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IMPLEMENTING ACTIVITY BASED COSTING: THE CASE OF A CENTRAL BANK IN A SOUTH ASIAN COUNTRY

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Abstract:

The purpose of this paper is to examine why and how a Central Bank of a South Asian Country (CBSAC), the monetary authority and the regulatory body of finance and banking sector, adopts and implements Activity Based Costing (ABC) practices. The primary data were collected by conducting semi structured interviews and observing organizational processes. Secondary data were collected through reviewing various documents such as guidelines to activity wise time recording sheets, annual reports and online sources including the CBSAC web site and CBSAC intranet. In the data collection process, higher emphasis was placed on data triangulation. Data analysis was carried out following an explanation building approach. The study identified that the appointment of the new Governor in 2006 was the major driver for moving towards ABC method at the CBSAC. Currently through time recording sheets, activity wise cost of each department is being tracked and assigned to the CBSAC functions. The CBSAC has taken several initiatives to improve the ABC system which has propelled it towards a more time driven ABC.

Keywords: Activity Based Costing; Activity Based Budgeting; Banking Sector; Central Bank; Financial Institutions; South Asia.

INTRODUCTION

Business environment has changed rapidly, thereby creating a need for all systems in organizations to adjust accordingly. Although the production or service systems changed in response to meet the changing needs of the marketplace, the internal management accounting systems have remained unchanged in many organizations (Kaplan, and Johnson, 1987, Sohal and Chung, 1998; Atkinson *et al*., 2012). Consequently, the management became increasingly dissatisfied with the traditional costing systems available in the organizations. In this context, Activity Based Costing (ABC) system emerged as an alternative to the traditional costing system (Cooper, 1990; Sohal and Chung, 1998; Drury, 2004). Prior to the emergence of ABC system, the traditional costing system, which is commonly known as absorption costing system, was the most popular cost allocation method. Traditional costing systems use volume-driven allocation bases to relate overhead costs to products or services (Cooper and Kaplan, 1992; Drury, 2004). However, the issue is that products or services do not demand resources proportional to the volume (Miller and Vollman, 1985; Cooper and Kaplan, 1992; Innes and Mitchell 1997; Gonzalez-Gomez and Morini, 2006). Consequently, these systems did not report accurate product costs.

As a better system of cost allocation, ABC soon witnessed wide applications especially in the manufacturing sector. Despite the initial development of ABC in the manufacturing sector, it can be well used in the service sector too (Rotch, 1990; Innes and Mitchel, 1997; Hilton, Ramesh, & Jayadev, 2008; Atkinson, *et al*., 2012). According to Innes and Mitchell (1997), the later development of ABC has involved many service sector applications. They further state that ABC is used in core management accounting areas such as decision making, control and performance measurement of the service firms. Atkinson et al. (2012) is of the view that service companies are ideal candidates for ABC even more than manufacturing companies.

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When ABC is adopted in manufacturing and service sector organizations, the government sector organizations started to adopt it. However, Brown, Myring, & Gard (1999) suggest that government organizations show interest in ABC long after the adoption of ABC by its counterparts. They identify the competitive pressures, availability of advanced technology and the availability of wide applications as the main reasons for the government sector to adopt ABC. Williams and Melhuish (1999) identified that there is a positive relationship between ABC evolution and the success of the government activities. ABC would enable the government agencies to make rational decisions, plan the budgets, establish fees and increase the production.

Despite this global importance of ABC in the government sector, there is a dearth of research of its application in the semi-government sector in developing countries. The paper therefore focuses on the implementation and application of ABC, in a Central Bank of a South Asian Country (CBSAC) in its service delivery. This study will therefore attempt to contribute to the body of knowledge of ABC related research in developing countries and in the financial service sector in particular.

