

## Investigating Obstacles of Implantation of Operational Fund Budgeting (Budgeting Based on Performance) in Administrative Organizations of North Khorasan Province Using the Shah Model

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### ABSTRACT

The present study aims to investigate obstacles of implementation of performance-based fund budgeting (budgeting based on performance) in public administrative organizations of north Khorasan province using the Shah model. The study is practical in nature. The data were collected through a survey.

Using the Morgan Table (1978) of total 420 samples, 200 participants were selected. The findings indicate that the most important obstacles are rated as human skills, procedural authorities, technical abilities, organizational authorities, ability to evaluate performance, managerial acceptance, political acceptance, motivational acceptance, and legal authorities.

**KEYWORDS;** implantation of budgeting, performance-based budgeting, administrative organizations, Shah model

### INTRODUCTION

In the recent years several different studies have been conducted on implementation of performance-based budgeting and its impacts based on surveys collected from officials in the world and in Iran. In a study was performed in 2012 on the free trade zone and industrial organizations of Iran based on the Shah model. According to the results, inability to evaluate the performance, inefficient human force, having no legal authorities, and lack of procedural authorities as well as lack of motivation for acceptance were identified as obstacles before implementation of performance-based budgeting. However, technical ability, organizational authority, political acceptance and managerial acceptance were not regarded as obstacle (Pourzamani & Naderi, 2012). Using the Shah model, Shiraz municipality reported the status of an organizational authority, legal authority, procedural authority, political acceptance, and managerial acceptance are appropriate for implementation of performance-based budgeting, but principles of performance evaluation, technical ability, human force ability, and motivational acceptance were introduced as obstacles. So, these aspects must be improved (Moradi et al, 2012).

The results of a research on 50 public organizations in Isfahan show that except for ability to evaluate performance, other necessary conditions for implementation of costing technique based on activity in performance-based budgeting including employees' ability, technical ability, legal authorities, procedural authority, organizational authority and political acceptance, managerial and motivational acceptance are not prepared well (Foroughi et al, 2012).

Numerous international studies also have dealt with implementation of performance-based budgeting (Foltin, Andrews, Robinson, Melkers, Willoughby, Xavier, Shields, Kettl, Schick, Harris, Andrew) and all have highlighted the role of authority, acceptance and determining ability of reform environment in which performance-based budgeting is going to take place. Andrews (2004) states that performance-based budgeting is an important reform action in the world. As evidences show such reforms are used in limited procedure and three critical factors of authority, acceptance and ability are applied in the performance-based budgeting.

Performance-based budgeting system or budgeting based on performance has been initiated since 1960s in different countries of the United States, Canada, Chile, England, South Korea, Malaysia, Australia, Ghana and Brazil. Since the beginning of the performance-based budgeting the involved countries have been faced with numerous obstacles they could solve those (Daneshfar & Shiravand, 2012). Currently, more than 100 countries have used performance-based budgeting and have reported considerable economic savings. Moreover, since countries have different legal systems each one has their specifically socio-cultural, economic and political system. Accordingly, in the present study the performance-based budgeting of other countries has been provided.

