

**Research Article**

## **IDENTIFICATION OF OBSTACLES IN ESTABLISHING THE PERFORMANCE-BASED BUDGETING SYSTEM IN MEDICAL SCIENCES UNIVERSITIES OF IRAN USING THE SHAH MODEL**

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### **ABSTRACT**

In this research factors influencing the implementation of performance-based budgeting in medical sciences universities of Islamic Republic of Iran were studied. This research was an applied cross-sectional and descriptive-analytical study. The research data was collected using questionnaires. The study population included all of the medical sciences university's of Islamic Republic of Iran in which the new financial system was implemented and the accounting method was shifted from cash accounting to accrual accounting. Research results indicated except for administrative approval and legitimacy other factors for performance-based budgeting (including technical performance assessment potential, human forces, procedural and organizational authority, political acceptance, and compliance of incentives) are absent in the medical sciences university's of Iran. Hence, it was concluded that medical sciences university's of Islamic Republic of Iran lack the factors contributing to the implementation of performance-based budgeting. Consequently, these universities cannot implement their performance-based budgets unless they address the existing deficits.

**Keywords:** Performance-Based Budgeting, Medical Sciences University, Budget

### **INTRODUCTION**

The performance-based budgeting system, as an administrative system designed to improve the efficiency and effectiveness of the usage of organizational resources, has been so far valued by state and local governments. In such a budgeting system, managers are responsible for their performance and this accountability leads to an increase in saving the costs of financial resources.

Budget is the means by which governments implement their financial policies. It plays an important role in the economy of countries.

In performance-based budgeting, in addition to dividing credits into tasks, plans, activities and programs, the size and cost of operations conducted by the government and government bodies are also calculated using scientific methods such as cost accounting and labor measurement (Ibrahiminezhad and Farajvand, 2005).

Recently, the increase in the size of government operations and government costs has attracted the attention of statesmen to the costs of limited resources. One of the important goals set in the 20-year outlook and the five-year fourth development plan of the Islamic Republic of Iran is to dispense health justice and improve the relevant indicators for building a health society.

The financial statistics system employed by the government is based on performance-based budgeting. In 2002, a budget bill was formulated based on the government financial statistics system (GFS) and was passed by the parliament. By this act, the government is obliged to implement the budget within the framework of Article 144 of the fourth development plan act. These changes will inevitably lead to changes in the government accounting system in Iran.

In this regard, in 2005 codes such as the code for Article 144 of the fourth development plan act were formulated based on the cost of activities and services. This code was sent to all government bodies,

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which were obliged to identify at least 20% of their annual activities and services using the activity-based costing method and conduct them by signing contracts with executive managers.

The treatment sector of the Ministry of Health and Medical Education has implemented performance-based budgeting since 2003. This method has been applied to 40 hospitals affiliated with medical sciences university's of Iran as a test. The financial structure of the medical sciences university's of Iran has shifted from cash accounting to accrual accounting, which is known as the basis of performance-based budgeting. Hence, this study was an attempt to identify obstacles in establishing the performance-based budgeting system based on the Shah model. The aforementioned model was developed following changes to the financial structure of medical sciences university.

### **Research Theoretical Basics**

By 2005, no organization except for a few organizations such as municipalities had made efforts to change their account systems and financial reporting trends. The very few existing efforts had also failed as a result of problems caused either during implementation or by a lack of proper planning and disregard for obstacles. By then, the majority of government bodies in the Islamic Republic of Iran had used the conventional budgeting model or the so called traditional-linear model. They used to allocate minor budgets to micro-data and distribute credits based on the conventional method, which not only led to a considerable decrease in the number of experts operating in organizations, but also help such organizations impose their increasing outcomes on the government, making the government inefficient.

The Ministry of Health and Medical Education is a large organization with a larger share of the national budget. According to the obligations included in the fourth five-year development plan act, in 2005 this ministry held several sessions and meetings to formulate a plan titled “the health sector new financial system”. This plan was meant to be implemented in medical sciences university's affiliated with this ministry. Another objective of these measures was to prepare a road map for implementing the performance-based budgeting system.

