

Presenting a Contingency-Prescriptive Model for Transition to Accrual Accounting in Islamic Republic of Iran

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ABSTRACT

The main purpose of this paper is the development of a contingency- prescriptive model for transition to accrual accounting in Islamic Republic of Iran, that in addition to explain contextual and behavioral factors help the reform implementation method and remove the drawbacks of contingency model of governmental accounting reforms in Iran, by focus on content and capacity variables. The strong point of this model is that by combining with explanatory models and prescriptive model, it can present a good approach to determine the content of innovation and a good strategy to overcome transition barriers and make innovation operational and also it can explain Iran reforms process. The results of survey research prescribe accountable-based and management –based approach together for governmental accounting reforms in Iran and authoritative strategy beside participative strategy, phased and part strategy is recommended for the success of this process. These results can be used by authorities in policy making of governmental accounting reforms in Iran. Also by adding content and implementation variables to Lüder contingency model, intrinsic drawbacks of this model that is mostly emphasize on explanatory and behavioral factors, are removed.

KEY WORDS: Governmental accounting reforms; environmental factors; contingency-prescriptive model.

INTRODUCTION

Despite the growth in accepting accrual accounting all over the world, its acceptance method is different in some countries. Christianes and Reyniers (2009) argue that these differences are in 3 levels: Content, transition time from cash to accrual and acceptance method of accrual accounting. To clarify these differences, Professor Klaus Lüder with a team in late 80 as the first scholars, with the purpose of discovering the reason of governmental accounting changes and the related differences carried out a research that led into a theoretical framework for international comparative studies of governmental accounting titled as “contingency model of governmental accounting innovations”. Many criticized this model as these criticisms caused that different revised models from the elementary model to the final model was presented by Professor Lüder in 2001 with the title of “ contingency model of financial management reforms. Despite all reforms, this model cannot explain the reasons of governmental accounting systems themselves (content of the system), it can to some extent explains the reason of reforms (Lüder 2001). From George viewpoint (2003) this model despite has some drawbacks playing the role of paradigm in this field of research as most of the authors used this model to describe contextual situation or accounting reforms in public sector.

In Iran, by the change in the economical, political and social growth especially the rules in the budgeting system change from program to operational, it increased the demand for accounting information for decision making and accountability from public sector managers and governmental accounting system in this developing country as most of the countries in the world are on the verge of structural reforms. Talebniya et al (2012) in a research about the explanation of this reform process and its effective factors presented a contingency model similar to contingency model of financial management reform (Lüder 2001). This model is just explaining the context and behavioral factors of the reforms, so all the criticisms on explanatory models are the same for this model. This research aims to present a contingency-prescriptive model for transition to accrual accounting in Islamic Republic of Iran that is designed according to contingency model of Lüder (2001) and pre-assumptions of Ouda prescriptive model and especial conditions of developing Islamic countries in Middle East. The results of this survey research shows that Iran governmental accounting is going to have a big change and the main stimuli of this change is increasing demand for more information about the reforms on Iran public sector management including legal necessities for

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budget operation. Also, the given model in this study besides explaining about reforms process in Iran in the form of two decision making phases for starting reforms and transition phase (implementation of these reforms), presented a good approach to determined innovation content and a good strategy to overcome transition barriers (Technological and capacity factors) and make innovation operational (how to use innovation). So, it is also used in the prediction of future process of reforms in Iran that is a good proof of predictability power of Lüder contingency model and is considered as a prescriptive by determination of approach and strategy. The application of contingency and prescriptive model for the first time in an Islamic developing country is the verification of the generality capability of contingency models to non-western Islamic countries and it improves international comparative literature of governmental accounting.

