

A study on the effect of performance based budgeting using activity based cost method

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ABSTRACT

Nowadays, management of funds in different governmental organizations plays essential role in accessing desirable objectives and in controlling operations efficiently and effectively. Performance-based budgeting (PBB) is the practice of developing budgets based on the relationship between planned funding levels and anticipated results from the plan. The performance-based budgeting process is a technique where the administrators can apply to manage more cost-efficient and effective budgeting programs. In this paper, we present an empirical investigation to find out whether it is possible to apply PBB in various Iranian municipalities or not. The proposed study detects different barriers in terms of strategy, execution and monitoring through a questionnaire and investigations whether removing the important trouble making issues could help management team apply PBB with an adaptation of activity based cost method or not. The results indicate that management of some Iranian municipalities could successfully implement PBB within organization when major barriers are removed.

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1. Introduction

Nowadays, management of funds in different governmental organizations plays essential role in accessing desirable objectives and in controlling operations efficiently and effectively. Performance-based budgeting (PBB) is the practice of developing budgets based on the relationship between planned funding levels and anticipated results from the plan. The performance-based budgeting process is a technique where the administrators can apply to manage more cost-efficient and effective budgeting programs. During the past few years, there have been different methods and techniques introduced for PBB implementation. Zamfirescu and Zamfirescu (2013), for instance, suggested goal programming techniques along with some decision support system as a strategy for PBB implementation. Kordbache (2007) provided necessary actions for successfully applying PBB in some Iranian organizations.

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Melkers and Willoughby (1998) studied the trends toward improving performance in government and first discussed that past research on PBB in the states concentrates on anecdotal information and case analyses, usually including fewer than 10 states. Melkers and Willoughby (1998) provided national coverage of needs for PBB in the United States by surveying the 50 states concerning existing or planned legislation associated with performance-based budgeting as well as administrative necessities. They reviewed legislation and budget guidelines to detect their scope and focus and reported that all but three states had performance-based budgeting requirements, and most had established these requirements within the years of nineties. Thirty-one states had legislated performance-based budgeting to be conducted, while 16 states initiated this reform through budget guidelines or instructions. They also analyzed the foundations for executing PBB in the states.

Talebnia et al. (2012) examined the possibility of building PBB in Iran in terms of three perspectives including policymaking, implementing, and monitoring. There are different studies associated with the success of PBB implementation in various countries such as Thailand (Blöndal & Kim, 2006), Finland (Blöndal et al., 2003), Singapour (Blöndal, 2006), Denmark (Blöndal, J.R., & Ruffner, 2004), Australia (Blöndal & Bergvall, 2007). Recently, budget decision-makers and the general public have requested better accountability for not just the use of resources, but for results that public programs create. As a result, the principles of PBB have become popular. PBB tries to deliver market-like data to the public sector and sends results to budget decision makers in the same way profits send investment indicators to financiers in the private sector. PBB injects necessary information on accomplishments into the resource allocation process.

2. The proposed

In this paper, we present an empirical investigation to find out whether it is possible to apply PBB in various Iranian municipalities or not. The proposed study detects different barriers in terms of policy making, execution and monitoring through a questionnaire and investigations whether removing the important trouble making issues could help management team apply PBB with an adaptation of activity based cost method or net. The population of the survey includes all experts who worked for different municipalities in west part of Iran in terms of budgeting planning, budgeting executives as well as deputies who are experts in budgeting planning. The sample size is calculated as follows,

$$n = \frac{N \times z_{\alpha/2}^2 \times p \times q}{\varepsilon^2 \times (N - 1) + z_{\alpha/2}^2 \times p \times q}, \quad (1)$$

where N is the population size, $p = 1 - q$ represents the yes/no categories, $z_{\alpha/2}$ is CDF of normal distribution and finally ε is the error term. Since we have $p = 0.5, z_{\alpha/2} = 1.96$ and $N = 156$, the number of sample size is calculated as $n = 60$. The sample size for three mentioned groups is proportion to their sub-group. In our survey the sample size for budgeting planning group is equal to $(60/312) \times 100 \approx 19$. In addition, the sample size for executive budgeting managers is $(60/312) \times 100 \approx 19$ and finally, the sample size of deputies is $(60/312) \times 112 \approx 22$. In our survey we have distributed 57 questionnaires and collected 50 fill ones. Cronbach alpha has been calculated as 0.81, which is well above the minimum desirable level of 0.7. There are four main hypotheses associated with the proposed study of this paper as follows,

1. It is possible to detect all barriers in terms of policy making.
2. It is possible to detect all barriers in terms of execution.
3. It is possible to detect all barriers in terms of monitoring.
4. Using activity based cost model integrated with PBB is the most suitable approach.

