

## *Abstract*

# **AN APPLICATION OF ACTIVITY BASED COSTING IN LOCAL GOVERNMENT BUDGETING**

**Suneel Maheshwari**

The objective of this study is to investigate the effectiveness of an Activity Based Costing (ABC) model in predicting aggregate budgeted cost for the utilities department in a local government. In the past few years, there has been a pressure on the city officials to reduce the costs. This is forcing cities to re-examine their current allocation of resources to various activities. We examine the budgeting process for the Utilities Department of City of Paris<sup>1</sup>. Our study uses ABC to predict the operating costs on a monthly bases, based upon the identified cost driver. In the process, we have also been able to identify inefficiencies in the billing process, in particular, and provide an effective measure of reducing non-value-added activities in general. The application of ABC should benefit the cost control process in providing services.

## **Introduction**

Efficient allocation and use of scarce resources is a problem faced by any organization. The problem becomes acute in the case of local governments, as the inflow of resources is restricted to the budgeted amount. The constituents increasingly want to hold the city officials responsible for the use of their hard earned tax dollars. This has increased the pressure on the city officials to look for more efficient ways of allocating and using resources. The city of Paris is no exception to the rule.

In the last few years, there has been pressure on every local government department to reduce its cost of operations while maintaining the quality. Each departmental head is given broad parameters to reduce its projections and consequently its costs by a certain percentage. This blanket reduction is arbitrary and leads to frustrations among city employees and the city constituents. We offered to conduct a study for the city's Utilities Department to identify a more precise way to predict the total costs and also identify any non-value-added activities which may be consuming resources but not adding any value to the city's constituents.

One of the important stages in government financial administration is the budgeting process. Funds allocated based on budgets and, thus, the approved budgets act as a measure of control. The logic is that if we can more precisely define the inputs (resources) for an "Activity" it would improve allocation of resources at the "Activity" level and finally an effective use of available scarce resources at the Fund level. This is where ABC may be helpful.<sup>1</sup> A good control at the budgetary level will help with effective management of costs.

Activity Based Costing has been extensively used in corporate organizations world over, especially in the last decade. Managers need accurate costs for strategic decisions product design, manufacturing and marketing decisions. These decisions will be influenced by the anticipated cost and anticipated profitability of the product (Cooper and Kaplan, 1988). Conversely, if product profitability drops, the question of its discontinuance will be raised. As per Kaplan (1993), several companies are using forecasts of product volume and mix process efficiencies to obtain

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estimated spending for the future activities and resources. Used in this way, the ABC model becomes a powerful tool for the budgeting process.

In general, Cooper, et al (1992) found that ABC management benefits both strategic and operational decisions. Companies use the information to make major decisions on product lines, market segments, and customer relationships, as well as to stimulate the process improvements and activity management. The success and use of ABC in the corporate world is well proven. Procter & Gamble, John Degree, Farall Corporation, Kraft USA, Slade Manufacturing, Advanced Micro Devices, ARCO Alaska, William Brothers are just few examples of the successes of ABC.

However, use of ABC is not very popular in the Government Sector, and literature is almost scarce in the local government application. In case of US Government the Defense and Department of Transportation have been the main users of ABC. The US Department of Defense is using activity-based costing in its drive to re-engineer critical processes and peg the value of information systems investments. The benefit of ABC is that it provides a way of benchmarking existing processes and finding ways to improve them (LaPlante and Altar, 1994). Outside of the US, Hoban (1995) has documented the usefulness of ABC in the Victorian Local Government in Australia.

Anderson (1993) has discussed an application of ABC in the City of Indianapolis. ABC was a necessary first step in deciding on which services (core vs. ancillary activities) the city of Indianapolis wanted to or should provide to the citizens. In order to specify the type of service to be provided the city has to come up with the cost of providing the services. Anderson provides a detailed example of how the consultant came up with the cost of snow removal process over one mile for Department of Transport. Significantly different costs in five different geographical regions was an eye opener for the city officials. ABC management is now used on daily basis in DOT, Indianapolis, where it aids in making decisions based on the costs that are approximately right rather than approximately wrong.

We were not able to find any application of ABC to the budgeting process in a local government. An important feature of Activity Based Budgeting is the strengthening of the interface between planning and budgeting (Wilhelmi, 1995). Our paper discusses an application of ABC in the budgeting process for the Utilities Department in a local government.

The Utilities Department of the City, although serving the external constituents, are the sole providers of water and sewage services to the residents of the city of Paris. Their survival is independent of threat of any competition. The lack of competition itself may make the officials a little laid back and serve as a de-motivator to try anything new. The use ABC for this study is unique in two ways 1) this study extends the applications of ABC to the area of budgeting and 2) ABC has not been used in the local government as a tool for budgeting. ABC has not been used in the local government as a tool for budgeting Log-linear regression model was used. Results show that transaction cost for the processing of a bill is significant. Currently, the city is not in a position to identify the transaction cost of preparing and collecting a bill. The analysis provides evidence that if the forecast for the number of bills is available on a monthly basis, the budgeted forecasts can also be made on the monthly basis. This forecast will need revision from time to time. ABC can be used to estimate the costs of activities and, thereby, facilitate the budgeting process.

Availability of right cost information is of strategic importance, in terms of allocation of resources and the fees that should be charged to the customers. The right information is necessary for holding the elected representatives and appointed officials responsible for their actions.

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## References

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## Notes

<sup>1</sup> The name of the city is being kept confidential at the request of city officials. Officials cooperated fully in providing actual data for this study.

<sup>2</sup> The term "Activity" has a specific connotation in the government budgeting process. The broadest level at which funds are allocated is the "Fund" (for example, Capital Investment Fund). The resources sanctioned for a Fund are then allocated to various Functions / Programs (like Capital Improvement Projects, which is one of many capital projects). The next level of allocation is the Department level (e.g., Parks & Recreation Department). Following the hierarchy are "Activity", Character, and Object, in that order. To continue the example, the money allocated for Parks & Recreation Department is proposed to be spent on upkeep and maintenance of various parks. One of the projects is the renovation of Spanish River Park. This particular stage is referred to as one Activity. In this paper, the discussions are limited to an Activity level. The term Character refers to the nature of cost incurred, whether it is capital, current, or debt service. Object is the line item representation of various expenditures in the budget.