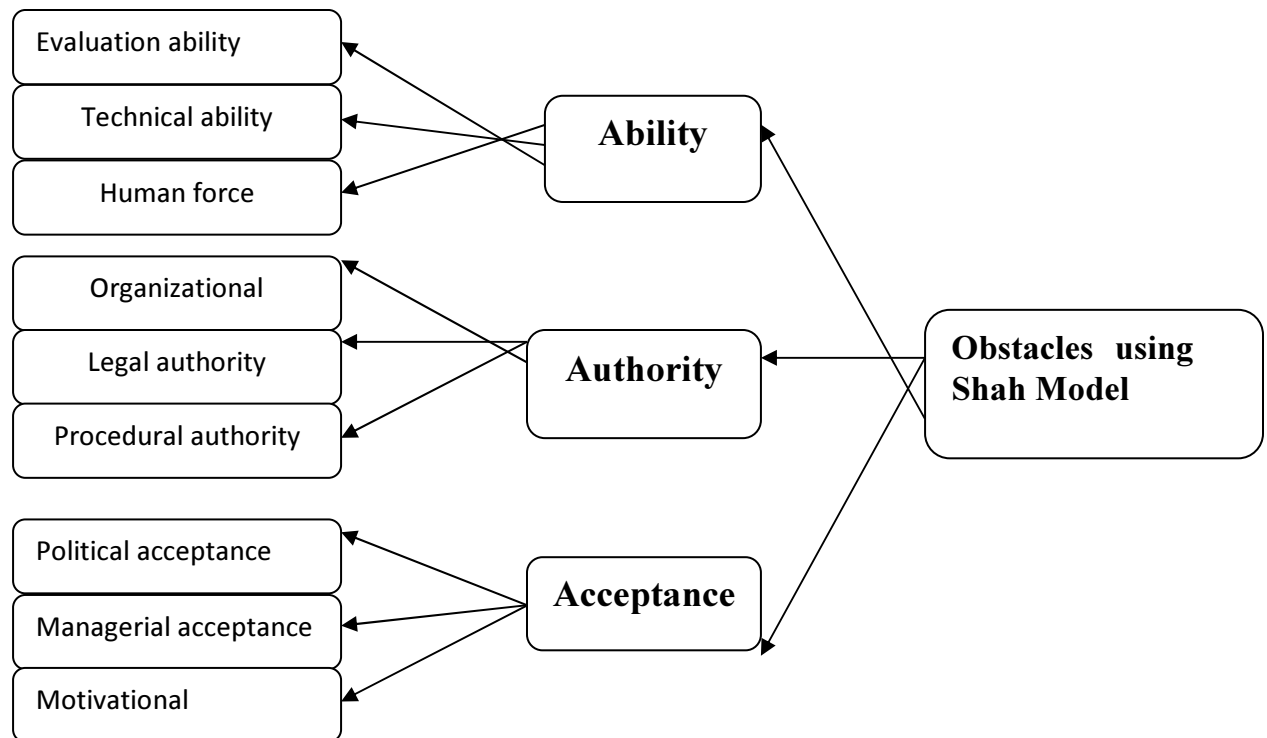
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**Table 1: countries used performance-based budgeting**

Country	Budgeting method	Responsible for preparing the budget	Basic features	Accounting method
Bolivia	performance-based	Ministry of Finance	Annual, centralized, top-down, non-Based program lacks transparency, but no firm legal basis compliance	Full commitment
Ghana	performance-based	Ministry of Finance	3-year, focused, top-down, based on the lack of transparency	Full commitment
Cambodia	performance-based	Ministry of Economy and Finance	3-year, focused, top-down, based on the program, successful execution of the education and health sectors	Full commitment
Tanzania	performance-based	Ministry of Finance	3-year, focused, top-down, based on the lack of transparency	Full commitment
Uganda	performance-based	Ministry of Finance	3-year, non-centralized, top-down, based on the program	Full commitment
Chile	performance-based	Ministry of Finance	3-year, focused, top-down, non-based applications, high transparency, comprehensive legal basis	Full commitment
Brazil	performance-based	Ministry of Planning, Budget and Management	Based on 4-year program, focused, top-down, good transparency	Full commitment
South Africa	performance-based	Ministry of Finance	4-year, focused, top-down, based on the application, good transparency	Full commitment
Malaysia	performance-based	Ministry of Economy and Finance	3 -year, semi-centralized, top-down, based on the application, good transparency, the successful implementation of the health and education sectors	Full commitment
Singapore	performance-based	Ministry of Finance	5-year, centralized, top-down, based on the application, good transparency	Full commitment
United States	performance-based	Ministry of Planning, Budget and Management	3-year, non-centralized, top-down one, based on the program, a high level of transparency, but a comprehensive legal framework for the low level of compliance	Full commitment
Denmark	performance-based	Ministry of Finance	4 -year based on management contracts, non-centralized, top-down, based on the transparency of high-level, comprehensive legal basis	Full commitment
England	performance-based	Ministry of Planning, Budget and Management	3 year, non-centralized, top-down, based on the transparency of high-level, comprehensive legal basis	Full commitment
Australia	performance-based	Ministry of Finance	3-year, non-centralized, top-down, based on the transparency of high-level, comprehensive legal basis	Full commitment
South Korea	performance-based	Ministry of Planning, Budget and Management	5- year, centralized, top-down, based on the transparency, low-level, comprehensive legal basis	Full commitment

Source: Mahdavi (2007)

Fig.1: conceptual model:



The research conceptual model:

The provided conceptual model shows obstacles of performance-based budgeting according to the Shah model (Andrews, 2004).

