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Assessment of Implementation of Activity Based Costing - A Case Study of Castel Winery S.C at Ziway, Oromia Region, Ethiopia

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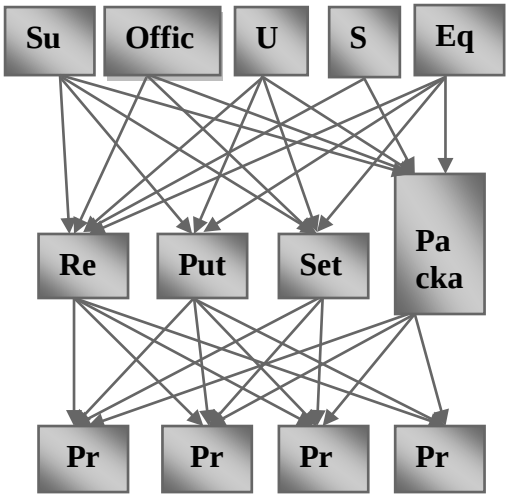
Abstract
In today's advanced manufacturing and competitive environment, accurate costing information is crucial for all the kinds of businesses, such as manufacturing firms, merchandizing firms, and service firms. Argued to be superior to the traditional volume-based costing system, Activity-Based Costing system (ABC) has increasingly attracted the attention of practitioners and researchers alike as one of the strategic tools to aid managers for better decision making. Measuring the success of ABC is part of a more general challenge of measuring the success of any major change in managerial methods. The benefits of ABC system and its impacts on companies' performance have motivated numerous empirical studies on ABC system and it is considered as one of the most-researched management accounting areas in developed countries. Previous research on ABC have examined pertinent issues related to ABC implementation such as the levels of ABC adoption in various countries, the reasons for implementing ABC, the problems related to ABC and the critical success factors influencing ABC. The objectives of this study is to research the perceptions of staff and top managements regarding the 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 organizations and provide them with relevant information that will enable them to make better decisions with regard to measuring the implementation of ABC. 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. Based on the research gaps identified, a research framework for future research is provided.
Key terms; *Activity Based Costing, Implementing of ABC, Benefits of ABC, Limitations of ABC, Problems on ABC.*

1.1 Background of the study

Activity-Based Costing (ABC) is a valuable concept that can be used to correct the short comings in the cost systems of the past. It is a means of creating a system that ultimately directs an organization's costs to the products and services that require those costs to be incurred. The concept of ABC was developed in the manufacturing sector and given a broader audience by Professor Robin Cooper and Robert Kaplan of Harvard University in late 1980's. Cooper and Kaplan published a number of articles in Harvard Business Review beginning in 1988 (Harvard Business school press, 1987) from the increasing lack of relevance of traditional cost accounting methods. The traditional cost accounting methods were designed around 1870 - 1920 and in those days industry was labor intensive, there was no automation, the product variety was small and the overhead costs in companies were generally very low compared to today. 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 starting from the purchase of raw materials up to the moment when the result reaches the client (Baxendale, 2001:61). ABC is a reliable cost analysis,

which is a highly effective tool for strategic decision-making (Roztocki and Needy, 2000:341). ABC recognizes that many overhead costs vary in proportion to changes in activities, rather than the measure of production volume utilized as the absorption base in the traditional system. By identifying the "activities" that cause costs to change and thus assigning costs to products on the basis of the "cost driver" usage, it is claimed that ABC can more accurately measure the resources consumed by products. This cause and effect relationship provides a superior way of determining relevant costs. Furthermore, it is claimed (Drury, 2001) that ABC can be used for a range of cost management applications such as value chain analysis, customer profitability analysis, and business process management. It would therefore seem that the consensus is that ABC is instrumental to better understanding of the relationship between cost and activities of an organization. In Figure 1.1, 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 1.1: Two-Stage Assignment Process



Source: La Londe, B.J. and Ginter, J.L. 1999.A summary of Activity Based Costing best practices.

1.2 Statement of the problem

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. Setting up an ABC system can be complex, expensive and time-consuming. As business activities are analyzed, they must be broken down into each activity's individual components. The entire process can use up valuable resources as data are collected, measured and entered into the new system. Henricks notes that "although some companies see results almost instantly, it typically takes three months or so for most businesses to experience the benefits of ABC, depending on product or business cycle, it could take much longer". Businesses may also need the assistance of a consultant who specializes in the setup of an ABC system and can provide training on its use. Another limiting factor is that activity-based costing software can be pricey. Using software can add an additional expense to the implementation. As Mark Henricks wrote in a 1999, article for Entrepreneur: "Most ABC practitioners find that special-purpose ABC software is required

to make the task manageable. At $6,000 and up for one package sold by ABC Technologies, software can add significantly to outlays for this type of accounting technique. There are, however, some pilot packages available for $500." Reports produced by an ABC system contain information, such as product margins, that vary from the information reported for a traditional cost method. It's also possible that some activity-based costs may be irrelevant in certain decision-making scenarios; for example, ABC does not conform to accounting standards and should not be used for external reporting. Since traditional cost figures tend to be the norm, interpreting ABC data along with regular accounting information can be confusing and lead to bad decision-making and as such, firms following ABC need to maintain two cost systems and accounting books, one for internal use and another for external reports, filings, and statutory compliance. This is a cumbersome duplication of efforts.