Contingency- prescriptive model

Talebniya et al used financial reforms of Lüder (2001) to present his contingency model (fig. 1) and for the first time in a comprehensive model identified all the effective contextual factors on reforms and elements of contingency model including stimuli, political promoters, reforms advisors (drivers) and contextual factors and beneficiaries (institutional arrangement) of governmental accounting reforms in Iran and like other explanatory models is focused just on the description of the effect context on reforms process and it doesn't explain the implementation method of this big change. So, in this study, by defining innovation concept in the form of two accountable-based and management-based approaches and transition strategies, it is attempted to remove drawbacks of Talebniya et al (2012) model in the explanation of the transition method from cash to accrual accounting in Iran. The characteristics and module components of this recommended model are including as:

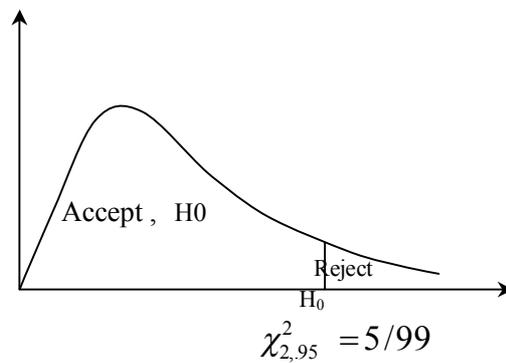


Fig. 1

The stimuli of reforms process (the main reasons of reforms) represent events occurring in the initial stage of reforms process and clarify the requirement to better accounting information and they have a direct effect on accountable institution for starting implementations. Four main groups of these stimuli are shown in figure 1. Lüder (2001, p.10) stresses that, for the specific case of developing countries, "endeavors to improve international reputation" must also be considered as a relevant stimulus for governmental accounting reforms.

1- Political reform promoters or reforms starters (Parliament members and government) are politicians who are government members and start and Strengthen reforms by getting advice from reforms drivers, so their behavior directly influences on the concept of reform and strategy. In this group financial minister has a key role because he is the main actor in forming the concept of reforms.

2- Reformers drivers are organizations and professionals who influence on political decision-making by written or oral journals and with the aim of politicizing reforms subject and oblige political actors to reforms. They share their views in an informal network of skills (epistemic community) and improve reforms process.

Reforms or innovation concept is a background concept and has a direct influence on implementation strategy, thus, it should be defined correctly from the beginning. Innovation is indeed occurred to provide good information (content change) and it is not merely including method change. In a classification, reforms concept can be accountable-based (accountabilism-driven) or management-based (managerialism-driven) accrual accounting. The first approach is mostly observed in the accounting systems reforms of continental European group and the main reason of these reforms is mostly legal necessities. Environmental indicators of this group are including as: poor accounting profession, civil and comprehensive law, weak capital market, the lack of familiarity of governmental

accountants with accrual accounting methods and the lack of interest of professional members in governmental accounting methods. Thus, in such environment, law control and observing budget which are financial accountability features influence the reforms output and reforms output are new accounting systems that is more emphasized on budget and legal control (external reporting and financial accountability). These reforms are mostly done in forms not content. According to the research of Peters and watermann (1982, quoted in Jorge 2003, p.176), in these reforms, that is mostly done by soft factors (organizational culture and staffs skills) and by cultural and staff-oriented approach, the likelihood of finding a highly developed controlling and management accounting system is remote. In other words, the importance and Level of perfection controlling and management accounting system is dependent upon the type of reform approach (or change) and dominance of hard factors (organizational structure, procedures and, Instruments) to soft factors (change of behaviour and attitude) (George, 2003). In contrast, management-based approach occurs by hard factors that are observed mostly in Anglo-Saxon group and the main reasons of reforms is mostly improve of financial performance because there are strong professional institutions group making accounting standards and propose to the government. Also, there are strong capital markets who lend money to the governments, so there is a considerable demand for governmental accounting information from investors. The rules in these governments are very general and are flexible in accounting field. Governmental accountants are usually familiar with trading sector standards and due to the effective role of these accountants in the direction of reforms, reforms output have more similarity with business accounting especially management accounting methods and cost accounting and it is mostly inclined to the reporting content (content reforms not forms) and providing performance information (internal reporting and operational accountability). Literature shows that most of reform processes at first inclined to an approach, they finally selected management –based and accountable-based both.