### **Definition of Budget**

“Budget is the bill for forecasting state revenues and expenses of a solar year. This document has to be passed by the parliament.”

“Government budget is a document predicting the state exchange transactions for a specific period of time. The document needs to be passed and is designed for a duration known as a financial year which is equal to one solar year”.

According to Article 1 of the Public Audit Act, which was passed by the Islamic Consultative Assembly on 23/8/1987, the state budget is the financial national plan of the country. This document is designed for one financial year and includes predictions on revenues and other funding sources. It also includes estimations of costs of conducting operations which contribute to the development of policies and definition of legal goals. This document consists of the following three sections.

1- The general national budget which includes the following components:

- a) Prediction of revenues and funding sources obtained by the government bodies directly and indirectly in the financial year referred to in the budget act through treasury accounts.
- b) Prediction of revenues obtained in the financial year through public or private funding sources designated for current, construction and specific credits of executive branches.

2- Budget allocated to government companies and banks which includes predictions of revenues and other funding sources.

3- Budget allocated to institutions benefiting from sources other than the ones included in the national budget plan.

### **Budgeting Methods**

*Conventional Budgeting:* In this type of budgeting, costs incurred by each ministry or government organization are determined and divided on a seasonal basis based on item costs.

*Incremental Budgeting:* In this method, the size of government operations is assumed to be invariant and the increase or decrease in operation costs is estimated. The aforementioned decrease or increase may be caused by variations of inflation rate and adjustment of prices of goods and services.

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*Program-Based Budgeting:* In this method, the affairs of government organizations are analyzed on the basis of their main objectives, plans and activities.

*Performance-Based Budgeting:* In this method, an annual plan is prepared which shows the relationship between the amount of budget allocated to each plan and the results of implementation of the plan.

#### **Performance-Based Budgeting**

Based on the definition by the Organization for Economic Cooperation and Development, performance-based budgeting is a form of budgeting that relates allocated credits to measurable results.

According to the definition by the United States General Accounting Office, performance-based budgeting is a type of budgeting that relates performance information to budget.

The major advantages of performance-based budgeting are as follows (Mercer, 2002).

1- *Increased Public Accountability:* Although many governments provide access to information on their performance, regardless of political issues the performance information resulted from performance-based budgeting can be presented to the public through different means and methods such as budget documents, strategic plans and performance reports.

2- *Management for Better Performance:* Performance information is mostly used by managers that are interested in improving their performance efficiency of their plans and procedures. The most direct way of linking performance information to the increased quality and efficiency of service is by encouraging managers to use performance-based budgeting.

3- *Improvement of Resource Allocation:* In performance-based budgeting, resources are allocated based on performance indicators. Establishing a connection between strategic planning and resource allocations is one of the main pre-requisites of objective-based resource allocation.

4- *Inclusion of all Administration Levels:* Performance-based budgeting is a progressive process covering all of the managers in an organization including senior managers as well as planning and sector managers. This process consists of a feedback loop that provides senior managers with proper information that can be used for better management of activities.

5- *A Valuable Means of Diagnosis:* Performance-based budgeting is a valuable means of creating a substantial understanding of the resources in use and the resulting performance. Authorities have the chance of studying the interaction between resources and expected results. This experience positively enhances the overall management of plans.

6- *The Basis for the Performance Management System and the Start of Monitoring Organizational Effectiveness:* Performance-based budgeting can form the basis for a performance-based system in the context of the strategic plan of the organization. Performance-based budget shows the impact of budget on plan performance. It also shows the effect of this performance on the final expected results.

7- *The Possibility of Making Objective and Effective Decisions:* Performance-based planning facilitates the process of making objective and effective outsourcing decisions. Managers of government organizations should be aware of total costs of a specific activity and the level of the results.