Companies that implement activity-based costing run the risk of spending too much time, effort, and even money on gathering and going over the data that is collected. Too many details can prove frustrating for managers involved in ABC. On the other hand, a lack of detail can lead to insufficient data. Another obvious factor that tends to contribute to the downfall of activity-based costing is the simple failure to act on the results that the data provide. This generally happens in businesses that were reluctant to try ABC in the first place. In 1999, Gary Cokins wrote an article aimed at certified public accountants that have difficulty embracing activity-based costing. In "Learning to Love ABC," Cokins explains that activity-based costing usually works best with a minimum amount of detail and estimated cost figures. He backs this up by stating that "typically, when accountants try to apply ABC, they strive for a level of exactness that is both difficult to attain and time-consuming—and that eventually becomes the project's kiss of death."In 2000, Cokins wrote another article entitled "Overcoming the Obstacles to Implementing Activity-Based Costing." In this work Cokins noted that "activity-based costing projects often fail because project managers ignore the cardinal rule: It is better to be approximately correct than to be precisely inaccurate. When it comes to ABC, close enough is not only good enough; close enough is often the secret to success." Cokins also notes that the use of average cost rates, the use of overly detailed information, and the failure to connect information to action can also hinder ABC projects. By understanding these concepts, Cokins feels that CPAs can enhance their roles as business partners and consultants. In this study the problems that were encountered by Castel winery S.C in implementing ABC include: High cost and time consuming on gathering and utilizing the data to be collected and Lack of knowledge in implementation and interpretation of ABC. This research project answers the following stated researchable questions that address the objectives of the study:

1. What are the factors that are important to examine the general aspects of implementation of ABC?
2. What are the benefits derived from the implementation of ABC?
3. What are the different costs and time taking tasks in gathering and utilizing data?
4. What could be the knowledge gap occurred in implementation and interpretation of ABC?

1.3. Objective of the study

As it is indicated below, this research project has both general and specific objectives.

1.3.1 General Objective

The General objective of the study is to assess the implementation and the benefits of ABC in Castel Winery at Ziway.

1.3.2 Specific objectives:

1. To analyze the general aspects of implementation of ABC.
2. To identify the benefit of ABC implementation for an organization.
3. To assess the costing and time consuming effect in gathering and utilizing the data.
4. To study the knowledge gap in implementation and interpretation of ABC.

1.4. Scope and Limitation of the study

1.4.1. Scope of the Study

The focus of the study is to assess the implementation of Activity Based Costing system on Castel Winery s.c at Ziway.

1.4.2 Limitation of the Study

Some limitations were noted while studying and interpreting the results of this study.

Firstly, Shortage of time, lack of budget and lack of secondary data has affected the qualities of the study output. Secondly, the scope of the study is limited by its sample size, which included only finance staff and a few related employees of the Castel Winery. This limitation may restrict to generalize the findings. The findings of this study may have been different if a broader range of finance staff had been there. Thirdly, even if a 100% overall response rate is acceptable for survey research; the number of employees and managers 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. Forth it was difficult to justify whether the Castel Winery is profitable or not because the company hasn't started sales yet. 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.

1.5. Significance of the study

The significances of this study are:

i. To provide relevant information to the managers of Castel Winery S.C enabling them to make better decisions with regard to the implementation of activity based costing.
ii. It contributes to the advancement of accounting knowledge for the researcher and other readers in ABC costing.
iii. It helps to improve or adhere with the existing practice of ABC costing.
iv. To the best knowledge of the researcher, a few analyses have been conducted on the issue. Hence, this study shall offer valuable result as to the successful implementation of activity based costing and activate the interest of researchers to conduct similar study but in a broad observation.

1.6. Research Methodology

According to Dawson (2002:211) and kasley & kumar (1988) methodology is a philosophy or general principle, which guides a study. Research methodology is a collective term for the structured process of conducting research. There are many different methodologies used in various types of research and the term is usually considered to include research design, data gathering and data analysis. Research methodology can be quantitative or qualitative. Ideally, comprehensive research should try to incorporate both qualitative and quantitative methodologies. Qualitative research helps to undertake in-depth study on a smaller, more focused sample size through exploring attitudes, behaviors and experiences by using such methods or data collection instruments as key informant and focus group interviews through unstructured and semi-structured questionnaires, observation and/or experiments. Whereas Quantitative research seeks to develop and prove (often mathematical) theories and/or equations that can be used to explain or predict the observations made via Qualitative methods.

1.6.1. Description of the study Area

Ethiopia is planning, in partnership with Castel, a French wine making group, a sister company of BGI Ethiopia, to start exporting wine from the vineyard covering 350 hectares land within the environs of Batu Town, in Oromia State, 163km south of Addis Ababa. The winery built at a cost of 300 million Birr. The site was

chosen in 2008 and 750,000 vines were planted, employing a labour force around 830, mostly local people which is now coming increasing in number.

Winery manager, Ato Fetehanegest Aynalem, told ENA that the factory will export over a million bottles of wine abroad. Ato Fetehanegest said Castel has been cultivating varieties of wine fruits such as Syrah, Merlot, Cabernet sauvignon and Chardonnay since May 2008. The vines in the farm were brought from Bordeaux and are expected to produce about 800,000 bottles of wine a year. The

vines are all French varieties: Merlot, Syrah and Cabernet sauvignon for the red wine, which will account for 90 percent of production, and chardonnay for the remaining 10 percent of white. Source: Ethiopian News Agency Last Updated (Friday, 25 November 2011 15:42)

"We want to export nearly half of our production, especially to the United States, which has a large Ethiopian community," Robel Seido, head of sales at Castel, said. According to Seido, the other half of the production will be set aside for the local market, but it will be of a better quality than the few existing table wines in the country. The long-term aim of the project is to compete with South African wines, which are considered the best on the continent. Source: Guardian Weekly Last Updated (Wednesday, 07 September 2011 08:45). Deputy Chief of Adami Tulu Jido Kombolcha Woreda and also head of the woreda agriculture development office Hussein Kebero on his part said establishment of the winery and the vineyard help to speed up development in the area. Ethiopian News Agency Last Updated (Friday, 25 November 2011 15:42)

1.6.2. Research Design

The research method is a descriptive case study making use of questionnaires, surveys, interviews and observations. In order to achieve the objectives of the study, the questionnaires were designed with the intention of answering the research questions. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Glass & Hopkins, 1984). Because the human mind cannot extract the full import of a large mass of raw data, descriptive statistics are very important in reducing the data to manageable form. When in-depth, narrative descriptions of small numbers of cases are involved, the research uses description as a tool to organize data into patterns that emerge during analysis. Those patterns aid the mind in comprehending a qualitative study and its implications. Descriptive research is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation.