The semi government sector of the South Asian Country includes corporations, boards, authorities and public private companies grouped under several ministries. The Ministry of Finance and Planning consists of 18 institutions in the state sector and 23 institutions in the semi-government sector. The CBSAC is among the 23 semi government institutions that come under the purview of the Ministry of Finance and Planning. As the central bank of the South Asian country, the CBSAC is vested with the responsibility of; managing the monetary policy, directing and regulating the key components of the financial system and overseeing the other key aspects which are delegated to it via various other statutes and regulations. The CBSAC was established in late 1950s and is governed by the Monetary Board which has five members. Three out of five members are appointed by the President of the country to represent the private sector and other two members are ex-officio members viz, the Secretary to the Ministry of Finance and the Governor of the CBSAC. The functions of the CBSAC mainly include; maintaining price, economic and financial system stability, managing public debt, managing foreign exchange, managing the state annuity fund for employees, financial intelligence and monitoring of provincial offices. A renowned person with a background on accounting and finance was appointed as the Governor of the CBSAC in 2006 who then became the major catalyst of driving the implementation process of ABC within the bank.

The rest of the paper is organized as follows; Section Two provides the literature review of the study. It is then followed by methodology in Section Three. In Section Four findings and discussion of the study is presented. Finally, the paper concludes in Section Five.

LITERATURE REVIEW

Costing Systems

According to Drury (2004), a cost accumulation systems is needed to generate information for an organization as; a) many indirect costs are relevant in making decisions, b) further investigation is needed to identify product profitability periodically and c) many product decisions are independent. Depending on which costs are assigned to the cost objects and the level of sophistication, usually there are three costing systems, *direct/marginal costing*, *traditional/absorption costing* and *ABC system* (Drury, 2004; Hilton, *et al*., 2008).

Activity Based Costing (ABC)

ABC is as a method of measuring costs and performance of activities, products, and customers (Gunasekaran, Marri, & Yusuf, 1999; Hilton, *et al*., 2008). ABC assigns resource costs to cost objects such as products, services, or customers based on activities performed for the cost objects (Cooper and Kaplan, 1992; Chartered Institute of Management Accountants- CIMA, 2005). Wickramasinghe and Alawattage (2007) identify ABC as a post-mechanistic cost management approach in management accounting. ABC accurately reflects the resource consumption in production and distribution by attempting to trace costs to products or processes. ABC achieves this by accurately recognizing a causal relationship of cost drivers to activities (Holmen, 1995; Drury, 2004; Hilton, *et al*., 2008). It identifies activities which consume resources, attaches costs to them, and assigns costs to products or processes that use these activities (Ismail, 2010).

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The traditional volume-based costing is appropriate generally when direct costs are the major cost of the product or service and activities supporting the production of the product or service are relatively simple, low-cost, and homogenous across different product lines (CIMA, 2005; Drury, 2004;). Unlike traditional costing, ABC systems trace the uses of resources to activities and link the activity costs to products, services, or customers (Drury, 2004). The first stage of ABC assigns factory overhead costs to activities or activity cost centers (activity cost pools) by using appropriate resource consumption cost drivers. The second stage assigns the costs of activities or activity cost pools to cost objects by using appropriate activity consumption cost drivers that measure the demands of cost objects placed on the activities (Drury, 2004). Therefore by using cost drivers in both the first and second stage cost assignments, ABC systems provide more accurate measures of product or service costs for the cost of activities that are not proportional to the volume of outputs produced.

ABC systems differ fundamentally from volume-based costing systems in two ways. Firstly, the ABC system defines cost pools as activities rather than production plant or department cost centers. Secondly, the cost drivers that the ABC system uses to assign activity costs to cost objects are drivers based on an activity or activities performed for the cost object (Innes and Mitchell, 1990; Drury, 2004). In allocating costs to products and services, ABC uses multiple drivers where resources are linked to activities via resource drivers and activities is linked to costs via cost drivers (Turney, 1989).

ABC implementation

Due to the wide applicability and popularity of ABC, there are numerous studies that have focused on ABC. According to Lee (2003), the first group of empirical studies on ABC deals with the cost-activity relationship. Further, according to Cardos and Pete (2001), ABC and ABM systems have emerged to meet the need for accurate information about the cost of resources demanded by individual products, services and customers. Borjesson (1994) presents two case studies where activity-based projects are practiced to achieve two different objectives of activity analysis: namely, product costing and activity control. Moreover, Srinidhi (1992) suggests an extension to the current ABC framework by using queuing theory to incorporate the costs that are difficult to trace to activity centers.