3- The strategy of implementation is including reforms implementation methods that influencing directly on failure and success of reforms and reforms output. Different countries have different strategies to promote reforms. Some of them by special environmental features selected authoritative strategies that are observed more in continental European group. In these strategy general rules of all reforms process is plotted in detail and using reforms is as obligatory. In Angelo-Saxon group using methods are more flexible and mostly they are participative. In another classification reforms strategies are classified to phased strategies (mid term such as India) and big bang reforms (or revolutionary and short-term as News land). In the third classification of reforms strategies they are classified into comprehensive reforms (entire government) and partial reforms (some parts of government or some of states).

4- Organizational actions (contextual variables) are including structural variables (administrative, political, social) and implementation barriers that have direct influence on the concept of reforms and implementation strategy and influence the result of reforms and they are including political environment, professional environment, beneficiaries, organizational environment, economical environment, legal environment, cultural environment and geographical environment. Lüder (2001) put beneficiaries in a separate module, but in figure 1, contingency model of governmental accounting reforms in Iran (Talebnia et al, 2012) like Tavakoli (1384), beneficiaries were observed in environmental factors group. In the following the method of determination of the components of this proposed model is explained by survey research method.

Research question

Considering the environmental conditions, what is the best approach and strategy of governmental accounting reforms in Iran?

RESEARCH HYPOTHESIS

To find the answer of the above question, four hypotheses are classified as the followings:

First hypothesis: Success of authoritative and participative strategies together is more than authoritative and participative strategies alone.

Second hypothesis: Success of phased strategy is more than big bang strategy.

Third hypothesis: The success of partial strategy is more than comprehensive strategy.

Forth hypothesis: Adopting accountable-based and management –based approaches both together is best in Iran governmental accounting reforms.

It is worth to mention that the researchers based on two presumptions carried out survey research. First, accepting accrual accounting is considered as the concept of innovation and reforms that is based on previous researches and speech text of authorities and draft of theoretical framework of Iran governmental accounting standards committee (article 33). Second, accepting this assumption that there are motivations and stimuli of change in Iran governmental accounting and its signs are formation of the committee of governmental accounting standards

by the order of ministry of economics and finance in August 2009 with the collaboration of cost deputy of the above ministry, supreme audit court, president deputy strategic planning and control and audit organization. This committee aimed to compile public sector accounting standards to make a big change in public sector financial reporting system namely government. All the respondents by knowing these assumptions writing in the introduction of questionnaire answered the questions.

Research implementation method

This research is done in two phases, at first review of literature and then survey research to obtain opinions of governmental accounting experts and public agreement about best approach and strategy of governmental accounting reforms in Iran.

Data collection methods

In this research data collection is done by survey method and questionnaire. Although no standard questionnaire is designed about the research subject in the previous studies or at least researchers couldn't achieve it, it was attempted to make the content of the questionnaire near the standard questionnaire, so in this way comments of experts are used a lot. Finally, for validity, and determination of the fact that content of the questionnaire is consisting of some saturated factors and which are the most important factors at the reforms process, main components analysis method is used. Also, to investigate the simple structure of the questionnaire, extracted factors are rotated by Varimax method (factor analysis). To reduce centripetal fixed error (in responding method) and providing a good condition for the probable integration of the choices, the range of choices is selected extensive (from 0 to 9). The number of questions was provided considering the nature of research in two points of strategy and reforms process approach with general questions exceeding 17 questions as the followings to cover different factors besides having a high validity of the questionnaire.

As in this research the investigation of governmental accounting system in Iran and presenting a model to determine the reforms process are important, for model test and relatedness of environmental variables in the proposed model, the necessary information is collected by written questionnaire. According to this research, only expert persons in governmental budgeting and accounting can have important role as Iran community agents in the valuation of effective factors. In this research an expert person is one who has obtained the required skill and knowledge in governmental budgeting and accounting by formal instructions, trainings and experience and is familiar with legal, political, organizational and cultural environment and other environmental conditions effective on governmental accounting reforms to accepting accrual accounting. In other words, experts who are recognized in financial affairs policy making and changing cash base to accrual base.