1.6.3. Sources of Data and Methods of Collection

Data collection depends on the research approaches. The study use both qualitative and quantitative approaches. To this end, primary data has been collected. Primary data include interviews, self-administered questionnaires, surveys and observations.

1.6.4. Sampling Design

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. The population of the study are the finance, farm departments and the management of Castle Winery S.C. Due to the fact that, the study is based on the respondents' knowledge, skills and exposure to an event and the purpose of the study is a very specific, the sampling technique is purposive, which is non-probability sampling. Since the size of the population that has the particular set of characteristics that are interested in is very small, 20 in number, the entire population has chosen. These are considered the major section

that deals directly with ABC. Purposive sampling is popular in qualitative research; starts with a purpose in mind and the sample is thus selected to include people of interest and exclude those who do not suit the purpose.

1.6.5. Methods of Data Analysis

Another very important step required in research methodology was analyzing the data collected through different data analysis methods. The data are analyzed by general discussion using percentages, composite tables and graphs. The data which are collected in the form of a five-point Likert scale questionnaires are analyzed using the computer soft ware known as Statistical Package for Social Science (SPSS) and Ms excel in order to calculate simple statistical measures, like mean, median and mode.

1.7. Organization of the Study

This project attempts to assess the implementation of ABC and its benefit in Castel Winery at Ziway. Accordingly the paper is organized in a way that chapter one deals with introduction of the study consisting the background of the study, the statement of problem, objective of the study, research questions, significance, scope and limitation of the study and the methodologies used, chapter two presents the Review of the Related Literature, chapter three deals with analysis and discussion of the study, and the last chapter presents conclusions and recommendations of the study.

2.1. Introduction

ABC was introduced by cooper and Kaplan (in 1988) to ensure overhead cost is determined not only based on volume of outputs (Mitchell, 1996). Since then ABC has received tremendous attention among researchers and businesses. There are many different issues considered by ABC research papers and applications. ABC method is used in various industries, but mostly in large enterprises. According to Hurst, (1995:2), when a business is in economic recession, the company will learn to survive by reviving itself, such as re-organizing 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 organizational performance and profitability (Chongruksut, 2002:97). In addition, some empirical evidence shows that an organization 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 Castel to revitalize and survive in a changing environment. The implementation of ABC could solve the shortcomings of the traditional cost system and improves financial performance.

2.2. General aspects of Implementation of ABC

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

1. General description at ABC,
2. The implementation of ABC,
3. The benefits of ABC,
4. 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 subsidization 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).

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. 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, organizations 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 organization 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.

2.2.2. 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 organization 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 the 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 organization performs to fulfill 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.

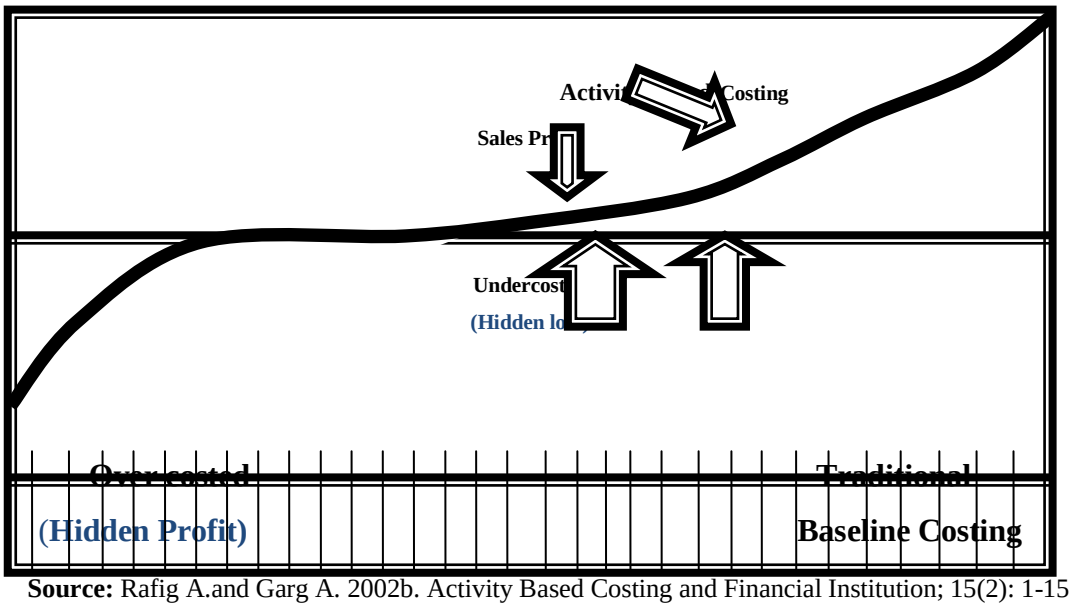
2.2.3.2. Decision Analytics

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 qualities of ABC and the valuable information it can provide, are briefly described as a.The S-Curve, b. Customer segmentation analysis and c. 'In source' versus ' Outsource' Decisions.

a. The S-Curve

The implementation framework demonstrates one of the immediate benefits of ABC (Figure 2.1). 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 products are over costed, (i.e., products on the left side of the diagram of figure 2.1 below), 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 2.1below), 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).

Figure 2.1: ABC Implementation Framework



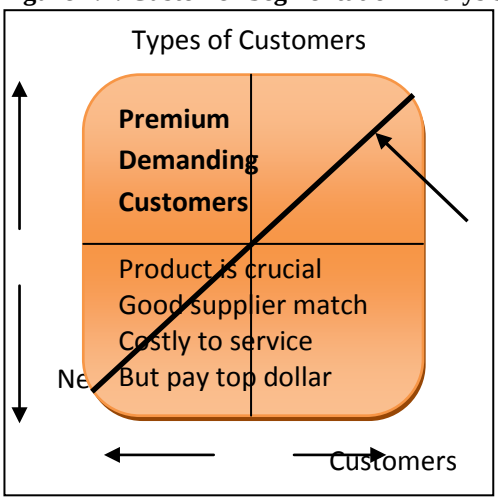
Source: Rafig A.and Garg A. 2002b. Activity Based Costing and Financial Institution; 15(2): 1-15

Given that popular products are usually 'marker' or 'comp' products, i.e., those that the customers use to compare prices across competitors, over costing 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 dependent upon the price elasticity of these products).

b. Customer Segmentation Analysis

Figure 2.2, 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 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.