While most of the research on ABC has focused on general service and manufacturing organizations, there are several studies that have particularly focused on the financial sector institutions. Brown *et al.* (1999) have studied how ABC could be used to improve the performance of a healthcare and insurance program. They state that successful implementation of ABC is needed through careful and thoughtful steps that incorporate many aspects. Further, they emphasize that the implementation of ABC fails due to how it was done but not what was done. Therefore, Innes and Mitchell (1997) are of the view that ABC cannot yet be viewed as having replaced more traditional costing systems in financial institutions. Nonetheless, a strong desire to control and reduce cost has been evident among the financial institutions.

Atkinson *et al.* (2012) suggest that lack of clear business focus, senior management support, poor ABC model design, organizational and individual resistance to change *and* inappropriate delegation to consulting organizations as the main problems in ABC implementation. Further, Kaplan and Anderson (2004 & 2007) suggest that expensive data for ABC systems, time consuming design process and lack of enterprise wide ABC systems could inhibit the value of traditional ABC and suggest a time driven ABC system as a solution. Anand, Sahay, & Saha (2005a) suggest that firms face difficulties in developing an activity dictionary and cost drivers during the design phase and not having proper review of the ABC system during the implementation initiative.

ABC in South Asian countries

In India, Anand *et al*. (2005a) identify that ABC cost systems provide accurate cost and profit information for value chain and supply chain analysis. Yet, ABC information is not well linked to budgets unlike the firms who are using traditional costing. Further, they identify that Indian firms use absorption costing or marginal costing irrespective of the use of ABC systems. Moreover, they find no significant difference in the use of standard costing between ABC users and traditional costing system users. Anand *et al*. (2005b) further identified that motivations and potential to adopt ABC is similar

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and very high across manufacturing and service sector companies in India.

In a Sri Lankan study, Fonseka, Manawaduge, & Senaratne (2005) find that the level of management accounting application, including ABC, is low among the public listed companies. As identified by Subasinghe and Fonseka (2010), the level of adoption of management accounting practices in Sri Lanka can be varied between different sectors such as manufacturing, trading, and services. They further identify that the adoption of management accounting is high among the manufacturing companies and relatively low in trading and service companies. In explicating the reasons for low level of adoption of management accounting, Goonesekera (2004) observes that the lack of knowledge on the part of senior management of management accounting tools is an important reason. Kulendran (2008) also confirms that business leaders' awareness of management accounting practices is low and needs to be enhanced. In addition, Subasinghe and Fonseka (2010) find that subordination of management accounting to financial accounting and unsupportive organizational culture can result in a lower level of adoption of management accounting practices in the country.

The analysis of literature reveals that in contrast to Western countries, ABC and other advanced management accounting techniques are not widely practiced in the South Asian region and consequently there is a lack of researches/empirical evidences on ABC implementation and its application. This is particularly highlighted in the semi-government sector due to the none availability of any study on ABC implementation. Further, it is evident that the country's banking sector is not studied for the application of ABC practice widely.

The researchers were motivated to conduct this study as an attempt to fill the paucity of literature on the application of ABC in the financial sector institutions in South Asia. The researchers therefore believe that management accounting practices in South Asian countries can be improved by giving right awareness to the relevant stakeholders who heavily rely on management accounting information, especially top management.

METHODOLOGY

In this research work, case study method was followed due to the nature of research question, lack of control over events and the focus on the contemporary managerial issue (Myers, 2003; Yin, 2009).

The data collection of the study was carried out during February to September of 2013. In order to ensure a high degree of un-biasness and consistency in conducting this study, the researchers used multiple data collection methods. These methods include; interviews, observations, and documentary analysis. Before approaching the CBSAC, employees of several companies adopting ABC were interviewed to get an initial understanding of the work involved in implementing ABC and also why these companies implemented ABC system in their organizations.