Table 1: Questionnaire structure

Personal features of respondents	Questions 1to 7
Reforms strategies	Questions 8 to 14
Reforms approach	Questions 15 to 17

Table 2: The frequency distribution of the current position, job group and the service place of respondent

Service place	Frequency	Frequency percent	Position	Frequency	Frequency percent	Current activity	Frequency	Frequency percent
Audit Organization	9	18	Researcher	7	14	Financial affairs	9	18
University	4	8	Advisor	3	6	Budget	13	26
Tehran Municipality	5	10	Faculty members	3	6	Audit	12	24
PARLIAMENT RESEARCH CENTER	7	14	Manager	13	26	Education	8	16
Central bank	1	2	supervisor	2	4	Research	6	12
Supreme Audit Court	8	16	Expert	18	36	Other	2	4
President deputy strategic planning and control	7	14	Deputy	4	8			
Ministry of health	1	2						
Ministry of economic affairs and finance	8	16						
Total	50	100	Total	50	100	Total	50	100

Analysis of descriptive statistics

As the purpose of this research is presenting an applied model for policy making in the financial field in the country, it is attempted to select entire society as sample. But due to the lack of availability to the information of whole society, a sample group was selected by simple random sampling. To determine the sample volume preliminary test was used. At first, 25 questionnaires were distributed among statistics population members and after collecting and investigation of answers considering the amount of variances, the required samples were obtained for field investigation and 58 persons of respondents were selected randomly. After collecting and reviewing the questionnaire 8 questionnaires were put aside due to incompleteness. Statistic operation was done only on 50 questionnaires. The whole number of subjects by the current post separation, job group and service place are shown in table 2.

According to the above table almost all the main policy making institutions or effective in policy making in the financial affairs field in the country were the studied sample mostly in organization decision making positions (manager and deputy) and in accounting, budget or education and research job groups.

Table 3: The prioritization of different strategies of reforms

Priority	Strategy	mean rank
1	authoritative and participative strategies together	2.37
2	Authoritative strategy	1.97
3	Participative strategy	1.66

Table 4: The results of Friedman Test

N	Chi-Square	df	Asymp.Sign.
50	14.236	2	0.001

Hypothesis test and the applied statistical methods

Proof of all four hypotheses is like each other. As for testing the hypotheses and prioritization of variables, at first their priorities were investigated from respondents view. Then as the measurement scale of all the variables is ranking, to investigated as this difference is due to sampling error or it is generalized to the whole statistical population and the investigation of this hypothesis that there is significant difference between the priority of each of the variables, Friedman’s non-parametric test (to compare some dependent samples) were used. Then as the difference in Friedman’s test is not necessarily the difference of all the variables with each other, for the final ranking Wilcoxon test (the comparison of paired variables) were used.

Table 5: The results of Wilcoxon test Ranks

	Negative Ranks			Positive Ranks			Ties	Total
	N	Mean rank	Sum of ranks	N	Mean rank	Sum of ranks	N	N
Participative strategy-authoritative strategy	23	20.67	475.50	19	22.50	427.50	8	50
Participative and authoritative strategy-authoritative strategy	16	23.13	370.00	32	25.19	806.00	2	50
participative and authoritative strategy- participative strategy	8	24.38	195.00	35	21.46	751.00	7	50

Test statistics ^c

	Z	Asymp.Sig. (2-tailed)
Participative strategy-authoritative strategy	-.301 ^a	.764
Combination of Participative and authoritative strategy- authoritative strategy	-2.244 ^b	.025
Combination of participative and authoritative strategy- participative strategy	-3.378 ^b	.001

- a. Based on positive ranks
- b. Based on negative ranks
- c. Wilcoxon Signed Ranks Test

First hypothesis test

To get knowledge about the probability of two authoritative and participative strategies in governmental accounting reforms in Iran, at first the priority of these strategies from the view of respondents were given in the table 3.

