

The identification and prioritization of problems and obstacles to implementation of performance-based budgeting system at University of Medical Sciences in Zanjan

Mortaza Heidary¹, S.M Mir Yazdi², M.R Heidary³

¹Department of Accounting, Rasht Branch , Islamic Azad University, Guilan, Iran
mh6452@yahoo.com

²Department of Accounting, Rasht Branch , Islamic Azad University, Guilan, Iran
mahyazdi@yahoo.com

³Medical Sciences University, Zanjan, Iran
mohammadrezaheidari@yahoo.com

Abstract

The performance-based budgeting is an annual program along with annual budget that is focused on results more than spentcost. This study aimed to identify and prioritize the problems and obstacles to implementation of performance-based budgeting system at University of Medical Sciences in Zanjan. This was descriptive survey research. The study population consisted of all finance experts in University of Medical Sciences in Zanjan in 2015 (N=172). All of the individuals in population were selected and studied to increase the validity of findings. The data were collected using a questionnaire with 25 items and Likert scale. Using alpha cronbach, its reliability was determined to be 0.70; its validity was confirmed by professors. Using both descriptive and inferential analysis in SPSS software, the collected data were analyzed. However, the obstacles and difficulties in the implementation of performance-based budgeting system at University of Medical Sciences in Zanjan were identified in three structural, environmental, and behavioral groups. These obstacles were prioritized according to their effectiveness as structural, behavioral, and environmental factors.

Keywords: performance-based budgeting, implementation obstacles, University of Medical Sciences in Zanjan

1. Introduction

The budget is the lifeline of every organization and government. The governments conduct all financial activities including income and expenses for the implementation of various programs in the framework of budget (Jafari et al., 2012: 10). The development of governments and their functions have caused the budgeting systems lose their effectiveness. In order to meet the needs of governments, the new budgeting systems are developed and evolve one after the other (Zakeri&Etebarian, 2014: 22). One of the latest reforms in the budgeting systems in different countries is performance-based budgeting. It focuses on governments' performance measurement. Defining the cost and performance standard, the performance-based budgeting facilitates financial and operational monitoring (Jafari et al, 2012: 10). National Commission of US Congress (1994) defined performance-based budgeting as follows: (The performance-based budgeting uses words such as duty, purpose, and destination to explain why money is spent. This is a way to allocate resources. The resources are dedicated to achieve program objectives and intended results). The performance-based budgeting is different from traditional methods. The performance-based budgeting focuses on results more than spent money (Young, 2003, 5). In general, it should be considered that many experts in finance affairs believe that the main purpose of The total should be given to this important issue that many experts in finance believe that audit is the main purpose of performance based budgeting. Accordingly, the used performance-based data and information in budgeting of government departments supports managers versus service quality, cost efficiency, and effectiveness of programs and focus on outputs, not inputs (grizzly, 2002: 55). This budget should clearly show the relationship between the funds allocated by the government and results to people and explain how this relationship has evolved. In fact, the detailed description of this relationship in performance-based budgeting is the key to proper management of programs (Panahi, 2007: 47). In line with recent developments in public sector, however, many developed and developing countries in the world try to use performance-based budgeting to increase productivity and create a relationship between strategic objectives and operational programs (Babakhani et al., 2011: 36). The need for fundamental changes in universities' management system in Iran has been finalized with the approval of Ministry of Science, Research, and Technology and the Fourth Program. An important part of these changes is the change in Universities' financial system. According to Fourth Program, the