#### **Shah Studies (Shah, 1998)**

The model he proposed for the public sector includes a framework for the analysis of factors influencing budgeting reforms and implementation of costs on the basis of government performance-based budgeting. This framework includes the following three factors: ability, legitimacy and acceptance. The aforementioned three factors are currently known as the major requisites for the establishment performance-based budgeting and the costing method which is based on the activities of the public sector. Therefore, governments in search of implementing the performance-based budgeting system and scientific costing methods shall first identify and modify their weaknesses in each of the following three areas: ability, legitimacy and acceptance (Andrews, 2004).

#### **Research Background**

Jordan and Hachbart (1999) carried out a research titled “Objectives and Success of Performance-Based Budgeting”. Their findings revealed that accountability is more important than the objective of budget allocation in the success of the performance-based budgeting system.

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The Dong Kong political sciences institute conducted a study to examine performance-based budgeting experiences in the United States. This research include the following topics: history of performance-based budgeting in the United States, identification of some of the challenges associated with the theoretical and practical basics of performance-based budgeting, documentation of current operations and studies on the design and establishment of performance-based budgeting, and study of the outlook of performance-based budgeting.

Krumwiede (1998) indicated that many organizations neglect behavioral, organizational and political factors in activity-based costing and therefore fail to achieve success with this method.

Vann (2001) carried out a study titled “Governments Use of Activity-Based Costing” in which he introduced legitimacy and government acceptance as two of the pre-requisites for successful implementation of activity-based costing. He also pointed out that most government officials are not interested in actual information on the cost of services and products and thus rely on old procedures and financial systems.

Zavareh (2010) studied the establishment of the performance-based budgeting system using activity-based costing in the research and educational planning department of the Ministry of Education. It was a descriptive study based on data collected through interviews. He examined the outputs of the department of planning and compilation of general and theoretical textbooks of the Ministry of Education to calculate the required costs.

In a study titled “identification of Obstacles in the Establishment of the Performance-Based Budgeting System in the Customs Office of Iran based on Shah Model”, Asadi *et al.*, (2008) found out that some of the factors preventing the establishment of the performance-based budgeting system in the organization under study included the following: motivational acceptance, procedural authority, legal authority, organizational authority, technical ability, performance assessment ability, administrative acceptance, human forces potential, and political acceptance.

Mahmoudi (2007) carried out a study titled “Analysis of the Problems of Performance-Based Budgeting in Government Organizations and Solutions for Reducing the Problem”. He concluded that there is a significant relationship between the implementation of performance budgeting in government organizations and administrative factors. According to the findings, problems of performance-based budgeting are associated with technical and procedural factors, human factors, and environmental and administrative factors.

Salem Safi (2004) conducted a research titled “assessment of results of implementation of performance-based budgeting in the diagnosis section of ValiAsr Hospital of MeshkinShahr (Ardebil) with emphasis on the cost of services”. Results of the establishment of the performance-based budgeting in the diagnostic center of the hospital, which were obtained based on satisfactory (ratio of the number of experiments and ratio of the number of ultrasound images) efficiency indicators (the ratio of the number of radiological stereotypes and ratio of personnel costs) reflect the non-satisfactory performance of this system. Regarding the justice indicator (ratio of salary of employees) the implementation was satisfactory while regarding sustainability and effectiveness as well as the total ratio of specific revenues it was considered to be unsatisfactory.

Mohammadi (2004) carried out a study titled “analysis of obstacles in the budgeting of Ilam Province and proper solution” and introduced the following obstacles in the way of budgeting in this province: 1) Inaccurate prediction of the annual budget by executive branches; 2) Lack of human forces with adequate education, experiment and expertise; 3) lack of a satisfactory planning culture in the executive branches; 4) lack of accurate costing and disregard for efficiency and effectiveness; 5) lack of a proper organizational structure and formation in the executive branches of the province.