According to the above table, authoritative and participative strategies together have the highest mean and from the view of respondents are preferred. Now to generalize the results of the sample to all the statistical population, Friedman non-parametric test is used. Null hypothesis and contrast hypothesis is this test is as the followings:

H0: The priority of authoritative and participative strategies in governmental accounting reforms is the same.

H1: The priority of authoritative and participative strategies in governmental accounting reforms is not the same.

Reject or accept zone of null hypothesis based on the statistical distribution of test statistics are as the figure 1.

So, null hypothesis is rejected at reliability level of 95%. Because of chi-square value is 14.23 that is in rejection zone of null hypothesis. Thus, the strategies priority is not similar in the success of accounting reforms in organizations.

For final ranking Wilcoxon test is used. Null hypothesis and contrast hypothesis in Wilcoxon test are as:

H0: The priority of i and j strategies are the same in reforms process.

H1: The priority of i and j strategies are not the same in reforms process.

Results of Wilcoxon test show that Combination of participative and authoritative strategy together has more priority beside each other in comparison with the separately application of the strategies.

Table 6: The prioritization of different strategies of reforms

Priority	Strategy	mean rank
1	Phased Strategy	1.77
2	big bang Strategy	1.23

Table 7: The results of Friedman test

N	Chi-Square	df	Asymp.Sign.
50	16.200	1	0.000

Table 8: The prioritization of different strategies of reforms

Priority	Strategy	mean rank
1	partial strategy	1.72
2	Comprehensive strategy	1.28

Table 9: The results of Friedman test

N	Chi-Square	df	Asymp.Sign.
50	11.524	1	0.001

Second hypothesis test

To get knowledge about the probability of two phased and big bang strategies in governmental accounting reforms in Iran, at first the priority of these strategies from the view of respondents were given in the table 6.

According to the above table, phased strategy has the highest mean and from the view of respondents it is preferred. Now to generalize the results of the sample to all the statistical population, Friedman non-parametric test is used. Null hypothesis and contrast hypothesis is as the followings:

H0: The priority of phased and big bang strategies in governmental accounting reforms success is the same.

H1: The priority of phased and big bang strategies in governmental accounting reforms success is not the same.

So, null hypothesis is rejected at reliability level of 95%. For final ranking Wilcoxon test is used. Null hypothesis and contrast hypothesis in Wilcoxon test are as:

H0: The priority of i and j strategies is the same in reforms process.

H1: The priority of i and j strategies is not the same in reforms process.

Results of Wilcoxon test show that phased reforms are more preferred in comparison with big bang reforms.

Third hypothesis test

To get knowledge about the goodness of two comprehensive and part strategies in governmental accounting reforms in Iran, at first the priority of these strategies from the view of respondents were given in the table 8.

According to the above table, partial strategy has the highest mean and from the view of respondents it is preferred. Now to generalize the results of the sample to all the statistical population, Friedman non-parametric test is used. Null hypothesis and contrast hypothesis is as the followings:

H0: The priority of partial and Comprehensive strategies in governmental accounting reforms success is the same.

H1: The priority of partial and Comprehensive strategies in governmental accounting reforms success is not the same.

So, null hypothesis is rejected at reliability level of 95%. For final ranking Wilcoxon test is used. Null hypothesis and contrast hypothesis in Wilcoxon test are as:

H0: The priority of i and j strategies is the same in reforms process.

H1: The priority of i and j strategies is not the same in reforms process.

The results of Wilcoxon test show that reforms in some part of government such as municipalities and universities are more preferred than reforms in all the governmental organizations.

