The study of Operational Budgeting Implementation in governmental organizations of Zanjan Province and Suggesting Required Guidelines

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Abstract

The method of annual budgeting of Iran is imperfect and it needs some revisions. The structure of budget is in a way that it easily causes lots of costs and it cannot be distinguished from real and unreal or inflation resources. In current budgeting method of Iran, it is tried to take the maximum level of the costs into consideration; that is, each organization considers its current year's budget as the criterion and then without any performance assessment and without calculating the real expenses of each unit of product or service, it adds a given percent to its current years' income and costs by considering the inflation rate and other possible variables and represents it to the government as its predicted budget for the next year. However, they do not pay attention to the fact that the performance unit of the organization should be defined based on it, and the performance should be changed into figures and numbers and the real costs of each performance unit should be calculated. In recent years, Iran's budget follows programmatic system. Budgeting in programmatic system, however, cannot be the ultimate purpose of budgeting system; it is just a starting point for operational budgeting system. In other words, programmatic budgeting will be an introduction to operational budgeting. Moreover, by a comparison between operational and programmatic budgeting, it can be argued that, while programmatic budgeting only can be beneficial for guiding governmental managers in their general management and decision-making, operational budgeting controls the performance of organizational units and institutional and governmental staff as well.

The present paper studies operational budgeting implementation in governmental organizations of Zanjan Province. In this regard, research hypotheses were represented and in order to verify them, after determining the sample size, data were collected by questionnaire and analyzed by SPSS and Excel software and statistical Friedman and Mann-Whitney and binominal tests. Research population included all the governmental organizations of Zanjan province and the research design was a practical and descriptive one and was performed by making use of correlation. The results showed that there is a relationship between mentioned factors and operational budgeting. Finally, based on the findings, some suggestions were represented for operational budgeting implementation in governmental organizations.

Keywords: operational budgeting, respondent human-resource training, quality of constructive projects, changing the accounting methods, costs control

Introduction

Todays, by globalization of markets, increasing competition, technologic developments, etc. organizations need some guidelines to adapt themselves with these changes and make use of these conditions as a new opportunity for economical growth and development. There are various techniques and methods to encounter existing situations and one of them is budgeting. Budget is the overview of the all programs and activities and plays an important role in organizations development.
The annual budgeting method of Iran is imperfect and needs some revisions. Its structure is in a way that easily causes lots of costs and cannot be distinguished between real, unreal and inflation resources. Being non-operational and unclear, there are some basic problems of Iran's budgeting system, which imposes heavy costs on the country including annual budget shortages. Since Iran's current budgeting system is programmatic and it does not evaluate the efficiency and effectiveness and its goal is to maintain a governmental organization by credit devotion and this organization just consumes the budget without considering whether it achieves its goals and programs or not, general belief is that the government should omit its non-operative programs and follow those programs that are operationally problematic; and when a program gains its goals, the government should put it out of its list of programs. In order to solve these kinds of problems, since 2007 operational budgeting was taken into consideration by the government, and in 2007 for the first time the government rendered its budget program according to operational budgeting framework (Mahdavi, 2007).

Operational budgeting added two dimensions of "effectiveness" and " providence" to the traditional budgeting. Operational budgeting distinguishes between "efficiency" and "effectiveness" as well. Efficiency pays attention to the suitable use of resources, while effectiveness is connected to the performance. Operational budgeting categorizes the operations in a way that the goals are more transparent and so the evaluation will be easier (ibid, p.280). In this method, maximum budget of each administrative organization is determined by the government as before, but the distinction is that some additional factors are taken into consideration, such as the evaluation of production and services costs, market prices, and quality enhancement (Mahdavi, p.286).

Studies show that operational budgeting is one of the most important and efficient tools of managers for being respondent and for effective decision making and control. Training such managers plays a very valuable role in operational budgeting implementation. As the purpose of increasing the capacity of budget consuming organizations is to find the most effective cost way of task performance and to allocate the reserved budget to other useful activities (documents of programming management organization). Following reasons are represented as the research motives:

a. Limited knowledge of the society and accountants regarding operational budgeting
b. Potential role of operational budgeting in improvement and reformation of current systems in order to achieve efficiency, effectiveness and economic advantages

The present study aims at studying operational budgeting of governmental organizations in Zanjan province and suggests required guidelines. In this study, operational budgeting is considered as independent variable and its dependent variables are being respondent, human-resource training, the quality of constructive projects, changing accounting methods and costs control. The main purpose of the study is to show the relationship between above mentioned factors and operational budgeting. This is a new subject area across the country and based on the results that it may cause in governmental organizations and as it is a new kind of research in Zanjan province, the necessity of the research is established.