## **METHOD**

The present study is practical in the nature. The research h variables were examined through collecting data from experts. So, a survey was used. Then, a questionnaire was distributed among financial managers, budgeting managers, budget experts, accounting experts and beneficiaries of administrative organizations of north Khorasan province. In order to test normality of the data distribution, the Kolomogrov – Smirnov test was applied. If the distribution is normal, the T-test is used. Otherwise, the non-parametric tests should be applied.

In order to identification of obstacles before implementation of performance-based budgeting in administrative organization of north Khorasan province through the one group means score test, we tested the research questions. For rating the obstacles, we included the Freedman test. Also, through the Morgan table (1978) form 420 peoples, 200 participants were selected as the research sample.

Research questions:

Q1: Do administrative organizations of north Khorasan have ability to implementation performance-based budgeting?

Q1-1: Do administrative organizations of north Khorasan have ability to evaluate performance of all activities precisely?

Q1-2: Do administrative organizations of north Khorasan have the necessary human force for implantation of performance-based budgeting?

Q1-3: Do administrative organizations of north Khorasan have technical ability to implement performance-based budgeting?

Q2: Do administrative organizations of north Khorasan have authorities to implementation performance-based budgeting?

Q2-1: Do administrative organizations of north Khorasan have legal authorities to implement performance-based budgeting?

Q2-2: Do administrative organizations of north Khorasan have procedural authorities to implement performance-based budgeting?

Q2-3: Do administrative organizations of north Khorasan have organizational authorities to implement performance-based budgeting?

Q3: Do administrative organizations of north Khorasan have necessary acceptance for implementation of performance-based budgeting?

Q3-1: Do administrative organizations of north Khorasan have necessary political acceptance for implantation of performance-based budgeting?

Q3-2: Do administrative organizations of north Khorasan have necessary management acceptance for implantation of performance-based budgeting?

Q3-3: Do administrative organizations of north Khorasan have necessary motivational acceptance for implementation of performance-based budgeting?

## **Findings:**

The results of Kolomogrov - Smirnov test:

Before choosing the appropriate test, we need to ensure normal distribution of variables. If the variables are normal, we use parametric tests and otherwise we apply the non-parametric tests. Thus, the research hypotheses are as follows:

H0: the variable is distributed normally.

H1: the variable is not distributed normally.

Since the research variables are of interval variables, we used the Kolomogrov - Smirnov test (Table 2).

Table 2: frequency distribution of variables using the Kolomogrov – Smirnov test

variables	Normal P parameters		Maximum difference			Kolomogrov - Smirnov	P
	M	Sd	absolute	positive	negative		
Performance evaluation ability	2.8363	.94444	.099	.099	-.065	1.397	.140
Human force ability	2.6395	.74285	.104	.104	-.044	1.477	.095
Technical ability	2.7242	.83356	.136	.136	-.074	1.923	.081
Legal ability	3.0350	.91864	.135	.135	-.074	1.907	.101
Procedural ability	2.5051	.83137	.122	.122	-.083	1.720	.055
Organizational ability	2.8568	.98288	.119	.119	-.068	1.684	.067
Political acceptance	3.0591	.97991	.096	.096	-.058	1.356	.051
Managerial acceptance	2.9375	.96182	.090	.090	-.071	1.275	.077
Motivational acceptance	3.0000	.99636	.081	.078	-.081	1.146	.145

The level of significance for the independent and dependent variables was obtained greater the 0.05. Since  $P > 0.05$ , H0 is confirmed. So, the data are distributed normally. The one-way t-test was used.

### Test of the research hypotheses:

In this section, the impact of research variables was assessed and the one way t-test was applied. In the second section, the variables were rated through the Freedman test.

The main question:

Q1: Do administrative organizations of north Khorasan have ability to implement performance-based budgeting?

To answer this question, items 1-14 were considered. The one way t-test was used. Table 3 shows the results.

Table 3: results of t-test for Q1

Variable	df	t	P	M	Sd	maximum	minimum
Organizations ability	199	-1.769	0.000	2.7344	0.7374	-92.1627	-92.3648

According to Table 3, the mean score for administrative organization ability is 2.7344 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province do not have the necessary ability for successful implementation of performance-based budgeting. Therefore, this factor is one of obstacles.