Table 10: The results of Wilcoxon test Ranks

		N	Mean Rank	Sum of Ranks
Phased reforms- Big bang reforms	Negative ranks	9 ^a	17.50	157.50
	Positive ranks	36 ^b	24.38	877.50
	Tiers	5 ^c		
	Total	50		
partial Reforms - Comprehensive Reforms	Negative ranks	32 ^d	20.88	668.00
	Positive ranks	10 ^e		235.00
	Tiers	8 ^f	23.50	
	Total	50		

- a. **Phased reforms < big bang reforms**
- b. **Phased reforms > big bang reforms**
- c. **Phased reforms = big bang reforms**
- d. **Comprehensive Reforms < partial Reforms**
- e. **Comprehensive Reforms > partial Reforms**
- f. **Comprehensive Reforms = partial Reforms**

Test statistics ^c

	Phased reforms- big bang reforms	Comprehensive Reforms - partial Reforms
Z	-4.076 ^a	-2.715 ^b
Asymp.Sig. (2-tailed)	.000	.007

- a. **Based on positive ranks**
- b. **Based on negative ranks**
- c. **Wilcoxon Signed Ranks Test**

Third hypothesis test

To get knowledge about the goodness of two accountable- based and management –based approaches in governmental accounting reforms in Iran, at first the priority of these strategies from the view of respondents were given in the table 11.

Table 11: The prioritization of different approaches of reforms

Priority	approaches	mean rank
1	Accountable- based and management –based approaches together	2.66
2	Accountable- based	1.80
3	Management –based	1.54

Table 12: The results of Friedman test

N	Chi-Square	df	Asymp.Sign.
50	39.953	2	0.000

According to the above table, Accountable- based and management –based approaches together have the highest mean and from the view of respondents it is preferred. Now to generalize the results of the sample to all the statistical population, Friedman non-parametric test is used. Null hypothesis and contrast hypothesis is as the followings:

H0: The priority of different approaches in governmental accounting reforms is the same.

H1: The priority of different approaches in governmental accounting reforms is not the same.

Reject or accept zone of null hypothesis based on the statistical distribution of test statistics are as the figure 2.

So, null hypothesis is rejected at reliability level of 95%. Because of chi-square value is 39.95 that are in rejection zone of null hypothesis. Thus, the goodness effect of reforms approaches are not the same in organizations. So, null hypothesis is rejected at reliability level of 95%. For final ranking Wilcoxon test is used. Null hypothesis and contrast hypothesis in Wilcoxon test are as:

H0: The priority of i and j strategies are the same in reforms process.

H1: The priority of i and j strategies are not the same in reforms process.

The results of Wilcoxon test show that Accountable based and management based together are the most suitable reform approach.

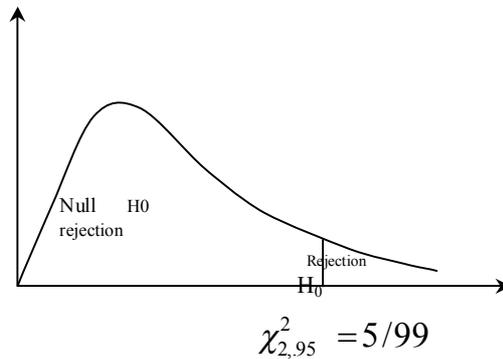


Fig. 2

Table 13: The results of Wilcoxon test Ranks

	Negative Ranks			Positive Ranks			Ties	Total
	N	Mean rank	Sum of ranks	N	Mean rank	Sum of ranks	N	N
Accountable based- management based	9	18.33	165.00	22	15.05	331.00	19	50
Accountable based and management based together- management based	7	22.14	155.00	40	24.33	973.00	3	50
Accountable based and management based together- Accountable based	6	27.00	162.00	39	22.38	873.00	5	50

Test statistics^b

	Z	Asymp.Sig. (2-tailed)
Accountable based- management based	-1.645 ^a	.100
Accountable based and management based together- management based	-4.353 ^a	.000
Accountable based and management based together- Accountable based	-4.041 ^a	.000

- a. Based on positive ranks
- b. Wilcoxon Signed Ranks Test

RESULTS

According to the results of tests, the results of the research are summarized as the followings:

- Combination of authoritative and participative strategies, phased and partial is the best strategy for governmental accounting reforms.
- Accountable based and management based together approach is the best reform approach in Iran.

Presenting contingency- prescriptive model for governmental accounting reforms in Iran

After the verification of the above hypotheses and statistical analysis of the answers of survey, two modules of approach and strategy is added as contingency model of governmental accounting reforms in Iran (Talebniya et al 2012) and the model is changed from an explanatory model to prescriptive model that advises good strategy and approach.