In order to provide more independent views for the study, interviews were conducted with individuals belonging to multiple aspects of the ABC process at the CBSAC. An initial interview was conducted with an officer from the Finance Department, who provided a basic overview of the ABC process. The interview lasted for around twenty minutes and the insights gathered from it enabled the researchers to get an overview of the overall process and organizational background. It was followed by another detailed interview lasting for forty minutes with the same officer, in June, using the interview guideline prepared (refer Appendix 1). In order to collect further information the liaison officer, an employee of Bank Supervision Department (BSD) and a senior officer of the Information Technology Department were interviewed respectively in August. These latter interviews were comparatively short which lasted about twenty minutes with mostly open ended questions. A senior officer who engaged in the implementation stage of ABC was also interviewed to gather information on the implementation process of ABC in September. In this interview, which lasted for twenty minutes, the researchers used mostly open ended questions with the intention of gathering detailed data. The researchers were then convinced that the point of saturation has reached in collecting data, as suggested by Marginson (2004), when the same answer received from the different individuals for the same questions. The researchers tape recorded these interviews which were then electronically

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logged for later analysis. The researchers also observed how the activities are carried out by the CBSAC as a means of collecting data.

Apart from the above mentioned primary data sources, secondary sources of data such as awareness documents prepared by the Finance Department, organizational structure charts, ABC process chart, time recording sheets used by BSD and online resources such as the CBSAC web site and intranet were examined. The collected data from different sources, i.e. interviews, observations, documentary review and physical artifacts were triangulated to ensure validity and reliability during data collection process (Golafshani, 2003; Yin, 2009).

The collected data were analyzed using an explanatory building approach to build up a story (Yin, 2009). In building up this story of the case, the data were analyzed into three phases of implementing ABC. These three phases are; pre-ABC era, implementation era and post-implementation era. However, gaps and missing links were identified by the researchers. Hence, some of the data sources were reached out again for further clarifications. These steps were repeatedly conducted until the case was completely built. The next section provides the findings and the discussion of the study.

FINDINGS AND DISCUSSION

This section provides the findings and the discussion of the study in terms of thee phases of implementation of ABC (pre-ABC era, implementation era and post-implementation era).

Pre-ABC era

The appointment of a new Governor in 2006 can be identified as the crucial internal change that instrumented the ABC implementation of the CBSAC. Kaplan and Anderson (2007) highlight how the profit analysis system got increased visibility after the appointment of a new CEO in a financial service firm. Similarly the new Governor has been the driver in initiating the new costing system. Due to the lack of availability of ABC especially in the South Asia including the banking sector (Anand *et al*. 2005b; Fonseka *et al*., 2005), the CBSAC's move to introduce ABC can be regarded as a significant move.

Prior to 2008, a proper management accounting mechanism to ascertain costs of individual departments and to process such information to facilitate management decision making was almost absent. Being a service provider who handles large monetary aggregates, it was questioned whether the costs were incurred in the most prudential and efficient manner. A critical issue that emanated from the absence of an appropriate cost calculation was the difficulty in arriving at accurate pricing and cost management decisions which has been highlighted by Cooper and Kaplan, (1992). For example, it was debated whether the simple nominal fee earned from activities such as license fees of banks and finance companies and fines charged on regulatory breaches were sufficient to breakeven when considering the related supervisory costs of those entities. Furthermore, in the absence of an overall cost allocation mechanism, the higher management of the CBSAC faced difficulties in making cost-related decisions on activities where several departments collaborated such as the preparation of key publications of the institute like the Annual Report of the CBSAC. The top management frustration due to improper cost allocation system is an issue that has been highlighted by Sohal and Chung, (1998) and Atkinson *et al*. (2012).

These limitations were identified by the Governor of the CBSAC, who had a keen interest in management accounting since he is an accountant by profession. He then proposed the management to adopt ABC as an effective solution. The main purpose of adopting ABC was to ascertain costs incurred by the CBSAC in delivering its key functions.

