



Investigating the Factors Affecting Performance-Based Budgeting to Promote Commercial Public Transparency and Accountability

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Abstract

Governments' application of a new operational budgeting method requires that they and their subsidiaries be transparent, accountable to and take responsibility against people. The commercial public concern with health centers, hospitals, etc., and it is natural that transparency and accountability of medical universities with regard to the costs incurred and revenues earned are seen to be their most basic demands. Therefore, this article aimed to investigate the factors affecting performance-based budgeting to improve public transparency and accountability. The present study was applied in terms of objectives, descriptive in terms of nature of a survey correlation. The statistical population was comprised by the staff at Mazandaran University of Medical Sciences (1906 people). The sample volume was estimated to be 322 people based on Cochran's formula as they were selected by multi-stage relative stratified sampling method. To collect information, a researcher-made questionnaire was provided based on literature review and research background and a survey of subject-related experts was conducted involving 82 items. The face and content validity of the items were confirmed by experts. Cronbach's alpha was also estimated to be greater than 0.7, which indicated the internal consistency of the items and confirmed the reliability. To analyze the data, structural equation modeling (SEM) was used via Emus software. The findings illustrated that, considering the value of t above 1.96, the standard path coefficients were as follows: causal condition variable on the main category was 0.40, main category variable on strategies (guidelines) 0.50, underlying condition variable on strategies (guidelines) 0.51, intervening variable conditions on strategies (guidelines) 0.32, and strategies variable (guidelines) on the results (outcomes) 0.83, indicating the positive and significance of these relationships.

Keywords: Budgeting Performance, General Accountability, Intervening Conditions, Underlying Conditions.

Introduction

Budget issues as a field of study has, in recent years, developed significantly both in form and substance. Budgeting is a combination of multiple information sources where a convergence of various perspectives, by taking into account different stakeholders, is one of the factors influencing its complex decisions (Bayat &

Momen Poursiola, 2018). Budgeting is a process which, in Iran, it is made of several stages, i.e., Preparation or adjustment, proposal of the budget bill, budget approval, budget implementation and monitoring of its implementation (Rezaei, 2016).

Performance-based budgeting is a form of budgeting that links allocated financial resources to measured results in form of

outputs and outcomes. Put it differently, performance-based budgeting is the organization's strategic plan based on its goals and missions, which would provide a process to transform measurable data into meaningful data regarding the results from the plans implemented (Kurdistani et al., 2016).

Many developed and developing countries across the world are seeking to strengthen their budgeting systems in a process by improving or changing them into a performance-oriented or operational system where the relationship between budget credits and executive functioning is made clear and understandable, thus providing reliable and credible information support for budget decisions (Elahi Hosseinabad, 2019). Entering the new millennium, we are witnessing the burgeoning growth of peoples' expectations and in some cases their dissatisfaction with the state entities' failure to meet their expectations, despite the increasing attention government entities pay to meet the peoples' needs and at the same time increased scope and depth of public awareness of their citizenship rights. One can argue that seeking for the root causes of these problems can lead us to organizations' failure in the area of transparency (Jamali et al., 2017).

A transparent organization is the one in which people inside and outside of it can gain their required information concerning their actions and processes within that organization in order to form their perspectives (Sharifzadeh & Taheri, 2019). If it is impossible to access to information, the information is found to be irrelevant to the issue at hand, incorrect display of information, as well as inaccurate and untimely information, we would face a lack of transparency. Today's changing world requires organizations to look for new instruments to survive. One of the tools that help organizations meet their goals is

organizational transparency. Although organizational transparency is not a new issue, it has not received much attention and most studies in this field have examined organizational transparency in the concept of information disclosure (Kosack & Fung, 2014).

Organizational transparency makes it possible for employees to participate more, to better understand their organizational role and, consequently, to focus more on their tasks and to attend more to organizational activities. Organizational transparency also increases employees' trust in the organization's senior management (Lu & Xie, 2013).

Accountability is seen one of the key necessities and pillars of public administration under the current situation that would portray an image of health and transparency of organizational affairs in mind (Timmons Jeffrey & Garfias, 2015). In fact, accountability and transparency are the key elements of a democratic monitoring that obligates the public, private and civil society sectors to concentrate on the outcomes, follow clear objectives, develop effective strategies, monitor performance and report them United Nations, 2002, quoted by (Jamali et al., 2016). (Craig et al., 2016) maintain that accountability transparency plays an important role in the organization, stating, however, that transparency and accountability are two distinct concepts. On the other hand, other researchers suggest that accountability is an aspect of transparency and should be included in analyzing transparency. As (Williams, 2015) pointed out, this lack of conceptual consensus, along with restricted empirical research, is a barrier to scientific research on transparency while also confining actors' ability in the field to perform communication functions.