universities must change their budgeting system to performance based budgeting and prepare performance based budget to determine the cost of educational and research activities and per capita cost of students to get their share from public budget. In terms of academic management, therefore, the change in budgeting system of universities and revision and radical change in present budgeting system is essential more than ever (Pourali and Kakuan, 2014: 194). With the introduction of new medical technologies, promotion of public health, institutionalization of health culture within communities, rising of costs, and rising of public expectations, today, the appropriate development of budget in health sector is a particularly important issue (Jafari et al, 2012: 10). The use of performance-based budgeting is emphasized in Third and Fourth Development Program. However, one of the requirements for economic reform in health sector is the reform of budgeting and resources distribution methods (Daneshfard& Shiravand, 2011: 91). Based on theoretical studies and the experiences of countries, the problems of performance-based budgeting system establishment may be categorized in three environmental, structural, and behavioral (content) groups (Babakhani et al., 2011: 37). In a study entitled (The identification of obstacles and problems in implementing performance-based budgeting in executive devices in Iran), Babakhani et al (2011) showed that the experts believe the performance-based budgeting system, in practice, has not had much success. These experts considered three behavioral, structural, and environmental categories as barriers to performance-based budgeting system establishment; they believed that the behavioral factors play an important role. Jafari et al (2012) investigated the obstacles in the establishment of performance-based budgeting system from the perspectives of administrators and financial managers in University of Medical Sciences of Jondishapur in Ahvaz. The results showed that the lack of experts who can calculate the cost of projects, lack of incentives in the area of performance-based budgeting establishment, and lack of financial resources for the implementation of performance-based budgeting were the most important individual, organizational and environmental barriers to establishment of performance-based budgeting system from the perspective of administrators and financial officers, respectively. In a research entitled (the objectives and successful implementation of performance-based budgeting), Jordan and Hakbart (1999) showed that program accountability is more effective in the success of establishing performance-based budgeting system than more dedicated funds. This study investigated the performance-based budgeting models which were

executed by the State Council and executive devices. The results showed that estimated variables coefficients are negative in both models. This indicated that performance-based budgeting reduces spent cost. Also, this research evaluated the barriers and obstacles to implementation of performance-based budgeting system. The mentioned barriers included:

- 1) Technology, 2) Political factors, 3) Developing performance measures, 4) Support of managers, 5) Employee commitment, 6) Employee training, 7) Agreement between budget stakeholders, 8) Additional information.

Mark et al (2004) conducted an article entitled (The implementation of activity-based accounting in selected system in hospital: comparison between Canada and Ireland in 2004). In State University of New York in an article entitled (A method for gradual implementation of cost-based accounting in small companies), Meagan and Merle (2005) examined the methods which small companies use to change gradually from traditional accounting systems to activity-based accounting system with minimal risk and minimal investment. According to above, however, this study aims to identify and prioritize the barriers to implementation of performance-based budgeting system at University of Medical Sciences in Zanjan to provide practical and appropriate solutions and suggestions.

2. Research Methodology

This was descriptive survey research. The population consisted of all finance experts in University of Medical Sciences in Zanjan in 2015 (N=172). All of the individuals in population were selected and studied to increase the validity of findings. The data were collected using a questionnaire with 25 items and Likert scale. Using alpha cronbach, its reliability was determined to be 0.70; its validity was confirmed by professors. Using both descriptive and inferential analysis in SPSS software, the collected data were analyzed.

3. Findings

First question:

What are the structural difficulties and obstacles in implementation of performance-based budgeting system at University of Medical Sciences in Zanjan?

The one sample t analysis was used to answer this question. The data are reported in the following table:

Table 1 :one-sample t-test data for evaluating mean differences

Barrie r	No.	Obtained mean	Standar d deviati on	Standar d error	Degr ee of freed om	Absol ute t value	Absolute mean difference	Sig. level
Struct uralBa riers	172	34.779	3.6527	.2785	171	27.93 0	7.7791	.000

The above table shows that one sample t-test is significant with 171 degrees of freedom, absolute mean difference of 7.77, and absolute t value of 27.93 at level lower than 0.01. This means that with 99% confidence level, there is difference between observed mean and standard mean. On the other hand, it can be seen that the observed mean is higher than standard mean. Therefore it can be concluded that the measurement scores for the structural barriers were significantly higher than expected (test) scores. So, with 99 percent confidence level and from the perspective of participants, the structural barriers to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was approved.