Extensive operational budgeting is a kind of programmatic budgeting which categorizes the operations and activities of the organizations in a more precise and transparent way and defines specific goals for each part of the programs and then estimates their costs. Zero Base Budgeting (ZBB) is a budgeting technique which is used as a management tool and it was used for the first time in 1962 in America. In this budgeting method each budget-year is considered as a new period and this budgeting technique is used as the base for it.

Operational budgeting at the same time is an upside-down and downside-up process. Supreme programmer and politicians should determine the short-term and long-term objectives of
the program. Furthermore, they should determine the resource levels which are required to support realization of these goals. Also, some indicators should be assigned to evaluate the realization of goals and test whether the resources are consumed effectively or not. However, long term and short term objectives, resource levels and evaluative indicators should be developed and verified by cooperation of lower-level managers.

Lower level managers and their related organizations play an effective role in realization and improvement of annual operational program of high level programmers and politicians. These managers are familiar with the programs in a way that they can effectively help politicians to reform and revise their annual operational programs. Moreover, this cooperation will help politicians to gain a good understanding about close relationship between annual operational program and operational budgeting of managers in all levels and also get ensured about their commitment to this relationship.

To incorporate budget and performance effectively by a governmental organization, a five-stage approach is used:

- Each activity of staff is defined within the program.
- The criteria of activity measurement are determined.
- Working hours of staff for a whole year are calculated and devoted to the mentioned activity.
- Each penny of operational costs is allocated to an especial activity.
- The activities are arranged hierarchically according to one or a small group of output indicators and goals.

The potential important role of operational budgeting in improvement and reformation of existing financial systems of governmental organizations in order to achieve efficiency, effectiveness and economical advantage as well as a comparison with those countries with operational budgeting such as America and Sweden, motivated us to study implementation of operational budgeting in governmental organizations of Zanjan province.

**Objectives of the study**

The main objective of this research is to study the implementation of operational budgeting in governmental organizations of Zanjan province. Present research was performed in 2011 in order to study and describe effective factors in implementation of operational budgeting in governmental organizations of Zanjan to enhance financial quality level of them. Gathered information are categorized and represented to government, governmental organizations and users to be used in future programming for operational budgeting and as a guideline for other researches.

**Hypotheses**

H1: There is a significant relationship between implementation of operational budgeting and Accountability.

H2: There is a significant relationship between implementation of operational budgeting and human-resource training.

H3: There is a significant relationship between implementation of operational budgeting and the quality of constructive projects.

H4: There is a significant relationship between implementation of operational budgeting and changing accounting methods.

H5: There is a significant relationship between implementation of operational budgeting and Control costs (providence).
Methodology

This study is a practical and descriptive one which is based on correlation. Based on data collection method, it is a questionnaire survey. Operational budgeting was considered as the independent variable and dependent variables were being respondent, human-resource training, the quality of constructive projects, changing accounting methods and costs control.

Data collection

In order to investigate the relationship between independent and dependent variables, a questionnaire with 25 questions was used which was organized based on 5-choice Likert scale. The second tool was an interview with managers, masters of budgeting, accountants and auditors of governmental organizations.

Validity and reliability

Face and content validity of the questionnaire were determined by professional and scientific experts and it was shown that all the questions evaluate the given traits and included operational definitions of the variables. An interview was performed with managers, masters of budgeting, accountants and auditors and the questionnaire validity was confirmed. Cronbach's alpha was used for reliability assessment which was determined to be 0.879 and indicates an adequate reliability for the questionnaire. Also, pre-test method was used for reliability assessment. In this regard, the questionnaire was distributed among 40 individuals and a high correlation was achieved.

Statistical population

Population of the study consisted of all the managers and financial masters, accountant and auditors of governmental organizations of Zanjan province.

Sampling and sample Size

In the present study, cluster sampling was used. In this regard, some governmental organizations were selected from the population and a cluster of the managers and accountants and auditors were considered. Totally, 114 questionnaires were collected and analyzed.