The questionnaire consists of 33 questions where 13 questions are associated with the first hypothesis and Table 1 demonstrates the results of our survey along with the responses,

Table 1

The summary of the responses associated with the first hypothesis

Item	Question	Prob.	Sig.	Result
1	Lack of having a good strategy in macro level,	0.90	0.001	Confirmed
2	Lack of having a good guidelines for executing budgets,	0.84	0.018	Confirmed
3	Lack of having good performance measurement attributes,	0.82	0.002	Confirmed
4	Lack of having accrual accounting instead of cash accounting,	0.76	0.000	Confirmed
5	Lack of having managerial accounting system,	0.96	0.001	Confirmed
6	Lack of familiarity with activity based cost method,	1.000	000.0	Confirmed
7	Lack of having appropriate attributes for measuring municipality output,	0.98	0.000	Confirmed
8	Different definition for municipality rules and regulations,	0.96	0.003	Confirmed
9	Lack of having members of budgeting system in city management,	0.90	0.002	Confirmed
10	Lack of believes in having good prediction for events in municipality,	1.000	0.001	Confirmed
11	Weakness in internal rules and regulations,	0.96	0.001	Confirmed
12	Lack of belief in having pragmatic systems,	1.00	0.002	Confirmed
13	The culture of being responsive in the system.	1.00	0.000	Confirmed

As we can observe from the results of Table 1, the surveyed people mostly agreed on 13 different factors as major barriers to reach good PBB system in municipality. Therefore, the first hypothesis of this paper has been confirmed.

The second survey consists of factors in execution stage, which consists of 11 factors and Table 2 shows details of our findings,

Table 2

The summary of the responses associated with the second hypothesis

Item	Question	Prob.	Sig.	Result
1	Lack of having professional human resources,	0.90	0.000	Confirmed
2	Low commitment to execute plans,	0.92	0.000	Confirmed
3	Lack of familiarity of managers with managerial accounting,	0.94	0.001	Confirmed
4	Resistance among managers for executing plans,	0.98	0.000	Confirmed
5	Lack of having good payment and promotion plans,	1.000	0.000	Confirmed
6	Lack of awareness on different resources and consumptions,	1.000	0.001	Confirmed
7	Lack of familiarity of managers with PBB system,	1.000	0.000	Confirmed
8	Lack of good familiarity with allocating cost to different tasks,	0.92	0.000	Confirmed
9	Lack of having organizational structure,	0.90	0.001	Confirmed
10	Lack of coordination between different groups of financial and operations,	0.90	0.000	Confirmed
11	Lack of a good definition on various activities.	0.92	0.001	Confirmed

The results of Table 2 also indicate that all eleven factors have been confirmed as major barriers on executing PBB in the system.

The last part of the survey is associated with monitoring different factors associated with monitoring PBB implementation. In our survey, we have considered nine factors and the results of our investigation is summarized in Table 3 as follows,

Table 3

The summary of the responses associated with the third hypothesis

Item	Question	Prob.	Sig.	Result
1	Lack of attention to audit report,	0.94	0.000	Confirmed
2	Lack of attention to supreme court of audit report,	0.96	0.001	Confirmed
3	Necessity to consider to both supreme court of audit report and independent auditors,	0.90	0.001	Confirmed
4	Type of cooperation between the legislative and municipal agencies throughout the country,	1.000	0.000	Confirmed
5	Legal governmental requirements,	1.000	0.001	Confirmed
6	Lack of adequate support from the municipal government and parliament,	0.92	0.000	Confirmed
7	Lack of a clear definition of responsibilities and a timetable,	0.98	0.001	Confirmed
8	Lack of institutional capacity,	0.96	0.000	Confirmed
9	Lack of having proper system of reward and punishment.	1.000	0.000	Confirmed

The results of Table 3 also indicate that all nine components influence properly monitoring the PBB implementation.

4. Conclusion

In this paper, we have discussed that PBB is one of the most important parts of budgeting system and plays essential role for the success of any organization. The proposed model of this paper has implemented the method in some of municipalities in west part of Iran and tried to detect major barriers in three levels of policy making, execution and monitoring. In terms of policy makers, the study detected 13 major factors where lack of familiarity with activity based cost method, lack of believes in having good prediction for events in municipality and Lack of belief in having pragmatic systems. In terms of execution, the study detected 11 factors where lack of having good payment and promotion plans, lack of awareness on different resources and consumptions and lack of familiarity of managers with PBB system are considered as the most important barrier. Finally, in terms of monitoring the system, the study has detected 9 major barriers including type of cooperation between the legislative and municipal agencies throughout the country, legal governmental requirements and lack of having proper system of reward and punishment.

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