When enquired about the rationale behind implementing ABC, an officer who was involved in the implementation process in 2008 stated:

> "We carried out a thorough cost benefit analysis before implementing ABC whereby management agreed that comparably the benefits that can be gained from implementing such a mechanism would overweigh the costs involved. It was figured out that the cost taken to gather the additional information was not very material as we had some details collected already."

The above statement highlights that the ABC adoption at the CBSAC has been carefully evaluated

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as highlighted by Kaplan and Anderson (2004). As stated above, prior to implementing ABC, a comprehensive cost benefit analysis was performed. This action was driven by the philosophy that the benefits attainable from implementing such a costing mechanism are greater than the associated costs in the long run.

Implementation era

In order to implement ABC at any organization, it is first necessary to identify the activities performed (Drury, 2004; Hilton, *et al*., 2008; Ismail, 2010). In implementing ABC, the management faced the problem of determining the activities carried out by individual departments. This problem which is faced by the CBSAC is similar to what was identified by Anand *et al*. (2005b). Hence, each department was requested to submit key activities performed at the department level and weighting based on the relative work done on each activity. For example, in the context of the BSD, key activities would include, formulating regulations and policies relevant to banking sector, on-site examination of banks, continuous supervision of banks, etc.

However, to the dismay of the implementation team, the initial information submitted by the individual departments was mostly inaccurate and did not portray a true picture of the level of work performed. This was mainly due to the fact that when determining a cost weighting, departments had not taken into account the number of individuals employed to deliver each activity. Hence, this exercise was repeatedly done until a meaningful calculation that reasonably matched the actual costs was arrived upon. Initially, weightings were used to apportion costs of departments to individual activities and finally to functions as well. As a remedy to minimize the impact of an arbitrary calculation, the Finance Department later introduced department wise time recording sheets to ascertain a more reliable picture on the cost of functions at the CBSAC.

During the implementation process, a very low level of resistance was observed among all levels of employees. A senior officer who was involved in the implementation process stated:

> "We held awareness sessions for employees of all departments explaining the new management accounting system and the role of individual employees in ascertaining accurate cost information. We currently have few FAQ materials on time recording sheets aiming new employees who join the CBSAC.

He went on to highlight another reason for the low level of resistance during the implementation process as follows:

> "Whenever there are any new amendments, we communicate them to employees through Department Liaison Officers at each and every department. These Department Liaison Officers are senior employees of the CBSAC who are currently working in the capacity of Deputy Directors in the individual departments. This layer of individuals also acted as change agents, which we believe as another reason for the low level of resistance observed."

Further, department level awareness sessions were conducted at annual budget meetings in order to ascertain meaningful cost information of departments and their functions. Moreover, a liaison officer was appointed at each department to facilitate information gathering at respective departmental level. These officers coordinated the monthly information gathering and acknowledged the ABC method to newly appointed employees at departmental level. Due to these procedures, a low level of resistance was observed at the point of implementation and even thereafter. It is clear that the CBASC has taken steps to overcome the organizational and individual resistance to change, which was highlighted by Atkinson *et al.* (2012), through these steps.

At the CBSAC, costs are allocated into key functions of the institution at the absence of a physical product, which are broadly categorized as core functions, ancillary functions and agency functions. The costs identified under these functions were categorized as *direct costs, overhead costs, other costs, common costs and legal statute related costs*. The primary and secondary allocation bases of these cost categories are given in Table 1.

In dealing with various cost items, staff cost was identified as a significant cost component. Due to the complex nature of the work allocation of most employees, the CBSAC required a proper mechanism to allocate the staff cost to different activities. Hence,

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Time Recording Sheets were developed by the Finance Department for each and every department in the CBSAC, depending on various activities performed by the respective employees. These sheets are filled by individual employees monthly and the information is then submitted to the Finance Department by way of a master schedule for the entire department. The actions taken by the CBSAC in this regard can be viewed as a movement towards a time driven ABC as suggested by Kaplan and Anderson (2004 & 2007).