Q1-1: Do administrative organizations of north Khorasan have ability to evaluate performance of all activities precisely?

To answer this question, items 1-5 were considered. The one way t-test was used. Table 4 shows the results.

Table 4: results of t-test for Q1-1

Variable	df	t	P	M	Sd	maximum	minimum
Ability to evaluate performance	199	-1380.07	0.000	2.8363	0.944	-92.03	-92.29

According to Table 4, the mean score for evaluation ability is 2.8363 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province do not have the necessary evaluation ability for successful implementation of performance-based budgeting. Therefore, this factor is one of obstacles.

Q1-2: Do administrative organizations of north Khorasan have the necessary human force for implantation of

performance-based budgeting?

To answer this question, items 6-10 were considered. The one way t-test was used. Table 5 shows the results.

Table 5: results of t-test for Q1-2

Variable	df	t	P	M	Sd	maximum	minimum
Human force	199	-1758.07	0.000	2.63695	0.742	-92.25	<b>-92.46</b>

As Table 5 shows, the mean score for human force is 2.6395 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organization of north Khorasan province do not have the necessary human force for successful implementation of performance-based budgeting . Therefore, this factor is one of obstacles.

Q1-3: Do administrative organizations of north Khorasan have technical ability to implement performance-based budgeting?

To answer this question, items 11-14 were considered. The one way t-test was used. Table 6 shows the results.

Table 6: results of t-test for Q1-3

Variable	df	t	P	M	Sd	maximum	minimum
Technical ability	199	-1565.54	0.000	2.7242	0.83356	-92.15	<b>-92.39</b>

As Table 6 demonstrates, the mean score for human force is 2.7242 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province do not have the necessary technical ability for successful implementation of performance-based budgeting. Therefore, this factor is one of obstacles.

Q2: Do administrative organizations of north Khorasan have authorities to implement performance-based budgeting?

To answer this question, items 15-25 were considered. The one way t-test was used. Table 7 shows the results.

Table 7: results of t-test for Q2

Variable	df	t	P	M	Sd	maximum	minimum
authority	199	-1.724	0.000	2.8270	0.75622	-92.0675	<b>-92.2784</b>

According to Table 6, the mean score for authority factor is 2.8270 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province do not have the necessary authority for successful implementation of performance-based budgeting. Therefore, this factor is one of obstacles.

Q2-1: Do administrative organizations of north Khorasan have legal authorities to implement performance-based budgeting?

To answer this question, items 15-18 were considered. The one way t-test was used. Table 8 shows the results.

Table 8: results of t-test for Q2-1

Variable	df	t	P	M	Sd	maximum	minimum
legal Authority	199	-1415.77	0.000	3.0350	0.75622	-91.8369	<b>-92.0931</b>

According to Table 8, the mean score for legal authority is 3.0350 greater than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province have the necessary legal authority for successful implementation of performance-based budgeting. Therefore, this factor is not an obstacle.

Q2-2: Do administrative organizations of north Khorasan have procedural authorities to implement performance-based budgeting?

To answer this question, items 19-21 were considered. The one way t-test was used. Table 9 shows the results.

Table 9: results of t-test for Q2-2

Variable	df	t	P	M	Sd	maximum	minimum
legal Authority	199	-1565.512	0.000	2.5051	0.83137	-92.3784	<b>-92.6115</b>

As Table 9 indicates, the mean score for human force is 2.5051 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province do not have the necessary procedural authority for successful implementation of performance-based budgeting. Therefore, this factor is one of obstacles.

Q2-3: Do administrative organizations of north Khorasan have organizational authorities to implement performance-based budgeting?

To answer this question, items 22-24 were considered. The one way t-test was used. Table 10 shows the results.

Table 10: results of t-test for Q2-3

Variable	df	t	P	M	Sd	maximum	minimum
organizational Authority	199	-1322.478	0.000	2.8568	0.98288	-92.0058	<b>-92.2806</b>

According to Table 6, the mean score for authority factor is 2.8270 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province do not have the necessary authority for successful implementation of performance-based budgeting. Therefore, this factor is one of obstacles.

Q3: Do administrative organizations of north Khorasan have necessary acceptance for implantation performance-based budgeting?

To answer this question, items 25-35 were considered. The one way t-test was used. Table 10 shows the results.