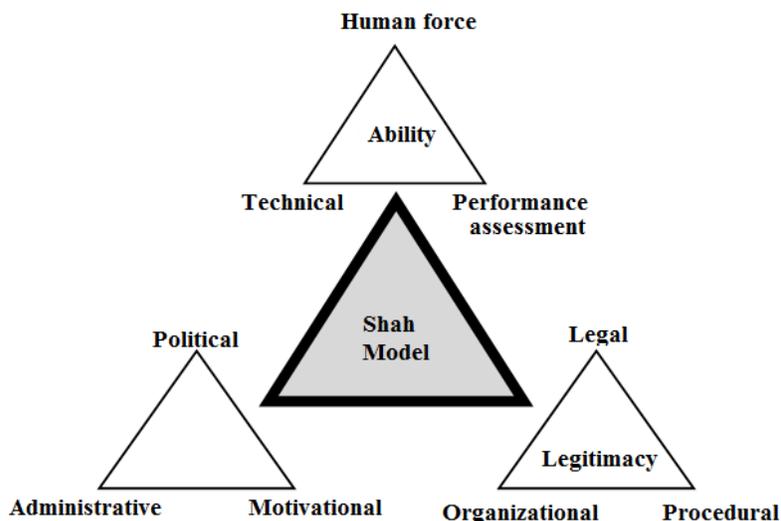
Namazi (1998) studied the significant roles played by the activity-based costing system in management accounting. First, he explained the mechanisms of the system by providing numerical examples to reveal the important differences between this system and the theoretical framework of costing. Next, he studied the applications of this system in industrial and service units in different countries by considering the adequate moral considerations. He concluded that activity-based costing is a revolution in the costing

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system, which can be used as a powerful means of solving different administrative problems. However, it is not possible to benefit from these advantages regardless of behavioral considerations. The most important behavioral constructs that need to be considered include the following: international culture; society and organization; culture of managers; management assessment methods; control; and factors influencing cost sharing.

#### Shah Model

The final public sector model or the Shah model was developed for the implementation of performance-based budgeting. This model stresses three influencing factors. Ability, acceptance and legitimacy (or authority) is the important components of the Shah model. This model is made up of different dimensions. According to Shah, without eradication of these factors budgeting in the public sector will be associated with ambiguities.



#### The Ability to Implement Performance-Based Budgeting

Generally, unsuccessful implementation of every plan in an organization is the result of low capacity or inability of the organization. There are different dimensions to organizational ability such as human force potential, performance assessment potential and technical ability. Research and report results also suggest that the aforementioned dimensions can be considered the key factors to the implementation of performance-based budgeting.

*Performance Assessment Potential:* Performance assessment refers to the measurement of results and outputs of every system or the governments. Many governments consider measurement of outputs to be time-consuming and difficult. Therefore, some governments are still defining their outputs. Information resulting from performance assessment shall be used in management, decision making, resource allocation, and the design of incentives so that performance-based budgeting is implemented significantly. On the other hand, results of performance assessment shall be accurate and reliable. In addition, problems of performance assessment may prevent the potential implementation of performance budgeting.

*Human Force Potential:* The presence of human forces with academic degrees in every system and organization is inevitable. However, human forces have to have expertise to assess performance and maintain/administer data banks. The availability of expertise to formulate performance objectives and to connect users of organization performance information can contribute to the implementation of performance-based budgeting.

*Technical Ability:* Currently, governments are assessing technologies required for implementing performance-based budgeting. However, the shortage of financial resources for the development of new financial and information systems is the most important problem with the implementation of

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performance-based budgeting. In order to collect performance information and create a databank it is important and necessary to meet technical requirements so as to prepare performance information and results for a wide range of users. What matters is coordination between databanks through a wide range of systems to create a basis for accounting, monitoring and reporting.

#### **Authority for Implementing Performance-Based Budgeting**

Authority is the pre-requisite for the implementation of every system or plan in governments. If budget planners lack such an authority to implement performance-based budgeting and its different phases, it will not be possible to implement budget plans. Authority includes dimensions such as legal authority, procedural authority and organizational authority.

*Legal Authority:* Budgeting processes or the budget plan are generally fully legal. In case there is any contradiction between new modifications and original laws, no modifications will take place. The application of performance assessment to budgeting, which is known as performance-based budgeting, is also faced with in using performance information in the preparation of budget plans. The reason is that in many countries budgets are formulated based on the inputs.

