

Table 4.1. Composite table and graph indicating the perceptions of the respondents regarding the Implementation of ABC

4.3.1.3. General discussion of the results

The mean of this section of the questionnaire indicates that the respondents had a positive perception of the success of the implementation of ABC. The contributing factors were the fact that most parties were committed to the implementation of ABC and the necessary resources were provided. However, there were some problems. Top management did not exhibit strong active support and the respondents did not perceive that they shared in the benefits of the implementation of ABC.

4.3.1.4. Detailed discussion of the results.

The most significant factors in the implementation of ABC are the following;

- Top management has provided adequate resources to the ABC implementation; mean score = 4.4;
- Operating departments have shown commitment for ABC implementation; mean score = 3.8
- Top management has a clear commitment to use ABC information; mean score = 3.7;
- The non-accounting/finance groups are committed to use ABC information; mean score = 3.7.

It suggests that the provision of adequate resources and the commitment of all stakeholders were perceived as a prerequisite for successful ABC implementation.

The welfare of most employees is affected by the system used to evaluate and compensate them. Therefore, when ABC is linked to performance measurement and compensation, and when employees believe that the resulting system fairly represents their performance, they will be motivated to ensure the success of ABC. However, this does not seem to be the case as can be seen in the results above.

The research revealed that the following factors were the least important when implementing ABC:

- Compensation systems designed to motivate employees to implement ABC, mean score = 2.1,
- ABC data has been used for performance evaluation, mean score = 2.1,
- Education of ABC implementation has been provided, mean score = 2.1 and
- ABC has a strong active support of top management, mean score = 2.0.

4.3.1.5. Summary of the most significant results.

A prerequisite of ABC success and to produce any meaningful results is that employees should be committed to its implementation and also accepts responsibility for its outcomes. Effective sponsorship and how the rationale for ABC adoption is communicated to employees is important. If this does not occur, ABC is bound to fail. The message employees perceive will impact on the credibility of the initiative and the ABC model since employees are typically responsible for feeding information to the ABC model.

4.3.1.6. Conclusion.

On average the implementation of ABC in SAPO, recorded a mean score = 2.8. This finding indicates that the implementation process in SAPO is positive. This is mainly due to strong indication of top management providing adequate resources, had clear commitment to use ABC information, operating departments have shown commitment for ABC success and non accounting and finance group are committed to use ABC information. However they don't play a strong active support. This is due to the fact that top management failed to provide the necessary education of ABC and not using ABC for compensation purpose and for performance evaluation.

4.3.2. Determining the benefits of implementation ABC

The results and discussions of assessing the perception of the participants regarding their opinion of which benefits do they think the company has gained by implementing ABC are reported in this section.

4.3.2.1. General discussion

Individual respondents were asked to indicate that in their opinion, which listed benefits the company has gained in the implementation of ABC. These questionnaires were ranked on a five-point scale (1 = strongly disagree and 5 = strongly agree). Table 4.2 reflects the results of this section of the questionnaire.

4.3.2.2. Table and graph

Table 4.2, reflects the responses of the respondents on a composite table and graph. In this part of the questionnaire the respondents were asked to indicate that in their opinion which benefits the company has gained by implementation of ABC.

	Mean	1	2	3	4	5
Benefits of ABC implementation						
✓ Better overhead cost allocation.	4.6					
✓ Breakdown of barriers between different functional areas.	3.5					
✓ Cost control improvement	3.4					
✓ Assistance in product/service design and product/service mix.	3.4					
✓ Increase in the effectiveness of budgeting.	3.4					
✓ Increase in profitability	3.3					
✓ Elimination of waste by providing visibility of non-value-added activities	3.3					
✓ Provision of more accessible and timely information.	3.3					
✓ Increased customer satisfaction	3.3					
✓ Encouragement of commitment to quality and continual improvement.	3.2					
✓ Assistance in cost reduction efforts.	3.1					
✓ Better performance measurement.	3.1					
✓ Increase in competitive capability.	3.1					
✓ More accurate product/service costs.	3.0					
✓ Behavioural incentives to improve manufacturing/ service excellence.	3.0					
✓ Management attention to interdependencies of departments.	2.9					
✓ Decision-making improvement.	2.9					

Table 4.2. Composite table and graph indicating the perceptions of the respondents regarding the Benefits of ABC implementation

4.3.2.3. General discussion of the results

As in the case of the positive perceptions on the successful implementation of ABC, the perceptions of the respondents regarding the benefits of ABC were

positive. In fact the respondents were overwhelmingly positive regarding the benefits of ABC as the mean of 3.3 indicates and all the factors were above the average of 2.5, indicates that the respondents perceived the benefits of ABC implementation as very positive.