Using modern operational budgeting techniques requires governments and their



subsidiaries, such as the Ministry of Health and Medical Education, to be transparent, accountable to the people (Holland et al., 2017). The general public cope with health centers, hospitals, etc., and it is natural that one of their most basic demands is to ask for transparency and accountability from medical universities for the costs incurred and revenues earned. Therefore, considering the important and sensitive role of the Ministry of Health, Treatment and Medical Education and the health system in general against the people, this article aimed to investigate the relationship between the dimensions of performance-based budgeting model to promote transparency and public accountability in the Iranian health system.

Research Background

In a research conducted by (Sharifzadeh & Taheri, 2019) entitled *Challenges Facing Operational Budgeting at Universities and Higher Education Institutions and Effective Guidelines to Reduce It*, researchers maintained that operational budgeting, as a new budgeting technique, emphasizes the significance of recognizing measurable results from public expenditure, thus giving transparency to the budgeting process in government-owned companies and increasing accountability to the goals included in the organizational plans. Considering the problems facing the current Iranian budgeting system, including lack of transparency of corporate budgets and their credit dispersion, or so to speak, failure to comply with the principle of budget comprehensiveness, allocation of credits based on managers' bargaining power and also failure to focus on the workload and corporate performance when allocating credits on the one hand, and saving costs,

increasing investment, obtaining comprehensive audit information while at the same time increasing the effectiveness of the budget to make the best use of the sources, on the other hand, one can suggest that performance-based budgeting seem necessary to deal with these issues.

(Pirizadeh, 2018) did a research entitled *valuating the Operational Budgeting System of Tehran Municipality from the Value Engineering Principles Perspective*. The results suggested that a performance-based budgeting system will improve the performance of municipalities by creating a relationship between performance indicators and optimal allocation of municipalities' resources if it is linked with a technical and executive system, five-year plan monitoring system, project acceptance system, project control system, and finished cost system in the Terran's municipal management system.

In a study done by (Asadian, 2017) entitled *The Impact of Acceptance, Competence and Authority on Operational Budgeting in Government Entities*, he considered budgeting the process of allocating limited resources to unlimited needs, suggesting accountability is one of the requirements of modern governance in the present age; if realized, it will strengthen the relationship between citizens and actors, increase effectiveness, transparency in the performance of organizations, reduce corruption (financial, administrative, etc.), increase legitimacy cohesion of the political system, he added. Studies have demonstrated that performance-based budgeting increases accountability.

In a study did by (Farahmand Farjadreshti & Norouzi, 2017) with the title of *Explaining Ways of Allocating Operational Budgeting For OECD member countries and Matching them With Emerging Economies*, the researchers suggested that the performance-based budgeting system as an outcome-

based management subsystem aimed at improving the efficiency of organizational resource consumption has been considered by governments. In this system, credits are allocated based on the way organizational units perform in order to produce goods and services thus leading organizations to increase transparency in how resources are applied to perform activities, produce services, and meet goals and strategies, as well as greater accountability.

A study by (Mauro et al., 2019) entitled *Modern Public Management Between Reality and Illusion: An Analysis of the Originality of Performance-Based Budgeting* showed that the failed integration of communications, values and goals between actors and the actual analysis of actual probabilities constrains the foundations, thus compromising the successful implementation of performance-based budget reforms. So rather than engaging in a collaborative process, actors are faced with illusory structures, while providing the facade of a consistent organization, being unable to produce the desired changes.

In a study conducted by the EU Budget Control Committee (2019) entitled *Regulating Budget with Performance-Based Budgeting: A Lesson from Member States*, researchers suggested that existing studies on performance-based budgeting in the EU are mainly done By the OECD and ECA audits who have verified the strengths of EU performance-based budgeting, while identifying a wide range of improvement opportunities. Relying on this issue and discussions with EU institutional activists involved in the EU budgeting processes, this study has sought to explore performance-based budgeting procedures in selecting five EU member states (Austria, Estonia, France, Ireland and Sweden) with recommendations made to the EU on possible improvement opportunities. Performance-based budgeting practices were implemented at the EU level,

taking into account the expected effects and complexity of implementing relevant member-inspired programs.