Binominal test

Here the objective is to investigate the relationship between the variables and as the research questions are independent and individuals answer the questions independently and test success is constant and the number of positive answers, so the number of success are considered and following equation is used:

\[
Z = \frac{X - np}{\sqrt{npq}}
\]

Z: test statistic
N: statistical sample
P: success probability
Q: failure probability
X: success

Friedman-test: To determine the priority and importance level of each factor in operational budgeting, Friedman test was performed. This test can be used for statistical data which are, at least, ordinal and can be categorized in a two way manner. This test shows whether some factors are more important than the others or all of them are in a same level of importance.

Mann-Whitney test: Mann-Whitney is the most frequently used substitute of t-test with independent samples. In order to use this test as a zero-hypothesis of equality between two groups, distribution level of them should be the same. It means that their variance should be equal. The form of distribution is not important.
Results and Discussion

The first hypothesis

Considering this question that whether there is a relationship between implementation of operational budgeting and being respondent, results of table 1 and 2 shows that the hypothesis regarding equality of groups 1 and 2 is rejected by a significance level of 5% and our hypothesis is confirmed. Based on the results, it can be said that there is a significant difference between groups 1 and 2 and group 2 is more respondent. So, the first hypothesis of the research is confirmed.

Table 1. Mann-Whitney test for testing the first hypothesis

<table>
<thead>
<tr>
<th>Accountability</th>
<th>Mann-Whitney test</th>
<th>The test statistic</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.500</td>
<td>-2.880</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 2. Descriptive statistics for data in the first hypothesis

<table>
<thead>
<tr>
<th>Group</th>
<th>Numbers</th>
<th>Rates</th>
<th>All rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>3</td>
<td>3.50</td>
<td>10.50</td>
</tr>
<tr>
<td>Group 2</td>
<td>101</td>
<td>53.96</td>
<td>5449.50</td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The second hypothesis

With respect to this question that whether there is a relationship between implementation of operational budgeting and human-resource training, results of table 3 and 4 show that the hypothesis regarding equality of groups 1 and 2 is rejected by a significance level of 5% and the hypothesis is confirmed. Based on the results, it can be concluded that there is a significant difference between groups 1 and 2 and human-resource training is higher in group 2. So, the second hypothesis of the research is confirmed.

Table 3. Mann-Whitney test for testing the second hypothesis

<table>
<thead>
<tr>
<th>human-resource training</th>
<th>Mann-Whitney test</th>
<th>The test statistic</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>-2.989</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 4. Descriptive statistics for data in the second hypothesis

<table>
<thead>
<tr>
<th>Human</th>
<th>Group</th>
<th>Numbers</th>
<th>Rates</th>
<th>All rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource</td>
<td>Group 1</td>
<td>3</td>
<td>2.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Training</td>
<td>Group 2</td>
<td>101</td>
<td>54.00</td>
<td>5454.00</td>
</tr>
<tr>
<td>Overall</td>
<td>104</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

The third hypothesis

Regarding this question that whether there is a relationship between implementation of operational budgeting and the quality of constructive projects, results of table 5 and 6 indicate that the hypothesis regarding equality of groups 1 and 2 is rejected by a significance level of 5% and our hypothesis is verified. Accordingly, it can be said that there is a significant difference between groups 1 and 2 and the quality of constructive projects is higher in group 2. Therefore, the third hypothesis of the research is confirmed.
Table 5. Mann-Whitney test for testing the third hypothesis

<table>
<thead>
<tr>
<th>The quality of construction projects</th>
<th>Mann-Whitney test</th>
<th>The test statistic</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.000</td>
<td>-1.989</td>
<td>0.019</td>
</tr>
</tbody>
</table>

Table 6. Descriptive statistics for data in the third hypothesis

<table>
<thead>
<tr>
<th>The quality of</th>
<th>Group</th>
<th>Numbers</th>
<th>Rates</th>
<th>All rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Group 1</td>
<td>3</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Projects</td>
<td>Group 2</td>
<td>101</td>
<td>53.00</td>
<td>5459.00</td>
</tr>
<tr>
<td>overall</td>
<td></td>
<td>104</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fourth hypothesis

Regarding the fourth hypothesis that whether there is a relationship between implementation of operational budgeting and changing accounting methods, results of table 7 and 8 demonstrate that the hypothesis regarding equality of groups 1 and 2 is rejected by a significance level of 5% and our hypothesis is confirmed. By considering the results it can be stated that there is a meaningful difference between groups 1 and 2 and changing accounting methods is higher in group 2. Thus, the forth hypothesis of the research is confirmed.