4.3.2.4. Detailed discussion of the results

The most significant benefits in the implementation of ABC are the following;

- Better allocation of overhead cost ; mean score = 4.6;
- Breakdown of barriers between different functional areas; mean score = 3.5;
- The increase in cost control improvement; mean score = 3.4;
- Assistance in product or services design and product or service mix; mean score =3.4;
- Increase in the effectiveness of budgeting; mean score = 3.4;

It is likely that in the high competitive environment of a changing economy, cost advantage is important for competition and ABC is a cost planning system that provides information for strategies. Hence, SAPO currently encountering the economic challenges realized this benefit of ABC. On the other hand the survey revealed that the following factors were the least beneficial during implementing ABC;

- More accurate product/service costs; mean score = 3.0;
- Behavioural incentives to improve manufacturing/ service excellence; mean score = 3.0;
- Management attention to interdependencies of departments; mean score = 2.9; and
- Decision-making improvement; mean score = 2.9;

Although these factors were evaluated at the bottom of the scale, all the averages are still above the theoretical mean of 2.5.

4.3.2.5. Summary of the results

The respondents perceived the benefits of ABC as very positive.

4.3.2.6. Conclusion

On average the benefits from the implementation of ABC recorded a mean score = 3.3. These findings suggested that SAPO experienced positive benefits from the implementation of ABC. This is due to the gained benefits such as, better allocation of overhead cost, breakdown of barriers between different functional areas, increase in cost control improvement, assistance in product or services design and product or service mix, and increase in the effectiveness of budgeting.

4.3.3. Determining the environmental effect on implementation of ABC

The results and discussions of assessing the perception of the participants regarding their opinion of which environmental effects they think has affected the company in the implementation of ABC are reported in this section.

4.3.3.1. General discussion

Individual respondents were requested to indicate that in their opinion, which listed environmental effect has affected the company in the implementation of ABC. These questionnaires were ranked on a five-point scale (1= not important and 5 = critically important). Table 4.3 shows the results of this section of the questionnaire.

4.3.3.2. Table and graph

This graph i.e. Table 4.3, shows the responses of the respondents on a composite table and graph. In this part of the questionnaire the respondents

	Mean	1	2	3	4	5
Environmental effect of ABC						
✓ High cost of implementing ABC**.**	3.6					
✓ Lack of software packages.	3.5					
✓ Lack of knowledge of data requirement and collection.	3.5					
✓ Lack of commitment and co-operation among departments.	3.3					
✓ Resistance to change.	3.3					
✓ Difficulty in gathering data on cost-drivers.	3.2					
✓ Lack of top management support.	3.1					
✓ Difficulty in identifying activities.	3.0					
✓ Integration with the current accounting system	2.9					
✓ High cost of ABC consulting.	2.9					
✓ Necessary change of culture and mind-set.	2.8					
✓ A higher priority of other changes/projects.	2.8					
✓ Takes up a lot of computer staff's time.	2.7					
✓ Involves a great deal of work.	2.7					
✓ Changing environment	2.5					
✓ Difficulty in defining cost drivers.	2.4					
✓ Takes up a lot of managers' time.	2.4					
✓ Difficulty in designing system.	2.4					

Table 4.3. Composite table and graph indicating the perceptions of the respondents regarding the environmental effects of ABC implementation

were requested to indicate that in their opinion which environmental effect has affected SAPO during the implementation of ABC.

4.3.3.3. General discussion of the results

The high overall mean of 2.9 indicates that the respondents feel that environmental effects have a significant influence on the implementation of

ABC. The most important factors are of a technical nature like the high cost of the implementation of ABC, lack of software packages and data problems. Although the difficulty in defining cost drivers, designing systems and the fact that it takes up a lot of the manager's time, were at the bottom of the table, their contribution were significant compared to an average mean of 2.9.