*Procedural Authority:* Currently, budgeting procedures are formally recognized and have influenced budgeting behavior as formally recognized regulations. In some governments, budgeting rules and regulations stress the inputs, the exact description of plans and cost details. Such an effect weakens the potential role of information resulted from performance assessment. Managers also lack the required procedural authority for taking measures. Conventional budgeting procedures still exist in spite of the effort made by obliging the decision makers to use performance information. Therefore, the continued use of such procedures has made problems for the formation of a performance-based budgeting system.

*Organizational Authority:* If managers are provided with authority to make decisions on issues such as employment, budgeting and reporting, performance-based budgeting is implemented effectively. Decisions on resource allocation are currently made within the framework of political authorities and are influenced by political authorities, who are not interested in the information resulting from performance assessment. Evidently, lack of freedom for managers and political officials influences the effective use of performance information, outputs and results.

#### **Acceptance of Performance-Based Budgeting**

Official, authorities and different sectors normally show resistance to the implementation of every new plan. Successful implementation of performance-based budgeting depends on convincing government officials, office managers, and their employees. They have to admit that the transition is necessary for reducing costs and benefiting from the short-term and long-term benefits of the government and the society. Admission includes the following three dimensions: political, administrative and motivational.

*Political Acceptance:* Political officials need to provide the financial resources required for implementation of performance-based budgeting. They should fully support this plan even if the resulting information causes problems to them.

*Administrative Acceptance:* Managers need to be convinced that they can use performance information in their decisions and motivational plans. They should not find performance-based budgeting as a means by which they can be questioned by the legislators. They should not also assume that the implementation or lack of implementation of modifications does not affect future decisions.

*Motivational Acceptance:* Some believe that for a better implementation of performance-based budgeting it is necessary to use the reward/punishment system to respond to the satisfactory or unsatisfactory implementation of approved plans and success or failure of implementation of performance-based budgeting. This helps induce motivations for the implementation of this system.

#### **Research Hypotheses**

According to the aforementioned three substantial factors enumerated for the Shah model (1998) and considering their relevant variables, which were introduced in the research literature and background sections, research hypotheses are presented as follows in the form of 3 primary hypotheses and 9 secondary ones:

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**Hypothesis 1: Medical Sciences University’s of Iran are capable of implementing performance-based budgeting.**

Hypothesis 1-1: Medical Sciences University’s of Iran are capable of conducting performance assessment in the implementation of performance-based budgeting.

Hypothesis 1-2: Medical Sciences University’s of Iran are equipped with the human forces required for implementing performance-based budgeting.

Hypothesis 1-3: Medical Sciences University’s of Iran technically capable of implementing performance-based budgeting.

**Hypothesis 2: Medical Sciences University’s of Iran have the legitimacy required for implementation of performance-based budgeting.**

Hypothesis 2-1: Medical Sciences University’s of Iran have the legitimacy required for implementation of performance-based budgeting.

Hypothesis 2-2: Medical Sciences University’s of Iran have the procedural legitimacy required for implementation of performance-based budgeting.

Hypothesis 2-3: Medical Sciences University’s of Iran have the organizational legitimacy required for implementation of performance-based budgeting.

**Table 1: Research hypotheses and the number of questions associated with each hypothesis**

Subject	Hypothesis no.	Number of questions	Question no.
Hypothesis 1-1: Medical sciences university’s of Iran are capable of conducting performance assessment in the implementation of performance-based budgeting.	First	3	3-1
Hypothesis 1-2: Medical sciences universities of Iran have the expert human force required for implementation of performance-based budgeting.		3	4-6
Hypothesis 1-3: Medical sciences university’s of Iran have the technical expertise required for the implementation of performance-based budgeting.		2	7-8
Hypothesis 2-1: Medical sciences university’s of Iran have the legal authority for the implementation of performance-based budgeting.	Second	2	9-10
Hypothesis 2-2: Medical sciences university’s of Iran have the procedural authority for the implementation of performance-based budgeting.		1	11
Hypothesis 2-3: Medical sciences university’s of Iran have the organizational authority for implementation of performance-based budgeting.		1	12
Hypothesis 3-1: Political authorities have accepted the implementation of performance-based budgeting in the medical sciences university’s of Iran.	Third	1	13
Hypothesis 3-2: Managers of medical sciences university’s of Iran have accepted the implementation of performance-based budgeting.		2	14-15
Hypothesis 3-3: Medical sciences university’s of Iran have the motivations and incentives required for the implementation of performance-based budgeting.		2	16-17