Figure 2.2: Customer Segmentation Analysis



Source: Rafig A.and Garg A. 2002b. Activity Based Costing and Financial Institution; 15(2): 1-15

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. 'In source' versus ' Outsource' Decisions

Another popular tactical use of ABC is in supporting complex 'in source' 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 stabilize, 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 organization. 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 its 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.

2.3. A General Discussions of Factors determining the effects of the environment on the ABC

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 owners' hip, resources, information technology, size and consultants.

2.3.1. 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 organizations 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 organization.

2.3.2. 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 utilizes 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 customization. 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 organization when using ABC.

2.3.3. 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.

2.3.4. 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).

2.3.5. 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.

2.3.6. 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 utilization 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 globalization have created a more competitive environment in which a low cost structure often becomes a critical success factor.

3.1. Introduction

This chapter consists of four sections. The first section discusses the demographic Background of respondents', the second section presents the results of implementation of ABC, the third discusses the benefits of ABC and the forth the Problems during implementation of ABC which all represent the study objectives. For the general discussion of the results, 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. Individual respondents were asked to indicate that in their opinion, on which grounds the company has succeeded the implementation of ABC, which listed benefits has the company gained in the implementation of ABC and which listed environmental effect has affected the company in the implementation of ABC. These questionnaires were ranked on a five-point scale (1 = strongly disagree, 2= Disagree, 3=Neutral, 4=Agree and 5 =strongly agree).

3.2. Response Rate

A total of 20 questionnaires were issued to finance and production staffs and Top Management of Castel Winery S.C. These were

considered the major section that deals directly with ABC. 20 questionnaires were acknowledged by the addressees. All questionnaires were returned by the participants who represent a responses rate of 100%. These responses were judged as representative of all above sections.

3.3. Demographic Background of the Respondents

The following paragraph discusses the demographic background of respondents. Summary of respondents' sex, age, educational level, field of study and their work experience distribution is provided in the table below.

Table 3.1: Demographic Background of Respondents

Particulars		Frequency	Percent
1. Sex	Male	14	70
	Female	6	30
Total		**20**	**100**
2. Age	Less than 18	0	0
	18 to 30	11	55
	31-45	7	35
	more than 45	2	10
Total		**20**	**100**
3. Educational Level	Elementary	0	0
	High School	2	10
	TVET(Diploma)	9	45
	Bachelor Degree	8	40
	Masters Degree	1	5
	Other	0	0
Total		**20**	**100**
4. Field of Study	Accounting	9	45
	Management	4	20
	Public Administration	0	0
	Horticulture	5	25
	Other	2	10
Total		**20**	**100**
5. Work Experience	0-2 years	2	10
	2-5 years	10	50
	5-10 Years	5	25
	More than 10	3	15
Total		**20**	**100**

Source: Primary Data (2013)

As can be deduced from the table 3.1, number 1, 70% of respondents are males while 30% are females. More of males were addressed on the survey because almost all top management staffs are males. As shown on the above table 3.1, number 2, no employees are working whose age is less than 18. 11 respondents lie with in an age category of 18 to 30, 7 lie

between 31-45and 2 of them are more than 45 years old. This shows more of the workers are young. As can be seen from the table 3.1, number 3, respondents have diversity in their academic backgrounds, strengthening the idea; people from different academic backgrounds participate in ABC. 5% of the respondents have Masters Degree, 40% have Bachelor degree where as 45% of them are Diploma holders and the rest 10% are not graduated. As can be deduced from the table 3.1, number 4, since the ABC implementation is performed in finance department, nearly half, 9 of the respondents out of 20 are accounting graduates, 5 of them had graduated by horticulture so that the industry is agricultural and 4 of them had graduated by management mostly top management staffs. As stated above the rest 2 or 10% are not graduated. Only 15% of the respondents have a long year service. 50% of respondents' year of work experience is between two and five years. 25 % of them have 5-10 years service and 10% of them have no or less than 2 years experience. As we sow from the table 3.1, number 5, this big diversity of knowledge creates different understanding status.

3.4. 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 implementing ABC are reported in this section.

3.4.1. Understanding of ABC initiation

Table 3.2: Understanding of ABC initiation by designers and users

	Frequency	Percent	Cumulative Percent
Disagree	2	10.0	10.0
Neutral	7	35.0	45.0
Agree	6	30.0	75.0
Strongly Agree	5	25.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.2 the data shows that 10% the respondents were disagreed, 35% were neutral, 30% and 25% of them were agreed and strongly agreed respectively that ABC initiation has been understood by designers and users. This shows that it was well known.

3.4.2. Support of top management

Table 3.3: Support of top management for ABC initiative

	Frequency	Percent	Cumulative Percent
Disagree	7	35.0	35.0
Neutral	12	60.0	95.0
Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.3 the data shows that 35% of the respondents were disagree that the top management has strong support for ABC initiation while, 60% were neutral and 5% of them were agreed. This shows that the management was not giving the support.

3.4.3. Provision of Adequate Resources

Table 3.4 Top management has provided adequate resources

	Frequency	Percent	Cumulative Percent
Neutral	8	40.0	40.0
Agree	7	35.0	75.0
Strongly Agree	5	25.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.4 on the issue of resource supply the data shows that 40% were neutral and the rest 35% and 25% of them were agreed and strongly agreed. This shows top managements provide enough resources.

3.4.4. Competitive strategies

Table 3.5: ABC has been closely tied to the competitive strategies

	Frequency	Percent	Cumulative Percent
Disagree	8	40.0	40.0
Neutral	9	45.0	85.0
Agree	3	15.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.5 the data shows that 40% of the respondents were disagree, 45% were neutral and 15% of them were agreed. Most of the respondents have less agreement with the ABC reaction with competitive strategy. As per my observation it is because of the company have no its own policy and strategy.