4.3.3.4. Detailed discussion of the results

The most significant environmental factors in the implementation of ABC are the following;

- High cost of implementing ABC; mean score=3.6;
- Lack of software packages; mean score=3.5;
- Lack of knowledge of data requirement and collection; mean score=3.5;
- The lack of commitment and co-operations among departments; mean score=3.3;
- Resistance to change; mean score=3.3;

On the other hand the survey revealed that the following environmental factors were the least important during implementing ABC:

- The changing environment; mean score = 2.5,
- Difficulty in cost drivers; mean score = 2.4
- Taking up a lot manager's time ; mean score = 2.4
- Difficulty designing system; mean score = 2.4,

4.3.3.5. Summary of the results

In order to overcome the environmental effect of ABC implementation, the system should be managed with an overview of what the company wishes to achieve by having the data in the first place. A good implementation plan is

essential to ensure that the implementation process is managed effectively, while a commitment to ABC by all employees at all levels in the organisation is vital for its implementation to be a success. It is essential that employees understand the system and their contribution to it. All employees must be trained on the principles and mechanics of ABC.

4.3.3.6. Conclusion

On average the results on the environmental effect of ABC recorded a mean score = 2.5. This finding indicated that the environmental effect of ABC is problematic. This is due to the high implementation cost of ABC, lack of software packages, lack of knowledge of data requirement and collection, the lack of commitment and co-operations among departments, and resistance to change.

4. 4. Conclusion

The findings highlight a number of interesting aspects concerning measuring the successful implementation of ABC in SAPO.

The result is consistent with the findings of Roztocki, (2000b: 2) who discovered that top management should focus the resources, goals and strategies on the implementation of ABC. This result confirms the findings of Shield and McEwen, (1996: 15); Waddell, Outwater, Bhat and Blain, (2002:12). The results in SAPO confirms the findings of Roztocki, (2000a: 84), and Tarr (2001b: 1) that many companies facing a force competition in domestic and global markets, implement strategic management tools in order to increase competitiveness.

The results confirm the findings of Garrison and Noreen, (2000:25) that iterated that active support by top management is the most crucial factor in the success of ABC implementation. The results also confirm the findings of Roztocki and Needy, (1998) and Roztocki and Schultz, (2003:6) who reported that companies are prevented from implementing ABC effectively due to lack of data.

Furthermore the results reinforces the findings of Chongruksut, (2002: 66) and Howardell, (2001b: 5), who both found that training is the most important prerequisite in order to assist people in understanding how ABC differs from traditional cost accounting and why ABC provides a superior economic and information systems. In addition, training reduces the employee's lack of confidence in ABC and prevents employees from feeling pressured by the implementation process.

The results also confirm the findings of Gurses, (1999:9) and Shield and McEwen, (1996:15) that companies which have not had a good implementation experience is due to the accountants retaining ownership and unsuccessful in sharing it with non-accountants whereas the two should be seen as joint owners of the new system.

In addition, increase in cost control improvement, assistance in product or services design and product or service mix, and increase in the effectiveness of budgeting are used as primary goals in implementation of ABC. This confirms the findings of Roztocki, (2000c: 6) and Barton and MacArthur, (2003:10).

These findings confirm the findings that the decision to implement ABC is often driven by the need to improve customer profitability analyses, to remain competitive with other companies (Bescos, Cauvin, Gosselin and Yoshikawa, 2001:3; Ioannou and Sullivan 1999:2115). They are very similar to the benefits given by other studies (Innes and Mitchell, 1995: 297; Roztocki, 2001a: 1454; Chung, Schoch and Teoh, 1997:15).

ABC users also reported that they gained benefits from the ABC implementation in terms of encouragement of commitment to quality and continual improvement, and assistance in cost reduction efforts and increase in competitive capability, similar evidence is reported by (Haggarth, 2003:1, Barton and MacArthur, 2003:1, Baxendale and Gupta, 1998: 46).