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#### **Hypothesis 3: Medical Sciences University's of Iran have accepted the implementation of performance-based budgeting.**

Hypothesis 3-1: Political authorities have accepted the implementation of performance-based budgeting in medical sciences university's of Iran.

Hypothesis 3-2: Managers of medical sciences university of Iran have accepted the implementation of performance-based budgeting.

Hypothesis 3-3: Medical Sciences University's of Iran have the motivations and incentives required for implementing performance-based budgeting.

Table (1) presents research hypotheses along with the number of questions associated with each hypothesis.

#### **Data Collection Tool**

The most important methods used to collect the information in this research included the following:

a. Desk studies: In order to collect information on the theoretical basis and the research literature, library references, articles, textbooks, and the Internet were used.

b. Field studies: A 17-item questionnaire was used to analyze the information. This study can be considered a cross-sectional descriptive-analytical study regarding the results of examination of hypotheses.

#### **Statistical Population**

The statistical population for this research included 30 managers and budget experts as well as 50 accounting experts who were directly related to the shift in the accounting system of medical sciences university of Iran from cash accounting to accrual accounting. A researcher-made questionnaire was used to collect the data. The questions used in the questionnaire were closed type questions rated based on the Likert scale. In order to give the respondents a better understanding of the questions, the major terms used in the questionnaire were defined at the beginning. In addition, the reliability of the questionnaire was also assessed using the Cronbach's alpha method.

Cronbach's alpha method: This method is used to calculate the internal consistency of measurement tools such as questionnaires or tests carried out to assess different characteristics. The value of the Cronbach's alpha coefficient, which is the same as data correlation coefficient, varies between 0 and 1 with 1 showing maximum correlation and 0 showing minimum correlation.

In this research, the Cronbach's alpha coefficient was calculated to be 0.87. The reliability of the questionnaire was also approved based on the value of this coefficient.

The validity of the questionnaire was assessed through face validity assessment. To this end, first the validity of the questionnaire was standardized based on the viewpoints of experts and government financial/accounting authorities. Next, the validity of research variables was assessed based on the viewpoints of experts and the results of a separate questionnaire. Finally, the satisfactory validity of the questionnaire was confirmed. The questionnaire was directly distributed among the respondents. The researcher attended a session held by the ministry of health in 2013. Accounting experts from all of the medical sciences university's of the country were also present in this meeting. The researcher distributed the questionnaires among the attendees and collected them afterwards. Moreover, considering the existing distances, the questionnaire was mailed to 30 budget experts operating in the medical sciences university's of Iran.

In order to prevent errors, the whole population was studied in this research. Hence, a number of 80 questionnaires were distributed over the statistical population and only 60 questionnaires (75%) were used in statistical analyses.

SPSS version 17 was used to analyze the data included in the questionnaire. The research questionnaire was designed based on the 5-point Likert scale and each question was rated from 1+ to 5+ ( $1 \leq X \leq 5$ ).

The average rank or the mean rank for the research hypotheses was 3. Therefore, it was possible to examine the mean values of research components in relation to the hypothetical mean value (i.e. 3). When the mean result was significantly higher than 3 the hypothesis would be approved but if the mean result was significantly lower than 3 the hypothesis would be rejected.

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A total of 34 respondents had bachelor’s degree, 25 had M.A. and only one participant had diploma. Moreover, 80% of the respondents had majored in accounting.