For more details, the test was conducted on individual structural barriers. The results are provided in following table:

Table 2 : one-sample t-test data for evaluating structural barriers items

No.	Structural barriers according to their obtained mean value	Number	Obtained mean	Standard deviation	Degree of freedom	Absolute t value	Absolute mean difference	Sig. level
1	Lack of funding in due time	172	4.25	0.702	171	23.355	1.25	.000
2	Lack of coordination in various related sectors	172	4.03	0.713	171	18.937	1.03	.000
3	Tasty actions of managers	172	4.03	0.812	171	16.613	1.03	.000
4	Interference of upper authorities	172	3.98	0.841	171	15.322	0.98	.000
5	Multiplicity of activities	172	3.92	0.964	171	12.499	0.92	.000
6	Absence of detailed financial rules	172	3.91	0.897	171	13.341	0.91	.000
7	Lack of coordination between lower and upper authorities	172	3.67	0.801	171	11.04	0.67	.000
8	Lack of required software	172	3.48	0.964	171	6.486	0.48	.000
9	Lack of physical facilities (space and equipment)	172	3.39	0.939	171	5.438	0.39	.000

As can be seen, the test was significant in all items. However, the barriers were ordered from highest to lowest scores based on their mean score.

It can be seen that the main structural barrier to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was (lack of funding in due time) and the last barrier was (lack of physical facilities, space, and equipments).

Second question:

What are the environmental difficulties and obstacles in implementation of performance-based budgeting system at University of Medical Sciences in Zanjan?

The one sample t analysis was used to answer this question. The data are reported in the following table:

Table 3 : one-sample t-test data for evaluating mean differences

Barrier	No.	Obtained mean	Standard deviation	Standard error	Degree of freedom	Absolute t value	Absolute mean difference	Sig. level
Environmental	172	25.9883	3.54631	.27119	171	18.394	4.9883	.000

The above table shows that one sample t-test is significant with 171 degrees of freedom, absolute mean difference of 4.98, and absolute t value of 18.39 at level lower than 0.01. This means that with 99% confidence level, there is difference between observed mean and standard mean. On the other hand, it can be seen that the observed mean is higher than standard mean. Therefore it can be concluded that the measurement scores for the environmental barriers were significantly higher than expected (test) scores. So, with 99 percent confidence level and from the perspective

of participants, the environmental barriers to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was approved.

For more details, the test was conducted on individual environmental barriers. The results are provided in following table:

Table 4 : one-sample t-test data for evaluating environmental barriers items

No.	Environmental barriers according to their obtained mean value	Number	Obtained mean	Standard deviation	Degree of freedom	Absolute t value	Absolute mean difference	Sig. level
1	Traditional monitoring and control of affiliated units of university	172	4.04	.744	171	18.339	1.04	.000
2	Lack of control managers' awareness of university's activities	172	4.03	.772	171	17.591	1.03	.000
3	Lack of complete financial informing system	172	3.75	.810	171	12.140	.75	.000
4	Early displacement of financial managers	172	3.72	1.057	171	8.873	.72	.000
5	Lack of implementing new accounting systems at University	172	3.64	1.025	171	8.183	.64	.000
6	Interference of other regulators and upper authorities	172	3.48	1.017	171	6.147	.48	.000

7	Failure to attract private financial support for university	172	3.33	1.111	171	3.922	.33	.000
---	---	-----	------	-------	-----	-------	-----	------

As can be seen, the test was significant in all items. However, the barriers were ordered from highest to lowest scores based on their mean score.

It can be seen that the main environmental barrier to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was (Traditional monitoring and control of affiliated units of university) and the last barrier was (Failure to attract private financial support for university).

Third question:

What are the behavioral difficulties and obstacles in implementation of performance-based budgeting system at University of Medical Sciences in Zanjan?

The one sample t analysis was used to answer this question. The data are reported in the following table:

Table 4: one-sample t-test data for evaluating mean differences

Barrier	BARRIER	Barrier	Barrier	Barrie	Barr	Barrier	Barrier	Barrier
Behavioral	172	34.1686	4.52162	.34477	171	20.792	7.1686	.000

The above table shows that one sample t-test is significant with 171 degrees of freedom, absolute mean difference of 7.16, and absolute t value of 20.79 at level lower than 0.01. This means that with 99% confidence level, there is difference between observed mean and standard mean. On the other hand, it can be seen that the observed mean is higher than standard mean. Therefore it

can be concluded that the measurement scores for the behavioral barriers were significantly higher than expected (test) scores. So, with 99 percent confidence level and from the perspective of participants, the behavioral barriers to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was approved.