These results are consistent with the findings in the study by Shield, (1995:13 Roztocki, 2001c: 388) that only behavioural and organisational variables, especially top management support, linkage to performance evaluation and compensation, adequate resources, linkage to competitive strategies, training in implementing ABC and non-accounting ownership, are related to the success of ABC implementation, but the technical implementation variables are not.

4.5. Summary

The chapter reveals through the three tables presented and analysed, that implementation of ABC at SAPO was positive due to positive perceptions by staff. In addition, respondents felt that environmental effects have a significant influence on the implementation of ABC.

Summary and recommendations are presented in Chapter 5.

CHAPTER 5 SUMMARY AND RECOMMENDATIONS

5.1. Introduction

In this chapter, summary of the research results, as well as the recommendations and limitations are discussed. Several suggestions for future research opportunities are also proposed.

5.2. Summary of the research results

The findings in this study highlight a number of interesting aspects concerning the implementation of ABC in the South African Post Office. These include:

- Although top management has provided adequate resources to make the implementation of ABC possible, the perception of the respondents are that top management failed in giving active support to the implementation of ABC.

- The results also indicate that all the involved parties are committed to the implementation of ABC. However the perception is that the knowledge and other important aspects of ABC are not shared appropriately among these parties. ABC has also not succeeded in breaking down the barriers between the functional departments. Working together as a motivated group has not emerged from the implementation of ABC.

- The findings further revealed that training and education is not applied satisfactorily to make the implementation of ABC a success. If involved parties are not trained on the goals, processes and benefits of ABC implementation, the employees will not be able to work towards a unified goal.

- It was also evident from the findings that the respondent did not perceive that they were adequately remunerated or shared in the benefits of ABC implementation.

- Finally, many technical factors were perceived as obstacles of the successful implementation of ABC. These were inter alia, the high cost of implementing ABC; the lack of software packages; the lack of data requirements and co-operation between departments.

5.3. Recommendations of the Research

The following recommendations should help the South African Post Office to have a higher rate of success when implementing ABC:

- Active management support is crucial in the successful implementation of ABC. Apart from providing all the resources and means of implementation, they should exhibit active support to staff for the implementation of ABC.

- Commitment is very important. The South African Post Office must not only make sure that all the relevant parties are committed, but also that they are motivated to work together as a group to achieve the goals of the company.

- Training is a most important factor as it helps the employees to understand how ABC differs from tradition cost accounting. They should also be trained in the goals, processes and benefits of ABC implementation. This will improve their confidence and a positive outlook regarding implementation. The South African Post Office should allocate more funds to training of employees who are involved in ABC implementation.

- It was also evident from the results that in the cases where accountants retained ownership and did not share it with other parties like the non-

accountants, the ABC implementing experience was not successful. The South African Post Office should take note of this and ensure that non-accountants are effectively involved in ABC implementation.

- Employees feel that they do not share in the benefits of ABC implementation. It will motivate the employees of SAPO if the benefits of ABC are linked to the performance evaluation.

- The perception exists that many environmental factors have a negative influence on the successful implementation of ABC. More appropriate training of ABC could possibly rectify the matter.

5.4. Limitations of the Research

Some limitations should be noted when interpreting the results of this study. The limitations, however, present opportunities for future study.

- Firstly, with regard to the literature review, even though literature is available on ABC implementation, benefits and environmental effects, there is little reference linked between successful implementation of ABC and the influence of financial performance and environmental effects.

- Secondly, the scope of the study is limited by its sample size, which included only finance staff employed by the South African Post Office (SAPO). This limitation may restrict the generalisability of the findings. The findings of this study may have been different if a broader range of finance staff had been selected.

- Thirdly, even if a 37.9% overall response rate is acceptable for survey research; the number of employees with ABC knowledge was very low. It was difficult to conduct meaningful statistical tests. The discussions concerning the implementation of ABC in this study mainly relied on description as the means to communicate the survey results. The results

may have been different if the response rate and the number of employees with ABC knowledge had been higher.

- Fourthly, there is the low level of understanding of ABC among managers and employees, which preclude the use of questionnaires and might have had an influence on the focus group results. With regard to the empirical study, the whole area of implementation of ABC appears to be a developing one.