Table 1: cost allocation in the ABC system

Cost item	Primary allocation	Secondary allocation
Direct costs - Directly attributed to an activity (electricity, telephone)	pooled into activities	reallocated to functions based on a percentage
- Not directly attributed to any activity	pooled into respective departments & allocated into activities	reallocated to functions
Overhead costs (Incurred as organization wide common cost)	apportioned to departments (based on the predetermined parameters) & allocated into activities	reallocated to functions (based on the % contribution of each department to the respective function)
Other costs (not categorized under the above)	Pooled into respective departments and then allocated to the activities	Reallocated to functions
Common costs and Legal statutes related costs (incurred directly related to the major functions)	Directly allocated to functions	

Source: Author constructed

Post-implementation era

After the implementation phase of ABC, the management of the CBSAC has taken various steps to sustain and continuously improve the system. Among them the continuous revision of the existing ABC process and related variables such as functions, sub-activities, cost drivers, etc. is important. The importance of updating the ABC system has been highlighted by Atkinson *et al.* (2012) and Anand *et al*. (2005a). Understanding this importance, the variables in the ABC are quarterly reviewed by the management and applicability and relatedness of existing variables are evaluated while making changes to enhance the current mechanism. After the implementation of ABC in early 2008, the CBSAC made its first amendment to the initial design by adding a new driver to relate personnel costs namely the "hourly rate" in 2009. The hourly rate is calculated for an employee depending on his or her grade and hours worked and will illustrate per hour cost of an employee for different employee grades in the CBSAC.

In the subsequent years even, the CBSAC continuously updates its ABC system with the experience it obtained over the years. In 2013, the Finance Department identified that significant overheads are pooled under *common costs* category in the absence of proper cost identification. Most of these costs arise from statute related activities performed by the CBSAC in order to implement the Monetary Policy of the country. Hence, costs incurred by the CBSAC to perform its statutory obligations were separately categorized as *legal statute related costs*, which includes costs such as withholding tax paid on treasury bills, interest paid on foreign reserves, etc (Refer Table 1).

In 2012, the Finance Department came up with a separate calculation called "sub activity cost calculation". For example, the cost per examination conducted by the BSD for banks. Information provided from the ABC system is used for various management actions including planning, decision making and control as highlighted by Innes and Mitchell (1997). In making decisions such as annual license fee of banks, fine charges for violations of the regulatory framework, etc., the information provided by the ABC system is used as the basis. For example, in making outsourcing decisions, the cost information provided by ABC is used extensively. In this context, an employee of the Finance Department stated,

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> "Prior to implementing ABC, most of the non-core activities such as conducting surveys, managing the staff cafeteria were performed by our employees. But afterwards, management chose to delegate conducting of surveys to the State Census and Statistics Department, where necessary, using sub-activity cost information such as cost per survey"

He further added,

> "Similarly, when moving the State Managed Annuity Fund Department to another location outside the main premises, top management used the cost per canteen maintenance at head office as a benchmark to decide on an outside party to run the canteen facilities at the new location."

The CBSAC also uses activity based information in preparing budgets, which can be identified as a system of Activity Based Budgeting (ABB) (Drury, 2004; Hilton, *et al.*, 2008; Atkinson, *et al.*, 2012). These budgets are prepared at the individual department levels and are subject to review and discussion of the management and the Finance Department therein. These budgets finalized at the beginning of the year are then again need to be met unless in extreme situations subject to senior management approval. This has resulted in better control of costs at the CBSAC.

The sub-activity cost calculation is further instrumental in instances where multiple departments engage in a single sub-activity such as the annual report preparation. In annual report compilation process, departments from different clusters gather in providing the respective articles and chapters to the report and engage in translation work, although the primary responsibility resides with Research Department. In collaborated efforts as aforesaid, Finance Department obtains the information related to their respective contribution to the particular sub-activity from each department. The Finance Department identifies sub activities and calculates sub-activity cost that is subsequently used in operational and managerial level decision making.