For more details, the test was conducted on individual behavioral barriers. The results are provided in following table:

Table 5 : one-sample t-test data for evaluating behavioral barriers items

No.	Behavioral barriers according to their obtained mean value	Number	Obtained mean	Standard deviation	Degree of freedom	Absolute t value	Absolute mean difference	Sig. level
1	Lack of managers who are updated in terms of financial duties	172	3.99	.802	171	16.163	.99	.000
2	Lack of managers familiarity with the activities of other sectors	172	3.90	.814	171	14.518	.90	.000
3	Unreasonable expectations of lower managers	172	3.87	.802	171	14.170	.87	.000
4	One-sided (from top to bottom) communication of financial managers	172	3.79	.887	171	11.694	.79	.000
5	Bargaining of base managers	172	3.78	1.000	171	10.292	.78	.000

6	Failure to accept change and diversity by managers	172	3.78	.929	171	10.99 7	.78	.000
7	Lack of authority among the managers	172	3.70	.880	171	10.40 3	.70	.000
8	Inflexibility of managers in making major financial decisions	172	3.70	.832	171	11.00 2	.70	.000
9	Reluctance of managers about technical monitoring	172	3.66	.932	171	9.330	.66	.000

As can be seen, the test was significant in all items. However, the barriers were ordered from highest to lowest scores based on their mean score.

It can be seen that the main behavioral barrier to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was (Lack of updated directors in respect of financial duties) and the last barrier was (Reluctance of managers for professional monitoring).

Fourth question:

How the triple (structural, environmental, and behavior) barriers may be prioritize in terms of their impact on implementation of performance-based budgeting?

The Friedman test was used to answer this question. The data are reported in the following table:

Table6 : Ranking of barriers to budgeting at University of Medical Sciences in Zanjan

No.	Budgeting barriers in university	Obtained mean	Ranking mean
1	Structural	34.7544	2.51

2	Behavioral	34.1462	2.46
3	Environmental	25.9883	1.04

Table 7 : Results of chi-square test

Chi-Square test table	
Number	172
Test score	249.585
Degree of freedom	2
Significance level	.000

According to Chi-Square test, it can be seen that from the perspective of participants, the impact of budgeting barriers in University of Medical Sciences in Zanjan is not the same. According to Friedman Test, it can be seen that the structural barriers (2.51) have the first ranking and environmental barriers (1.04) have the last ranking.

4. Discussion and Conclusion

According to the findings, the experts stated that structural, environmental (contextual), and behavioral (content) problems are the most important factors in implementation of performance-based budgeting system in University of Medical Sciences in Zanjan. Babakhani et al (2011) also found that experts consider three behavioral, environmental, and structural categories as the factors affecting the establishment of performance-based budgeting. Godrati et al (2011) showed that participants believe that the barriers to implementation of performance-based budgeting system are human factor, technical and process factor, environmental factor, and managerial factor, respectively.

The present study showed that from the perspective of participants, the structural barriers (2.51) have the first ranking and environmental barriers (1.04) have the last ranking. This finding is consistent with the finding of AsadiZarech (2010). He showed that the ability to evaluate the

performance and structural barriers have the most impact on implementation of performance-based budgeting system in executive agencies.

According to present study, the main structural barrier to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was (lack of funding in due time) and the last barrier was (lack of physical facilities, space, and equipments). Jordan and Hakbart (1999) determined the barriers to implementation of performance-based budgeting system as: 1) Technology, 2) Political factors, 3) Developing performance measures, 4) Support of managers, 5) Employee commitment, 6) Employee training, 7) Agreement between budget stakeholders, 8) Additional information. The main environmental barrier to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was (Traditional monitoring and control of affiliated units of university) and the last barrier was (Failure to attract private financial support for university). Also, the main behavioral barrier to implementation of performance-based budgeting in University of Medical Sciences in Zanjan was (Lack of updated directors in respect of financial duties) and the last barrier was (Reluctance of managers for professional monitoring). Farzad et al (2014) showed that environmental, technical, human, and process factors are barriers to effective implementation of performance-based budgeting; the human factor plays more important role than other barriers. Mogarab (2010) showed that the environmental, individual, and organizational factors are the requirements of performance-based budgeting. The most important factors are efficient and professional manpower, training and empowerment of employees, and committed accounting. The lack of them can be considered an important barrier in the organization. Jafari et al (2012) considered the lack of experts who can calculate the cost of projects, lack of incentives in the area of performance-based budgeting establishment, and lack of financial resources for the implementation of performance-based budgeting as the most important individual, organizational and environmental barriers to establishment of performance-based budgeting system from the perspective of administrators and financial officers, respectively.