3.4.5. Performance Evaluation

Table 3.6: ABC data have been used for performance evaluation

	Frequency	Percent	Cumulative Percent
Strongly Disagree	3	15.0	15.0
Disagree	5	25.0	40.0
Neutral	8	40.0	80.0
Agree	4	20.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.6 the data shows that 15% and 25% of the respondents were strongly disagree and disagree respectively that the company uses ABC data for performance evaluation. However, 40% were neutral, 20% of them were agreed.

3.4.6. Incentives designed to motivate employees

Table 3.7: Incentives in the company are designed to motivate employees

	Frequency	Percent	Cumulative Percent
Strongly Disagree	5	25.0	25.0
Disagree	3	15.0	40.0
Neutral	10	50.0	90.0
Agree	1	5.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.7 the data shows that 25% and 15% of the respondents were strongly disagree and disagree respectively that the company provide incentives for employees to motivate them. However, 50% were neutral, 5% of them were agreed and 5%of them were strongly agreed.

3.4.7. Sharing of information

Table 3.8: The management accountants have shared their ownership of information with non-accountants

	Frequency	Percent	Cumulative Percent
Disagree	5	25.0	25.0
Neutral	13	65.0	90.0
Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.8 the data shows that 25% of the respondents were disagree 65% were neutral and 10%of them were agreed. This shows as the management accountants have no satisfactory willingness to share their ownership of information for non accountants.

3.4.8. Commitment to use ABC information

Table 3.9: Top management or senior managers have a clear commitment to use ABC information

	Frequency	Percent	Cumulative Percent
Disagree	3	15.0	15.0
Neutral	10	50.0	65.0
Agree	7	35.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.9 the data shows that 15% were disagree that top managements have commitment to use ABC information. However, 50% were neutral and 35% of them were agreed.

3.4.9. Training on benefits and need of ABC

Table 3.10: Training such as benefits of ABC and the need for implementation of ABC is being provided

	Frequency	Percent	Cumulative Percent
Strongly Disagree	4	20.0	20.0
Disagree	4	20.0	40.0
Neutral	7	35.0	75.0
Agree	4	20.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.10 the data shows that 20% of the respondents were strongly disagree and 20% were disagree that the company provide training on benefits and needs of implementation of ABC. However, 35% were neutral, 20% of them were agreed and 5%of them were strongly agreed.

3.4.10. Training about the design and objectives of ABC

Table 3.11: Training about the design and objectives of ABC is being provided

	Frequency	Percent	Cumulative Percent
Strongly Disagree	2	10.0	10.0
Disagree	7	35.0	45.0
Neutral	5	25.0	70.0
Agree	6	30.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.11 the data shows that 10% and 35% of the respondents were strongly disagree and disagree respectively that the company provide training about the design and objectives of ABC. However, 25% were neutral and 30%of them were agreed. This shows that this training has given less attention by the management.

3.4.11. Training about implementing ABC

Table: 3.12: Training about implementing ABC is being provided

	Frequency	Percent	Cumulative Percent
Strongly Disagree	2	10.0	10.0
Disagree	7	35.0	45.0
Neutral	6	30.0	75.0
Agree	5	25.0	100.0

Table: 3.12: Training about implementing ABC is being provided

	Frequency	Percent	Cumulative Percent
Strongly Disagree	2	10.0	10.0
Disagree	7	35.0	45.0
Neutral	6	30.0	75.0
Agree	5	25.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.12 the data shows that 10% and 35% of the respondents were strongly disagree and disagree respectively that the company uses ABC data for performance evaluation. However, 30% were neutral, 25% of them were agreed. This shows that most of the respondents have not agreed that sufficient training about implementing ABC is being provided.

3.5. 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.

3.5.1. Accurate product or Service costs

Table 3.13: More accurate product or service costs

	Frequency	Percent	Cumulative Percent
Disagree	2	10.0	10.0
Neutral	10	50.0	60.0
Agree	6	30.0	90.0
Strongly Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.13 the data shows that 10% were disagreed. However, 50% were neutral, 30% of them were agreed and 10%of them were strongly agreed. Thus, more of the respondents agree and strongly agree ABC helps to find more accurate product costs.

3.5.2. Overhead cost allocation

Table 3.14: Better overhead cost allocation

	Frequency	Percent	Cumulative Percent
Disagree	1	5.0	5.0
Neutral	8	40.0	45.0
Agree	9	45.0	90.0
Strongly Agree	2	10.0	100.0

Table 3.14: Better overhead cost allocation

	Frequency	Percent	Cumulative Percent
Disagree	1	5.0	5.0
Neutral	8	40.0	45.0
Agree	9	45.0	90.0
Strongly Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.14 the data shows that 5% were disagreed that the company has better overhead cost allocation. However, 40% were neutral, 45% of them were agreed and 10%of them were strongly agreed.

3.5.3 Assistance in product or service design

Table 3.15: Assistance in product or service design

	Frequency	Percent	Cumulative Percent
Disagree	3	15.0	15.0
Neutral	9	45.0	60.0
Agree	5	25.0	85.0
Strongly Agree	3	15.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.15 the data shows that 15% were disagreed, 45% were neutral, 25% of them were agreed and 15% of them were strongly agreed. The response realized was more of respondents have agreed in assistance of ABC for the design of products.

3.5.4. Increase in profitability

Table 3.16: Increase in profitability

	Frequency	Percent	Cumulative Percent
Strongly Disagree	2	10.0	10.0
Disagree	4	20.0	30.0
Neutral	8	40.0	70.0
Agree	2	10.0	80.0
Strongly Agree	4	20.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.16 the data shows that 10 and 20% of the respondents were strongly disagreed and disagreed respectively that ABC increase profitability. However, 40% were neutral, 10% of them were agreed and 20%of them were strongly agreed.

3.5.5. Assistance in cost reduction efforts

Table 3.17: Assistance in cost reduction efforts

	Frequency	Percent	Cumulative Percent
Strongly Disagree	2	10.0	10.0
Disagree	3	15.0	25.0
Neutral	10	50.0	75.0
Agree	4	20.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.17 the data shows that 10% and 15% of the respondents were strongly disagreed and disagreed respectively ABC assists in cost reduction. However, 50% were neutral, 20% of them were agreed and 5%of them were strongly agreed.