In a study conducted by (Erkutlu Hakan et al., 2017) entitled *Factors Used in Performance-Based Budgeting: A Study from Turkey*, researchers demonstrated that financial transparency, the medium-term expenditure framework, and other institutional measures were among the most effective factors in providing for performance-based budgeting.

In a study entitled *Governance, Transparency and Accountability: An International Comparison*, (Bolívar et al., 2015) addressed that public financial transparency was a critical concept in implementing public policies to dominate public financial crises. Based on an international empirical study of auditing higher firms from 29 countries, policy decisions along with an introduction to fair accounting values were investigated in order to improve government financial transparency, as the researchers concluded that financial reporting standards in the three areas of public policy were; reforming regulations, training skills for public and international process staff (Bayat & Momen Poursiola, 2015).

Methodology

The present study was applied in terms of objective, descriptive in terms of nature and a correlative survey. The statistical population consisted of five groups; 1. The number of Staff are at the University Management and Resources Development Unit (433 people), 2. The number of Staff are at the Health Unit (405 people), 3. The number of Staff are at the Treatment Unit (365 people), 4. The number of Staff are at the Research and Technology Unit (348 people) and 5. The number of Staff are at the



Training Unit (355 people) affiliated with the Mazandaran University of Medical Sciences (a total of 1906 people) (811 men and 1095 women). The sample size was estimated to be 322 people based on Cochran's formula who were selected by multi-stage relative stratified sampling

method. In order to collect information according to (Table 1), a researcher-made questionnaire was used in line with literature review and a survey of subject experts as it contained 82 items in the form of a 5-point Likert scale from very high to very low.

Table 1. Items of each dimension in the questionnaire

Row	Situation in the model	Performance-based budgeting model	Items
1.	Causal conditions	Information	4
2.		Awareness	3
3.		Goals-setting	5
4.	Underlying conditions (Environmental) (ruling construct)	Training and culture-building	5
5.		Attitude and experience	3
6.		Motivation	4
7.	The main category (Phenomenon) (Axial)	Performance-based budgeting	4
8.	Intervening conditions (Involved) (Intermediary)	Policy-making	4
9.		planning	6
10.		Accrual accounting	7
11.	Strategy (guideline)	Total Quality Management	4
12.		Change management	5
13.		Activity-Based Costing	7
14.	Results (outcomes)	Transparency	6
15.		Public accountability	5
16.		Office Health	4
17.		Fight against financial and administrative corruption	6

The face and content validity of the items were confirmed by experts. Cronbach's alpha of research variables was also estimated to be greater than 0.7, which indicated the internal consistency of items and confirmation of reliability. In order to analyze the data, structural equation

modeling (SEM) was used via Emus software (Figure 1).

Results

(Figure 1) illustrates the General paradigm model of research:

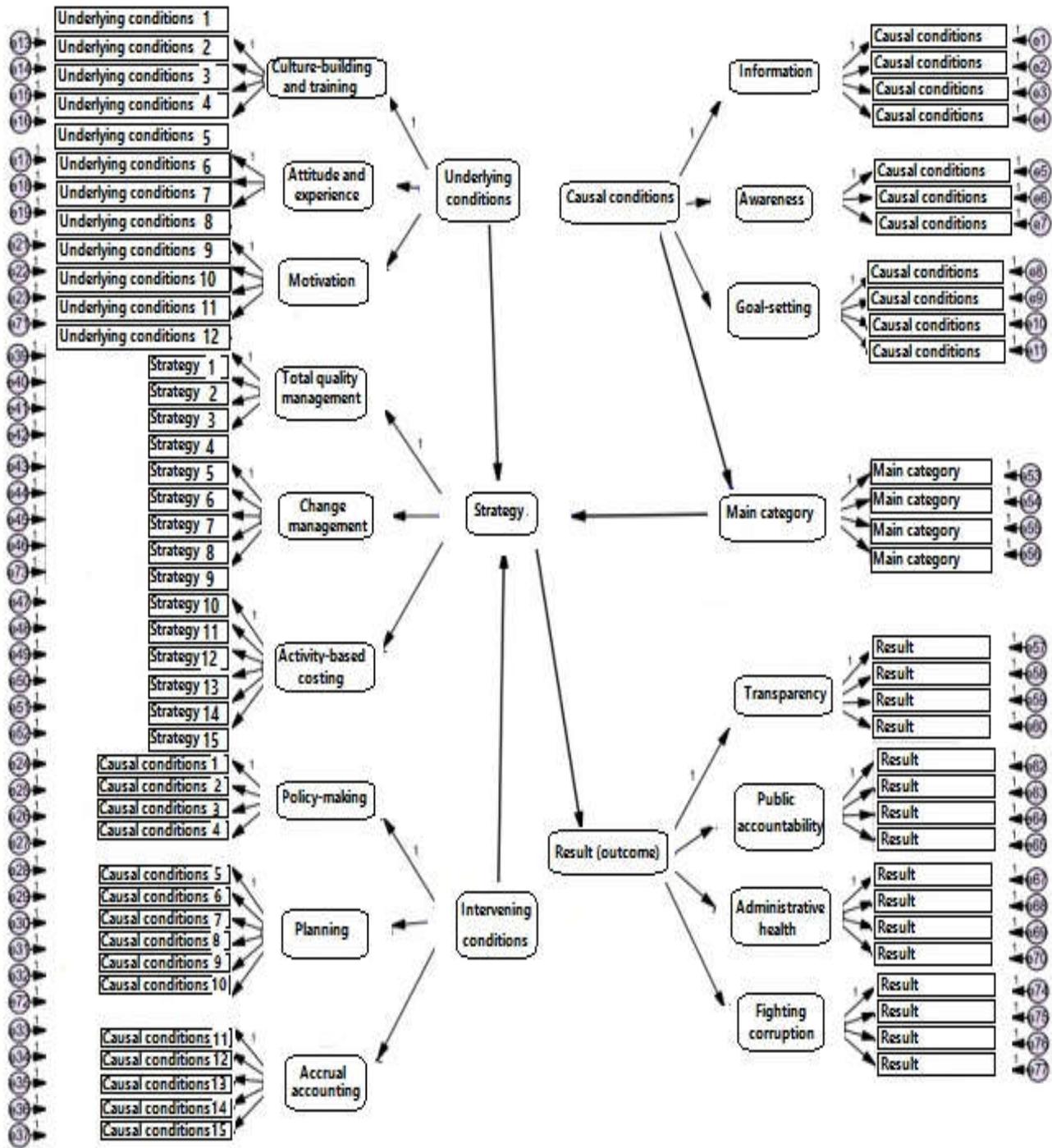


Figure 1. General paradigm model of research

(Figure 2) illustrates the data from the effects and relationships between each of the

dimensions of the model in the form of standard coefficients:

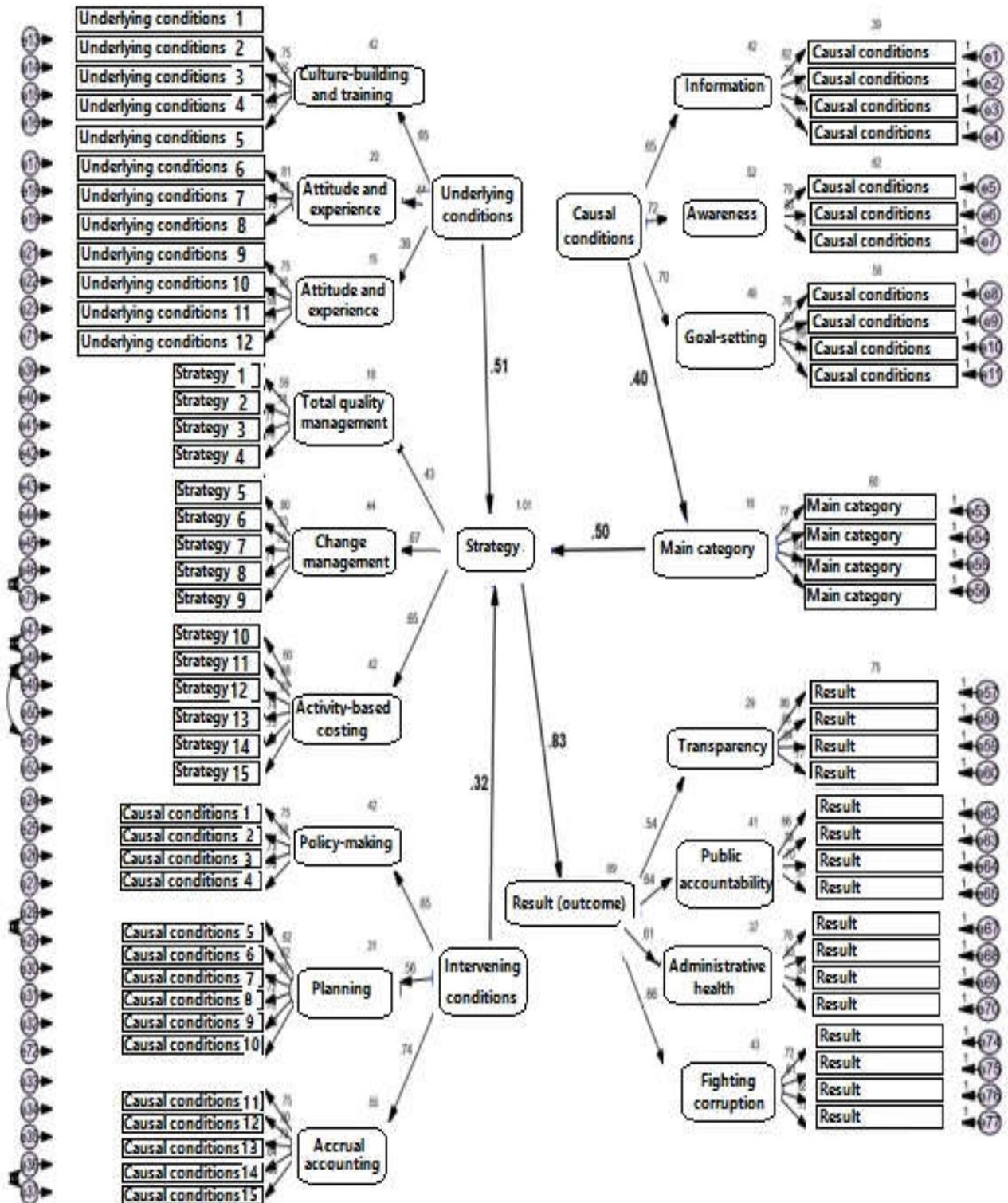


Figure 2. Paradigm model of research in the form of standard coefficients

Table 2.Path analysis of the paradigmatic model

Paths	Standard coefficients	T values	P-Value	Results
Causal conditions on the main category	0.40	4.813	0.0009	Significant
Main category on strategies (guidelines)	0.50	5.033	0.0009	Significant
Underlying conditions on strategies (guidelines)	0.51	4.241	0.016	Significant
Intervening conditions on strategies (guidelines)	0.32	3.049	0.0009	Significant
Strategies on Results	0.83	5.055	0.0009	Significant

As seen from (Table 2), the direct standard path coefficient of the causal condition variable on the main category is 0.40, the value of t 4.813 and the P-Value less than 0.05, the result being that from the perspective of research subjects, causal conditions were found to have a significant effect on the main category.

The direct standard coefficient of the main category variable on strategies (guidelines) is 0.50, the value of 5.033 and the P-value less than 0.05, the result being that, from the perspective of research subjects, the main category was found to have a significant impact on strategies (guidelines).

The direct standard coefficient of the underlying conditions variable on the strategies (guidelines) is 0.51, the value of t

4.241 and the P-value less than 0.05, the result being that underlying conditions were found to have a significant impact on strategies (guidelines).

The direct standard coefficient of the intervening conditions variable on strategies (guidelines) is 0.32, the value of t 3.049 and the P-value less than 0.05., the result being that intervening conditions were found to have a significant effect on strategies (guidelines).

The direct standard coefficient of the strategies (guidelines) variable on the results (outcomes) is 0.83, the value of t 0.05 and the P-value less than 0.05, the result being that strategies have a significant effect on results (outcomes).



Table 3. Fit indicators of research paradigm model

Indicators	Acceptable levels	Findings value	Desirability
Chi-square(χ^2)	-	4367.463	Model confirmed
P-Value	-	0.000	Model not confirmed
Df	$df \geq 0$	2456	Model confirmed
χ^2/df	$\chi^2/df < 3$	1.786	Model confirmed
RMSEA	RMSEA < 1.0	0.049	Model confirmed
NFI	NFI > 8.0	0.710	Model not confirmed
AGFI	AGFI > 8.0	0.712	Model not confirmed
GFI	GFI > 8.0	0.731	Model not confirmed
CFI	CFI > 8.0	0.847	Model confirmed
IFI	IFI > 8.0	0.848	Model confirmed
SRMR	The closer to zero	0.102	Model confirmed

As can be seen in (Table 3), the chi-square value in the model is 4368/463, the model's degree of freedom is 2456, where a sum of their ratio is 1.786, being an acceptable value. On the other hand, the fit indices of the main model such as CFI and IFI are all in an acceptable and desirable level and the SRMR index is 0.102.