**CONCLUSION**

Results associated with each research hypothesis are presented in Table (2). According to the data analysis results which were obtained through questionnaires and examination of research hypotheses using the Z static it can be said that except for legal authority (mean value: 2.88, standard deviation: 0.306) and administrative acceptance (mean: 3.06, and standard deviation: 0.06) all the other factors are rejected. In other words, medical sciences university’s of Iran lack the required performance assessment potential, human force, technical expertise, procedural and organizational legitimacy, political acceptance, and motivations for implementation of performance-based budgeting. Therefore, the aforementioned factors are obstacles in the implementation of performance-based budgeting in the medical sciences university’s of Iran.

Results of the present research comply with the findings of Krumwiede (1998). In addition, results of this study comply with the results of Shah’s research (1998) in factors subsequent to factors two and three. These results are also in contrast with the findings of Shah (1998), Vann (2001), and Chongruksut (2004) in other factors and dimensions under study. In sum, it can be said that the first hypothesis is rejected along with all its dimensions at a significance level of 5%. The second hypothesis is approved with regard to its legal authority and the third hypothesis is approved with regard to its administrative acceptance. Therefore, it is clear that medical sciences university of Iran lack the conditions required for implementation of performance-based budgeting.

**Table 2: Summary of the results of examination of research hypotheses**

Research hypothesis	Hypothesis elements	Sample mean	Observed -T	df	P-Value	Approval or rejection of the hypothesis
Ability	Performance assessment potential	2.58	-4.69	59	0.0	Rejected
	Human force ability	2.31	-6.03	59	0.0	Rejected
	Technical ability	2.5	-4.79	59	0.0	Rejected
Legitimacy	Legal authority	2.88	-1.03	59	0.3	Approved
	Procedural authority	2.5	-3.94	59	0.0	Rejected
	Organizational authority	2.66	-2.28	59	0.02	Rejected
Acceptance	Political acceptance	2.66	-2.22	59	0.03	Rejected
	Administrative acceptance	3.06	0.46	59	0.06	Approved
	Consistency of incentives	2.54	-3.43	59	0.001	Rejected

**Research Findings and Suggestions**

Since implementation of performance-based budgeting in the government system calls for a change in the accounting procedures as well as a great deal of time, the following suggestions are provided based on research findings to remove the aforementioned obstacles:

- 1- Since implementation of every program requires comprehensive awareness of the organization’s employees, training plays an important role in this regard.
- 2- Establishment of a separate performance assessment organizational unit and definition of performance-based standards are two of the factors influencing the implementation of performance-based budgeting.
- 3- The necessary hardware and software infrastructure has to be examined by creating accessible databases in the budget management computer system.

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- 4- Acts required for the implementation of performance-based budgeting need to be predicted and approved.
- 5- In the state financial and budgeting laws, freedom of action has to be provided to organizations to ask for budget and spend the budgets at their own discretion.
- 6- Incentives and punishments shall be prepared for the satisfactory/unsatisfactory implementation of performance-based budgeting in organizations.
- 7- The permissions shall be granted to organization managers to use performance information in making decisions.
- 8- Adequate financial resources shall be provided for the implementation of performance-based budgeting.

### **Suggestions for Medical Sciences Universities**

1. It is recommended to take measures to develop inspect and monitoring committees on a monthly basis. The committees are obliged to present realistic reports of their observations.
2. Trainings need to be continued fully and measures shall be taken to introduce a training mentor for each city. This person has to attend the courses held by the appropriate ministry and has to take monthly measures to train experts in his/her city or province. This person shall submit a monthly report of the training to the technical committee following the approval of the senior authority.
3. Managers of medical sciences universities are mostly physicians. Therefore, the appropriate ministry shall provide for financial and performance training of the managers of each system. These trainings are aimed to increase the planning and decision making ability of managers based on the performance beneficiaries.
4. It is possible to enhance the performance indicators of universities at the national level by using support assistants from financial fields in medical sciences universities.
5. The ministry of health is recommended to pay the incentives designed for the implementation of the new financial system.

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