3.5.6. Cost control improvement

Table 3.18: Cost control improvement

	Frequency	Percent	Cumulative Percent
Disagree	3	15.0	15.0
Neutral	12	60.0	75.0
Agree	4	20.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.18 the data shows that, 15% of the respondents were disagreed that ABC use for cost control improvement. However, 60% were neutral, 20% of them were agreed and 5%of them were strongly agreed.

3.5.7. Better performance measurement

Table 3.19: Better performance measurement

	Frequency	Percent	Cumulative Percent
Strongly Disagree	3	15.0	15.0
Disagree	3	15.0	30.0
Neutral	8	40.0	70.0
Agree	5	25.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.19 the data shows that 15% and 15% of the respondents were strongly disagree

and disagree respectively that ABC helps for performance measurement. However, 40% were neutral, 25% of them were agreed and 5%of them were strongly agreed. Beside their selection of options, the respondents have commented that the Company hadn't applied continuous performance measurement.

3.5.8. Elimination of waste

Table 3.20: Elimination of waste by providing visibility of non-value-added activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	4	20.0	20.0	20.0
	Neutral	11	55.0	55.0	75.0
	Agree	5	25.0	25.0	100.0
	Total	20	100.0	100.0	

Source: Primary Data (2013)

From table 3.20 the data shows that 20% disagreed that the ABC data use for Elimination of waste by providing visibility of non-value-added activities. However, 55% were neutral and 25% of them were agreed.

3.5.9. Encouragement of commitment

Table 3:21:Encouragement of commitment to quality and continual improvement

	Frequency	Percent	Cumulative Percent
Disagree	4	20.0	20.0
Neutral	7	35.0	55.0
Agree	7	35.0	90.0
Strongly Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.21 the data shows that 20% were disagreed. 35% were neutral, 35% of them were agreed and 10% of them were strongly agreed. ABC hardly encourages for commitment to quality and continual improvement.

3.5.10. Management attention

Table 3.22: Management attention to interdependencies of departments

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	4	20.0	25.0
Neutral	9	45.0	70.0
Agree	6	30.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.6 the data shows that 5% and 20% of the respondents were strongly disagree and disagree respectively .45% were neutral, 30% of them were agreed.

This shows that managements give attention to interdependencies of departments.

3.5.11. Breakdown of barriers

Table 3.23: Breakdown of barriers between different functional areas

	Frequency	Percent	Cumulative Percent
Disagree	2	10.0	10.0
Neutral	9	45.0	55.0
Agree	7	35.0	90.0
Strongly Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.23 the data shows that 10% were disagreed, 45% were neutral, 35% of them were agreed and 10%of them were strongly agreed. These shows there are no as such big barriers between different functional areas.

3.5.12. More accessible and timely information

Table 3.24: Provision of more accessible and timely information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Disagree	3	15.0	15.0	15.0
	Neutral	2	10.0	10.0	25.0
	Agree	10	50.0	50.0	75.0
	Strongly Agree	5	25.0	25.0	100.0
	Total	20	100.0	100.0	

Source: Primary Data (2013)

From table 3.24 the data shows that 15% of the respondents were disagree that ABC is used for best accessible and timely information for Castel winery. However, 10% were neutral, 50% of them were agreed and 25%of them were strongly agreed.

3.5.13. Effectiveness of budgeting

Table 3.25: Increase in the effectiveness of budgeting

	Frequency	Percent	Cumulative Percent
Disagree	4	20.0	20.0
Neutral	6	30.0	50.0
Agree	6	30.0	80.0
Strongly Agree	4	20.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.25 the data shows that 20% of the respondents were disagreed, 30% were neutral, 30% of them were agreed and 20%of them were strongly agreed. This shows that the respondents strongly agree ABC increases budgeting effectiveness.

3.5.14. Provision of incentives

Table 3.26:Provision of incentives to improve manufacturing or service excellence

	Frequency	Percent	Cumulative Percent
Disagree	4	20.0	20.0
Neutral	14	70.0	90.0
Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.26 the data shows that 20% of the respondents were disagree that ABC improves excellence of manufacturing. 70% were neutral; however, 10% of them were agreed.

3.5.15. Decision-making

Table 3.27: Decision-making improvement

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	3	15.0	20.0
Neutral	10	50.0	70.0
Agree	6	30.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.27 the data shows that 5% and 15% of the respondents were strongly disagree and disagree respectively that the company uses ABC data for decision making. However, 50% were neutral and 30% of them were agreed.

3.5.16. Competitive capability

Table 3.28:Increase in competitive capability

	Frequency	Percent	Cumulative Percent
Disagree	1	5.0	5.0
Neutral	17	85.0	90.0
Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.28 the data shows that 5% of the respondents were disagreed, 85% were neutral and 10% of them were agreed. Most respondents have given neutral suggestion because they don't have knowledge about competitive capability as well as the Company has not started sales.

3.6. Determining the problems during 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.

3.6.1. Resistance to change

Table 3.29: Resistance to change

	Frequency	Percent	Cumulative Percent
Strongly Disagree	4	20.0	20.0
Disagree	5	25.0	45.0
Neutral	6	30.0	75.0
Agree	3	15.0	90.0
Strongly Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.29 the data shows that 20% and 25% of the respondents were strongly disagree and disagree respectively that the company resist to changes. However, 30% were neutral, 15% of them were agreed and 10%of them were strongly agreed.

3.6.2. Cost of implementing ABC

Table 3.30: High cost of implementing ABC

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	3	15.0	20.0
Neutral	3	15.0	35.0
Agree	12	60.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.30 the data shows that 5% and 15% of the respondents were strongly disagree and disagree respectively. However, 15% were neutral, 60% of them were agreed and 5% of them were strongly agreed. This shows that ABC costs highly.

3.6.3. Top management support

Table 3.31: Lack of top management support

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	5	25.0	30.0
Neutral	5	25.0	55.0
Agree	9	45.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.31 the data shows that 5% and 25% of the respondents were strongly disagreed and disagreed respectively that the company lack top management support. However, 25% were neutral, 45% of them were agreed.