Discussion

The results showed that considering the t value above 1.96 pertaining to direct standard path coefficients; causal condition variable on the main category was 0.40, main category variable on strategies (guidelines) 0.50, underlying condition variable on strategies (guidelines) 0.51, intervening conditions variable on strategies guidelines 0.32, strategies (guidelines) variable on the results (outcomes) 0.83, suggesting the relationships are positive and significant. Based on the results, the following suggestions are thus presented:

A: Strengthening the causal conditions of the performance-based budgeting model

The Health Organization must provide for the accessibility and comprehensibility of enough information for employees in order to use it in various units.

Systematic use of information from performance-based information systems, as well as using modern and updated information management systems, in accordance with current global standards.

Decision makers' awareness of the process and results from using the system will help them to make financial decisions based on the actual organizational conditions.

Respect by senior organizational executives for people's expectations in line with their developing latitude and awareness in financial decision-making affairs, as it helps the organization use new budgeting methods.

Determining measurable and expected results from allocating specific budget and accurately documenting how the budget is allotted being effective in strengthening the goal-setting dimension.

There are recognizing different ways to meet goals, considering the amount of budget required in each method, will help managers to set correct goals.

B: Strengthening the environmental conditions of the performance-based budgeting model

Providing training material in various fields in coordination with other task groups will have a positive impact on the awareness and progress of the organization towards performance-based budgeting.

Collaborating with the public media to disseminate the operational budgeting culture system will substantially help the organization to establish infrastructure and reduce staff resistance.

Holding in-service workshops and training courses for managers and financial division experts within the organization is effective on training and culture-building in the organization.

Using skilled people and providing for enough knowledge and experience for managers and experts in financial affairs and budget so that appropriate steps are taken to implement the operational budgeting system. Using an optimal exploration is also a good guideline, so that comparative studies and using experiences of successful countries in implementing operational budgeting system will enhance the attitude and experience within the organization.

In order to motivate the general staff, it is required to divide the reward based on the relative success of the performance relative to meeting the fixed annual goals.

A system of incentives and punishment in the executive body and especially the health system for performance undoubtedly provide for motivation and yields better performance among the employees in different units.

C: Strengthening the intervening conditions of performance-based budgeting model

Granting directors the necessary authority to develop processes and reforms will help them to implement right policies based on the actual conditions within the organization.

Developing regulations for new appraisal, control and cost sharing techniques along with respect for the infrastructure of the operational budgeting system will help senior managers set right policies.

Developing and using appropriate methods to control revenues and other receipts to match with the principles of performance-based budgeting.

One of the most important and important issues is comprehensive and continuous planning, rather than an annual event for the organization's budgets, as this helps expedite the establishment of performance-based budgeting.

Providing a context for evaluating the organizational progress based on providing performance-based budgeting infrastructure. Access to more accurate and complete data with regarding the revenues and expenditure of each period for the application of accrual accounting were relied on performance-based budgeting infrastructure.

One of the most important issues is to determine the uncollected revenues of each financial period and to plan for their receipt clearly and precisely.

Recognizing the need for spending based on accurate information from resources and needs is seen a requirement for accrual accounting based on the performance-based budgeting infrastructures.



D- Strengthening the strategic conditions of the performance-based budgeting model

An important point to be considered is the close cooperation of policy makers and planners at the organization with the executive levels to develop policies and strategies by means of knowledge of the real problems and challenges.

Conclusion

Regular oversight of the organization's financial activities and planning for budgeting to identify financial problems and providing solutions for identified financial issues. Forming teamwork and task teams in the organization will help manage change and reduce resistance to organizational variations. Determining the quantitative goals of programs and activities, as well as appointing the official in charge of each activity, as it will help the costing process within the organization. It is imperative for managers and officials of the financial unit to categorize and measure the direct and indirect costs of various divisions. Another noteworthy point is to estimate the finished cost of each activity by the relevant quantitative indicators, being one of the principles of activity-based costing in the organization. A technical point is that a more accurate allocation of overhead costs using cost incentives should be taken into account by financial unit managers. Using accounting system information helps make the right decisions in the area of activity-based costing, so it is essential to use modern accounting information systems.

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