- Finally, the survey method adopted has its own limitations. Close ended questions limits appropriate response. The researcher, due to financial constraints had no opportunity to interview and interacts with the respondents to eliminate misinterpretation of various questions, which have a bearing on the results observed in the research.

5.5. Future Research

This research indicates that there are different opinions on the implementation of ABC in SAPO. The research is however not a representative of SAPO in general. It is expected that the number of employees with ABC knowledge will increase since ABC team showed their plans of rolling out the implementation of ABC in the near future.

Future research could examine the opinion on ABC in SAPO or any other organisation where action research approach was followed and pro-active managerial and implementation of ABC was practiced.

The research could be carried out across the service industry similar to SAPO to be able to generalise on South African environment. In addition, the results of this study may have been different if the stage of ABC implementation was at employee's phase.

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Memo

To: To Whom It May Concern

From: Mr Nick Buick

Date: 8th August 2004

Re: **The implementation of ABC costing at SAPO**

This is to certify that Mr Taba Makomane Lucas, who works for SAPO in the Management Accounting division, is currently performing a survey on the above. This research forms part of his studies for a Master of Business Administration at Unisa and will also provide valuable feedback to SAPO on the success of activity based costing as implemented and any areas for improvement.

Please could you provide Mr Lucas with the necessary assistance in the completion of his research.

Kind Regards

Nick Buick
Chief Financial Officer

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BUSINESS MANAGEMENT

TO WHOM IT MAY CONCERN

This is to certify that **Mr Taba Makomane Lucas**, student no. 21225291 is currently studying towards his Masters in Business Administration degree at the **University of South Africa (UNISA).** This study includes a research project as a partial requirement for this degree. The title of his research, which already has been approved, is: ”Measuring the Successful implementation of Activity Based Costing (ABC) in the South African Post Office”.

You are hereby requested to allow Mr Taba the opportunity to do his research and to aid him in gathering information by means of questionnaires. The results of this research could assist managers regarding the measurement of the successful implementation of activity based costing.

Yours faithfully,

Dr S J le Roux
Supervisor: M Tech: Business Administration (M Tech: BA)
30 August 2004

Dear Participants,

I am working towards a research project of ''Measuring the Successful Implementation of Activity Based Costing in the South African Post Office''. The research project being undertaken seeks to and associates the successful implementation of Activity Based Costing with the improvement in financial performance. To ensure the validity of results, a reply to the attached questionnaire would be greatly appreciated.

Should you have any queries regarding the project or questionnaire, please feel free to contact me on 012-338 4003 or 082 662 6344 or e-mail: makomanetaba@yahoo.com, or my supervisor, Dr S.J. le Roux and my Co-supervisor Professor Dominic Iwisi at 011 471 3112 and 011 471 3584 respectively.

Your reply can be returned to my collection base via internal mail directly to me or the head of the business unit whom you are reporting to.

Your participation would be appreciated and I look forward to receiving your completed questionnaire by the end of 30 September 2004.

Thank you in anticipation of your co-operation.

Yours faithfully,
Makomane Taba
MBA Researcher

Questionnaire

Section A: ABC Implementation

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

Activity-based costing (ABC) *is not the same as estimating or quoting, it provides information that makes estimate and quoting more precise and reliable. It is an information system that maintains and processes data on a company's activities. It identifies the activities performed, traces cost to these activities and then traces the cost of activities to products or services according to activities consumed. ABC is the foundation for better understanding the true profitability of products and services and to identify improvement initiatives.*

In your opinion, the company has succeeded in the implementation of ABC on the grounds that……' Please indicates your response by circling a number on the scale 1 to 5;

	Strongly Disagree				Strongly Agree
1) ABC initiative has the strong active support of top management.	1	2	3	4	5
2) Upper management has provided adequate resources, such as time and commitment, to the ABC implementation effort.	1	2	3	4	5
3) ABC has been closely tied to the competitive strategies of your company.	1	2	3	4	5
4) When the ABC initiative began, the objectives of ABC implementation were clearly understood both by designers and users.	1	2	3	4	5
5) ABC data have been used for performance evaluation.	1	2	3	4	5
6) Compensation systems in the company are designed to motivate employees to implement ABC.	1	2	3	4	5
7) Operating departments or departments outside the Accounting department such SCM, retail, marketing, technology and so on) have shown commitment for ABC success.	1	2	3	4	5
8) Top management or senior managers have a clear commitment to use ABC information as the basis for decision making.	1	2	3	4	5
9) The management accountants have shared their	1	2	3	4	5