3.6.4. Takes managers' time

Table 3.32:Takes up a lot of managers' time

	Frequency	Percent	Cumulative Percent
Strongly Disagree	2	10.0	10.0
Disagree	2	10.0	20.0
Neutral	9	45.0	65.0
Agree	5	25.0	90.0
Strongly Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.32 the data shows that 10% and 10% of the respondents were strongly disagree and disagree respectively that ABC takes up a lot of managers' time. However, 45% were neutral, 25% of them were agreed and 10%of them were strongly agreed.

3.6.5. Software packages

Table 3.33: Lack of software packages

	Frequency	Percent	Cumulative Percent
Disagree	2	10.0	10.0
Neutral	14	70.0	80.0
Agree	4	20.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.33 the data shows that 10% of the respondents were disagree that the company lacks software packages. However, 70% were neutral and 20%of them were agreed.

3.6.6. Commitment and Cooperation among Departments

Table 3.34: Lack of commitment and cooperation among departments

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	2	10.0	15.0
Neutral	13	65.0	80.0
Agree	3	15.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.34 the data shows that 5% and 10% of the respondents were strongly disagree and disagree respectively that the company lack commitment and cooperation among departments. However, 65% were neutral, 15% of them were agreed and 5%of them were strongly agreed.

3.6.7. A great deal of work

Table 3.35: Involves a great deal of work

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	4	20.0	25.0
Neutral	8	40.0	65.0
Agree	3	15.0	80.0
Strongly Agree	4	20.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.35 the data shows that 5% and 20% of the respondents were strongly disagree and disagree respectively that ABC needs a great deal of work. However, 40% were neutral, 15% of them were agreed and 20%of them were strongly agreed.

3.6.8. Takes up IT staff's time

Table 3.36:Takes up a lot of IT staff's time

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	3	15.0	20.0
Neutral	11	55.0	75.0
Agree	4	20.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.36 the data shows that 5% and 15% of the respondents were strongly disagree and disagree respectively that ABC takes a lot of IT staff's time. However, 55% were neutral, 20% of them were agreed and 5%of them were strongly agreed.

3.6.9. Cost of ABC consulting

Table 3.37: High cost of ABC consulting

	Frequency	Percent	Cumulative Percent
Strongly Disagree	2	10.0	10.0
Disagree	3	15.0	25.0
Neutral	5	25.0	50.0
Agree	8	40.0	90.0

Strongly Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.37 the data shows that 10% and 15% of the respondents were strongly disagree and disagree respectively that there is high cost of ABC. However, 25% were neutral, 40% of them were agreed and 10%of them were strongly agreed.

3.6.10. Difficulty in gathering data on cost-drivers

Table 3.38: Difficulty in gathering data on cost-drivers

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Neutral	14	70.0	75.0
Agree	5	25.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.38 the data shows that 5% of the respondents were strongly disagree that ABC generate difficulty in gathering data on cost-drivers. However, 70% were neutral and 25% of them were agreed.

3.6.11. Difficulty in defining cost drivers

Table 3.39: Difficulty in defining cost drivers

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	2	10.0	15.0
Neutral	11	55.0	70.0
Agree	4	20.0	90.0
Strongly Agree	2	10.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.39 the data shows that 5% and 10% of the respondents were strongly disagree and disagree respectively that it is difficult to define cost drivers. However, 55% were neutral, 20% of them were agreed and 10%of them were strongly agreed.

3.6.12. Difficulty in designing system

Table 3.40: Difficulty in designing system

	Frequency	Percent	Cumulative Percent
Strongly Disagree	2	10.0	10.0
Disagree	1	5.0	15.0
Neutral	10	50.0	65.0

Agree	2	10.0	75.0
Strongly Agree	5	25.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.40 the data shows that 10% and 5% of the respondents were strongly disagree and disagree respectively that ABC is difficult for designing. However, 50% were neutral, 10% of them were agreed and 25%of them were strongly agreed.

3.6.13. Difficulty in identifying activities

Table 3.41: Difficulty in identifying activities

	Frequency	Percent	Cumulative Percent
Strongly Disagree	1	5.0	5.0
Disagree	4	20.0	25.0
Neutral	10	50.0	75.0
Agree	4	20.0	95.0
Strongly Agree	1	5.0	100.0
Total	20	100.0	

Source: Primary Data (2013)

From table 3.41 the data shows that 5% and 20% of the respondents were strongly disagree and disagree respectively that identifying activities for ABC is difficult. However, 50% were neutral, 20% of them were agreed and 5%of them were strongly agreed.

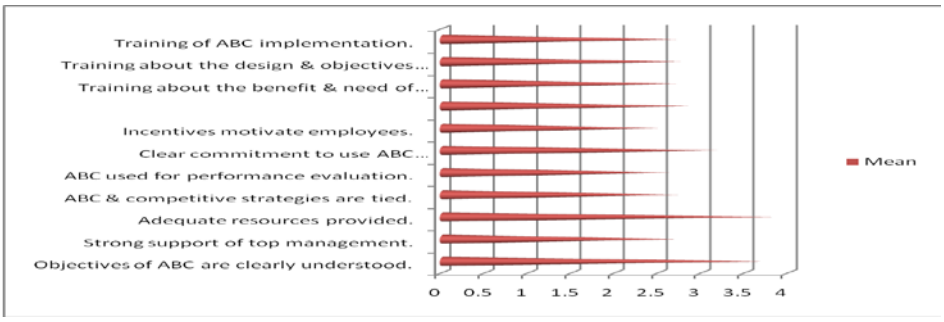
Summary of the Major findings, Conclusions and Recommendations

4.1. Summary of the major Findings

4.1.1. Summary on the Implementation of ABC

Bar chart 3.1 below reflects the responses of the respondents on a composite table and graph. 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.