In general, the results showed that the obstacles and difficulties in the implementation of performance-based budgeting system at University of Medical Sciences in Zanjan were identified in three structural, environmental, and behavioral groups. These obstacles were

prioritized according to their effectiveness as structural (2.51), behavioral (2.46), and environmental (1.04) factors. According to research findings, therefore, it is suggested that qualified personnel to be employed, enough budget and financial resources to be considered for implementation of budget, the necessary coordination be created between departments, prevent managers from exercising taste, detailed financial rules to be provided to support performance-based budgeting, the full implementation of financial informing and new accounting system in university to be made possible, the early displacement offinancial managers to be avoided, and the interference of other regulators and upper sections to be prevented for successful implementation of performance-based budgeting system in University of Medical Sciences.

References

- AsadiZarech, T. (2010). Identifying and analyzing the problems of implementing performance-based budgeting in executive agencies (Case Study: executive agencies in Yazd), Yazd, Yazd University, Faculty of Economics, Management, and Accounting.
- Baba Khani,J. &Rasooli, M. (2011). Identifying obstacles and problems in implementation of performance-based budgeting in executive agencies, Journal of Empirical Research in Financial Accounting, first year, first issue, pp 50- 33.
- Daneshfard, K. &Shiravand, S. (2012). Barriers to performance-based budgeting establishment in health sector, Ministry of Health and Medical Education, Journal of Medical Sciences, Gorgan, Volume 14, Number 2, successive 42, Ss96- 90.
- Farzad, M. et al (2013). Barriers to performance-based budgeting establishment in executive agencies in Sistan and Baluchestan, University of Medical Sciences Journal, Vol. VI, No. 2, Summer, 53-44.
- Grizzle, G. A. &Pettijohn, C. D. (2002). "Implementing Performance- Based Program Budgeting: A System-Dynamics Perspective." Publi Administration Review, 62 (1): 51-62.
- Jafari, H, et al. (2011). Barriers to establishment of performance-based budgeting system from the perspective of administrators and financial managers in JondiShapur University, Ahvaz, research journal of health Sciences of Jundishapur, fourth year, No. 4, Winter, pp. 9 -15.

- Jordan, MM, & Hackbart, MM (1999). "Performance Budgeting and Performance Funding in the States: A Status Assessment." *Public Budgeting & Finance*. 19 (1): 68-88.
- Mark C., J.Brain, J. & Oark, R (2004). "The impact of performance- based budgeting on state fiscal performance" economic of governance.
- Meagan M. & Jordan and Merle .H (2005) "The goals and Implementation Success of state performance based budgeting" public budgeting, accounting & financial management.
- Mogarab, M. (2010). Identifying the requirements and barriers to performance- based budgeting establishment in Universities of Medical Sciences, Master's thesis, Tehran, Payam Noor University, Faculty of Social Sciences and Economy.
- Panahi, A. (2007). Performance-based budgeting (in theory and practice), first publication, Tehran: Office of Planning and Budget, Studies Research Center of Parliament.
- Pour Ali, M.R, Kakuan, Saida (2014). Requirements for performance-based budgeting establishment (Case Study: University of Medical Sciences and Health Services in Babol), auditing knowledge, fourteenth year, No. 57, Winter, 217, 191.
- Young, RD, (2003) .Performance Based Budget System, pp: 1-10.
- Zakeri, F, Etebarian, A. (2014). Knowledge of financial managers in University of medical sciences in Esfahan and affiliated centers about new methods of budgeting and its relationship with managers resistance to traditional budgeting system change, health management, Volume 5 - Issue 1, Pages 33-21.