Table 7. Mann-Whitney test for testing the fourth hypothesis

<table>
<thead>
<tr>
<th>Changing accounting methods</th>
<th>Mann-Whitney test</th>
<th>The test statistic</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>64.500</td>
<td>-6.607</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 8. Descriptive statistics for data in the fourth hypothesis

<table>
<thead>
<tr>
<th>Changing accounting methods</th>
<th>Group</th>
<th>Numbers</th>
<th>Rates</th>
<th>All rates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group 1</td>
<td>21</td>
<td>14.07</td>
<td>295/50</td>
</tr>
<tr>
<td></td>
<td>Group 2</td>
<td>83</td>
<td>62.22</td>
<td>5154.00</td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td>104</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The fifth hypothesis

As far as the fifth hypothesis “there is a relationship between implementation of operational budgeting and control costs”, results of table 9 and 10 show that the hypothesis regarding equality of groups 1 and 2 is rejected by a significance level of 5% and our hypothesis is confirmed.

Table 9. Mann-Whitney test for testing the fifth hypothesis

<table>
<thead>
<tr>
<th>Cost control</th>
<th>Mann-Whitney test</th>
<th>The test statistic</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.000</td>
<td>-2.641</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Table 10. Descriptive statistics for data in the fifth hypothesis

<table>
<thead>
<tr>
<th>Cost control</th>
<th>Group</th>
<th>Numbers</th>
<th>Rates</th>
<th>All rates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group 1</td>
<td>2</td>
<td>1.50</td>
<td>3.00</td>
</tr>
<tr>
<td></td>
<td>Group 2</td>
<td>102</td>
<td>53.50</td>
<td>5457.00</td>
</tr>
<tr>
<td></td>
<td>overall</td>
<td>104</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
According to the results it can be said that there is a significant difference between groups 1 and 2 and Control costs is higher in group 2. So, the fifth hypothesis of the research is accepted.

**Conclusion**

Regarding the results of the study, the following suggestions are raised:

A) To increase being respondent in governmental organizations

As it was mentioned there is a significant difference between groups 1 and 2 regarding being respondent and responding level of group 2 is higher than group 1. Hence, following suggestions are represented:

- To codify a responding system in governmental organizations in which each financial staff should be respondent and being respondent is not limited to the accountant or the boss
- In order to gain better responding system in governmental organizations, financial staff should not only be familiar with accounting principles but also should have enough knowledge about the technical and computational issues
- Being respondent is better to be limited to rules and regulations of operational budgeting implementation

B) To increase human-resource training in governmental organizations

As it was mentioned there is a significant difference between groups 1 and 2 regarding human-resource training and training level of group 2 is higher than group 1. Hence following suggestions are represented:

- Managers should enable the organization and the staff to have access to latest related information and scientific technologies to be able to adjust themselves with new developments of the world and use them to help rapid development of the organization and realization of its goals.
- A training workshop should be prepared about operational budget implementation for the managers and they should be familiar with advantages of this budgeting method and they should be convinced that this can be a solution for many organizational problems.

C) To increase the quality of constructive projects in governmental organizations

As it was mentioned there is a significant difference between groups 1 and 2 about the quality of constructive projects and project quality level of group 2 is higher than group 1. Hence following suggestions are represented:

- Realization of timing program and delivery time of the project by making it quality-oriented and not just trying to finish it as soon as possible
- Optimization of life-cycle costs of the project
- Defining the specifications of the project based on its effectiveness and efficiency
- Defining the project risk and finding ways for its reduction
- Transferring financial and working load of the project into private sector in order to enhance the quality

D) Changing accounting methods in governmental organizations

As it was mentioned there is a significant difference between groups 1 and 2 regarding changing accounting methods and these changes are higher in group 2. Hence, following suggestions are represented:

- Existing accounting methods should be fundamentally changed after operational budget implementation
- Changing current cash accounting into committed accounting as well as monitoring, controlling and evaluating the plans and programs

E) To increase costs-control (providence) in governmental organizations
As it was mentioned there is a significant difference between groups 1 and 2 regarding Control costs and Control costs of group 2 is higher than group 1. Therefore, following suggestions are given:

- Increasing the efficiency of work power
- Decreasing cost-benefit of each expenditure of organization
- Prediction of the costs on a monthly or season basis to estimate required incomes
- Increasing production to make use of vacant capacities of the organization in order to decrease the costs

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