BarChart4.1:Implementation of ABC



Source: Primary Data (2013)

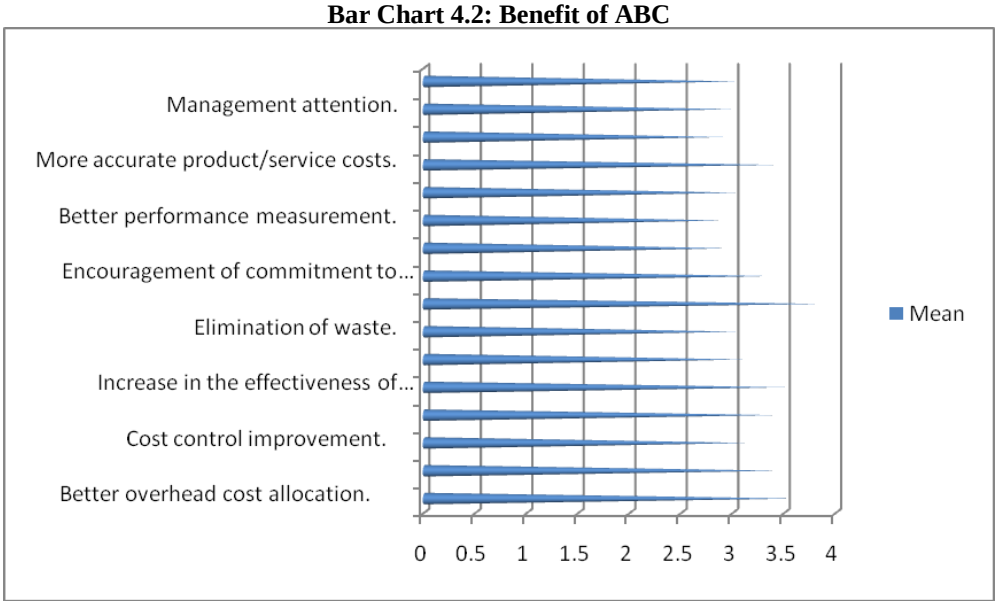
A prerequisite of ABC success and to produce any meaningful results is that employees should be committed to its implementation and also accepts responsibility for its outcomes. If this does not occur, ABC is bound to fail. The message employees perceive will impact on the credibility of the initiative and the ABC model since employees are typically responsible for feeding information to the ABC model. On average the implementation of ABC in Castel winery, recorded a mean score = 2.94. This finding indicates that the implementation process in Castel winery is positive. This is mainly due to strong indication of top management providing adequate resources, had clear commitment to use ABC information and operating departments have shown commitment for ABC success. 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.

4.1.2. Summary on the Benefit of ABC Implementation

Bar chart 3.2 below reflects the responses of the respondents on a composite table and graph. As in the case of the positive perceptions on the 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 indicates and all the factors were above the average of 2.9, indicates that the respondents perceived the benefits of ABC implementation as very positive.

On average the benefits from the implementation of ABC recorded a mean score = 3.23. These findings suggested that Castel winery experienced positive benefits from the implementation of ABC. This is due to the gained benefits such as, provision of more accessible and timely information, better allocation of overhead cost, breakdown of barriers between different functional areas, assistance in product or services design, more accurate product cost and increase in the effectiveness of budgeting.

Bar Chart 4.2: Benefit of ABC



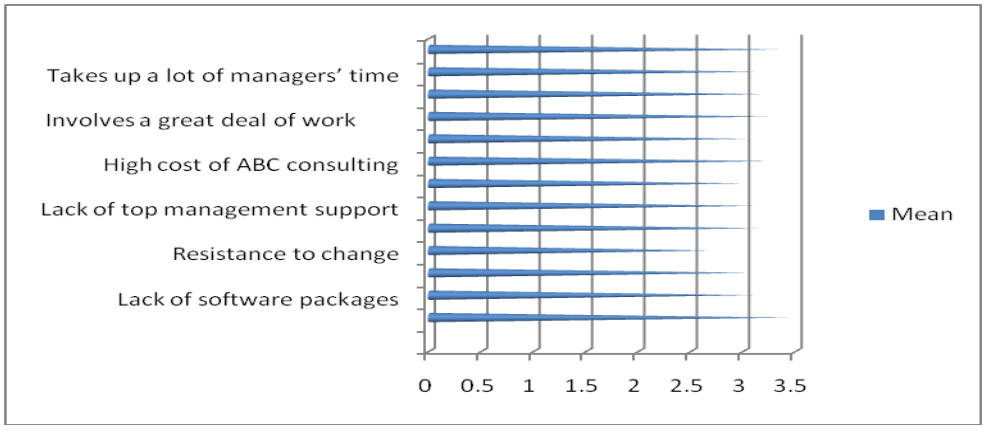
Source: Primary Data (2013)

4.1.3. Summary on the Problems during ABC Implementation

Bar chart 3.3 below reflects the responses of the respondents on a composite table and graph. The high overall mean of 3.45, 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, difficulty in designing system and involves a great deal of work. Although the difficulty in defining cost drivers, in gathering data and the fact that it takes up a lot of the manager's time, were significant compared to an average mean of 3.14. This finding indicated that the environmental effect of ABC is problematic.

Bar Chart 4.3: Problems during ABC Implementation



Source: Primary Data (2013)

4.2. Conclusion

The findings in this study highlight a number of interesting aspects concerning the implementation of ABC in the Castel Winery. These include: 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 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.

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), even if this company did not started sales yet. 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, similar evidence is reported by (Haggarth, 2003:1, Barton and MacArthur, 2003:1, Baxendale and Gupta, 1998: 46). 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. 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. Finally, many technical factors were perceived as obstacles of the successful implementation of ABC. These were the high cost of implementing ABC; high cost of consulting; difficulty in designing system and a great deal of work.

4.3. Recommendations of the Research

The following recommendations should help the Castel Winery 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. Castel Winery S.C 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. 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 Castel Winery should take note of this and ensure that non-accountants are effectively involved in ABC implementation. The perception exists that many environmental factors have a negative influence on the successful implementation of ABC. In order to overcome the problems 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 organization is vital for its implementation to be a success. It is essential that employees understand the system and their contribution to it.

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