Table 10: results of t-test for Q3

Variable	df	t	P	M	Sd	maximum	minimum
acceptance	199	-1.524	0.000	2.9975	0.85383	-92.8835	<b>-92.1216</b>

According to Table 10, the mean score for authority factor is 2.9975 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province do not have the necessary acceptance for successful implementation of performance-based budgeting. Therefore, this factor is one of obstacles.

Q3-1: Do administrative organizations of north Khorasan have necessary political acceptance for implement performance-based budgeting?

Table 11: results of t-test for Q3-1

Variable	df	t	P	M	Sd	maximum	minimum
political acceptance	199	-1326.894	0.000	3.0591	0.97991	-91.8042	<b>-92.0775</b>

As Table 11 shows, the mean score for human force is 3.591 greater than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province have the necessary political acceptance for successful implementation of performance-based budgeting. Therefore, this factor is not an obstacle.

Q3-2: Do administrative organizations of north Khorasan have necessary management acceptance for implantation of performance-based budgeting?

Table 12: results of t-test for Q3-2

Variable	df	t	P	M	Sd	maximum	minimum
managerial acceptance	199	-1353.645	0.000	2.9375	0.96182	-91.9284	<b>-92.1966</b>

As Table 12 shows, the mean score for managerial acceptance is 2.9375 smaller than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province have the necessary management acceptance for successful implementation of performance-based budgeting. Therefore, this factor is not an obstacle.

Q3-3: Do administrative organizations of north Khorasan have necessary motivational acceptance for implantation of performance-based budgeting?

To answer this question, items 33-35 were considered. The one way t-test was used. Table 13 shows the results.

Table 13: results of t-test for Q3-3

Variable	df	t	P	M	Sd	maximum	minimum
motivational acceptance	199	-1353.645	0.000	3.001	0.99636	-91.8611	<b>-92.1389</b>

According to Table 13, the mean score for authority factor is 3.001 greater than 3. Moreover, since  $P=0.000$  in 0.95% level of confidence, the administrative organizations of north Khorasan province do not have the necessary motivational acceptance for successful implementation of performance-based budgeting. Therefore, this factor is not an obstacle.

#### Rating the research variables:

The Freeman test is used for rating the variables. To determine the priority of the parameters the results are shown in Table 14. As the table shows, the legal authority parameter  $M=5.84$  has the highest mean score is larger than mean score and the motivational acceptance parameter is in the second rank.

Table 14: the results of Freeman test for rating minor questions

Variables(minor questions)	Ordinal mean	rank
Evaluation ability	5.14	<b>5</b>
Human force ability	4.08	<b>8</b>
Technical ability	4.37	<b>7</b>
Legal authority	5.89	<b>1</b>
Procedural authority	4.08	<b>9</b>
Organizational authority	5	<b>6</b>
Political acceptance	5.54	<b>3</b>
Managerial acceptance	5.26	<b>4</b>
Motivational acceptance	5.65	<b>2</b>

In following, for rating the research questions order, the following results are provided.

Table 15: the results of Freeman test for rating major questions

Variable(major questions)	Ordinal mean	rank
ability	1.73	<b>3</b>
authority	1.98	<b>2</b>
acceptance	2.29	<b>1</b>

According to the tables, for identification of obstacles of implementation of performance-based budgeting in administrative organizations of north Khorasan province, the acceptance factor has higher mean score compared with ability and authority. In the second place is authority and in the third place is the required ability.

#### Conclusion:

The results indicate that in the present study, three factors of ability, authority and acceptance are effective on successful implementation of performance-based budgeting of public organizations of north Khorasan province. Since the studies has shown that three effective factors of governmental sector, authority, acceptance and ability, determine the rate of reforms in which performance-based budgeting takes place successfully, so in the present study we tried to use the Shah model in order to measure the status of these factors in north Khorasan province and the obstacles for successful implementation. The results reveal that all three factors are among the obstacles.

On the other hand, in rating the obstacles of successful implementation of performance-based budgeting, the

acceptance factor has the first rank after that ability and authority are placed. The second rank belongs to the authority and the third place allocates to the ability. Moreover, parameter of legal authority with  $M=5.84$  has the highest mean score. After, the motivational acceptance is important.

Generally speaking, the most and least important obstacles include human force ability, procedural authority, technical ability, organizational authority, evaluation ability, managerial acceptance, political acceptance, motivational acceptance and legal authority.

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