The implementation and sustenance of the ABC system is not without many challenges. One of the critical challenges faced by the Finance Department is the difficulty of data collection from different sources. Due to the absence of an integrated mechanism of data gathering, the Finance Department incurred time and other resources heavily in collecting the requisite information from different sources. For an example, hourly rate is calculated based on time recording sheets filled by individual employees and are not subjected to detailed supervision. Hence, time recording sheets may deviate from reality in certain instances. As a solution for this, the Finance Department compares the apportioned cost with actual costs incurred and in the case of a significant deviation (i.e. 20% or more), it is requested to re-submit the information.

At present, the ABC process at the CBSAC is semi-automated while some of the key data collection and calculation areas are manually performed which is both cumbersome and time consuming. For example, in the context of staff costs allocation, individual employees provide information regarding time spent on individual activities using spread sheets which is summarized into a master spread sheet at the departmental level. The Finance Department uses the master spread sheets to allocate staff costs to different activities. At the same time, higher management and employees of the Information and Technology Department of the CBSAC uses uncomplicated in-house software to submit information on the time spent for individual activities.

Despite these challenges, the ABC implementation has been instrumental in enhancing the productivity of management decision making at the CBSAC in many ways. Moreover, the Activity Based Budgets prepared by the Finance Department together with other budgets, have been helpful to improve the sense of cost-consciousness among other departments as well.

CONCLUSION

The study demonstrated how ABC system was implemented and is continuously improved at the CBSAC. The appointment of the new Governor has been the major trigger for the change towards ABC. Thus, the study shows how the influence of persons with authority could bring accounting change to derive better results. The study highlights that the ABC system adopted by the CBSAC is now more of

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a time driven ABC. The study further reveals the mechanisms needed to sustain and continuously improve ABC in a financial sector institution. The researchers therefore believe the findings of this study will be useful for the financial service sector organizations to implement ABC.

The findings of the study are however, subject to certain limitations. Among them, a major issue was the access to information. The highly procedural process to access the information resulted in delays and some information gaps. However, the researchers took all the possible actions to mitigate the information gaps. Moreover, it will be difficult to generalize the findings (Enquist, Johnson, & Skalen, 2006; Yin, 2009) by studying and drawing conclusions from a single organization in the finance and banking sector in semi government sector, without considering the industry or competitors.

The researchers believe that future studies can be carried forward on different type of financial institutions on the cost allocation process and the usage of management accounting practices. Further, the studies can be extended towards the cost allocation processes of other central banks in the region or any similar financial service providers.

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APPENDIX 1 - Interview questions/themes

- *Reasons contributed to the ABC implementation*
  - How significant is your overheads?
  - What were the main reasons for the CBSAC to move to ABC?
  - What were your main challenges in changing the costing system to ABC?

- *Characteristics of the new ABC system*
  - How many cost pools and cost drivers have been identified?
  - How did you determine the relevant cost pools and cost drivers?
  - What were the main issues faced by the team in identifying and determining cost pools and cost drivers?
  - Have you maintained any internal policy as to how to conduct the ABC process?
  - What kind of measures taken to raise the awareness about the new methodology among employees?
  - Have you revised or changed the ABC mechanism that was initially established?

- *Importance of ABC information in management decision making*
  - How often do you send ABC information to the senior management?
  - What kind of reporting formats do you use in reporting ABC information to the senior management?
  - How have you integrated the ABC system to the annual budget preparation and strategic planning processes?

- *Data collection for the ABC system*
  - What kind of a mechanism have you established in collecting information from the respective departments?

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- What kind of issues do you face in collecting data?
- What kind of remedial measures have you planned/planning to take in resolving above issues?

- *Issues faced by the CBSAC in implementing ABC system*
  - What kind of practical issues do you face in controlling the high cost functions?
  - Have you observed any significant improvements/reductions in the costs incurred due to the ABC implementation?
  - What kind of assumptions have supported in allocating the cost among different functions of the CBSAC?