ownership of information with non-accountants.					
10) The non-accounting/ finance groups (such as SCM, retail, marketing, technology groups and so on) are committed to use ABC information.	1	2	3	4	5
11) Education (such as benefits of ABC, the need for implementation of ABC and so on) is being provided.	1	2	3	4	5
12) Sufficient training about the design and objectives of ABC is being provided.	1	2	3	4	5
13) Sufficient training about implementing ABC is being provided.	1	2	3	4	5

Section B: ABC Benefits

What benefits did the company expect to gain or have gained from the implementation of ABC? Please indicate your response by circling a number on the scale 1 to 5, where 1 represents 'strongly disagree' and where 5 represents 'strongly agree'.

	Strongly Disagree				Strongly Agree
1) More accurate product or service costs	1	2	3	4	5
2) Better overhead cost allocation	1	2	3	4	5
3) Assistance in product or service design	1	2	3	4	5
4) Increase in profitability	1	2	3	4	5
5) Assistance in cost reduction efforts	1	2	3	4	5
6) Cost control improvement	1	2	3	4	5
7) Better performance measurement	1	2	3	4	5
8) Elimination of waste by providing visibility of non-value-added activities.	1	2	3	4	5
9) Encouragement of commitment to quality and continual improvement	1	2	3	4	5
10) Management attention to interdependencies of departments	1	2	3	4	5
11) Breakdown of barriers between different functional areas	1	2	3	4	5
12) Provision of more accessible and timely information	1	2	3	4	5
13) Increased customer satisfaction	1	2	3	4	5

14) Increase in the effectiveness of budgeting by identifying the cost or performance relationship of different service levels	1	2	3	4	5
15) Provision of behavioral incentives to improve manufacturing or service excellence	1	2	3	4	5
16) Decision-making improvement (such as product or service pricing decision, market segment decision and so on)	1	2	3	4	5
17) Increase in competitive capability	1	2	3	4	5
18) Improvement in shareholder value	1	2	3	4	5

Section C: Environmental effect of ABC Implementation

What problems did the company encountered or can be encountered during the implementation of ABC? Please indicate your response by circling the number on the line by each item.

	Not Important	Little Important	Meddium Important	Very Important	Critically Important
1) A higher priority of other changes or projects	1	2	3	4	5
2) Resistance to change.	1	2	3	4	5
3) High cost of implementing ABC.	1	2	3	4	5
4) Lack of top management support.	1	2	3	4	5
5) Lack of software packages.	1	2	3	4	5
6) Lack of commitment and cooperation among departments.	1	2	3	4	5
7) Involves a great deal of work.	1	2	3	4	5
8) Takes up a lot of managers' time.	1	2	3	4	5
9) Takes up a lot of computer staff's time	1	2	3	4	5
10) High cost of ABC consulting.	1	2	3	4	5
11) Difficulty in gathering data on cost-drivers.	1	2	3	4	5
12) Difficulty in defining cost drivers.	1	2	3	4	5
13) Difficulty in designing system.	1	2	3	4	5
14) Difficulty in identifying activities.	1	2	3	4	5

15) Lack of knowledge of data collection and requirement and collection.	1	2	3	4	5
16) Necessary change of culture and mind-set.	1	2	3	4	5
17) Changing environment.	1	2	3	4	5
18) Integration with the current accounting system	1	2	3	4	5
19) Other (please specify detail)	1	2	3	4	5
collection and requirement and collection.					
16) Necessary change of culture and mind-set.	1	2	3	4	5
17) Changing environment.	1	2	3	4	5
18) Integration with the current accounting system	1	2	3	4	5
19) Other (please specify detail)	1	2	3	4	5

In order to follow up issues raised in this investigation and to improve the quality of my data. I hope to interview some of the respondents to this questionnaire, probably in October/November 2004. If you were willing to be interviewed, would you please fill in the form below?

Business Unit: _____

Your name: _____

Telephone number: _____

Thank you very much for your participation