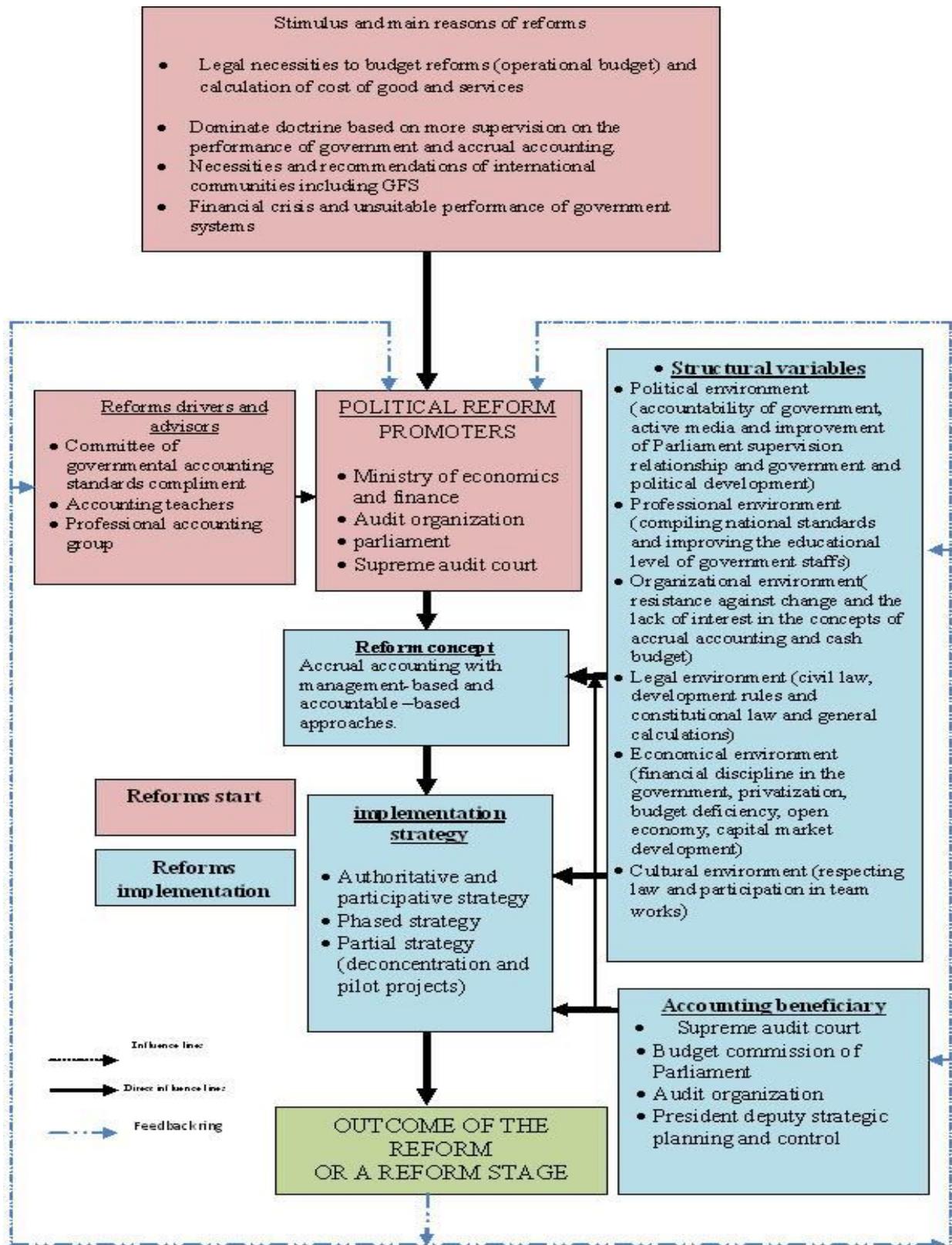


Fig. 3: Contingency- prescriptive model of governmental accounting reforms in Iran

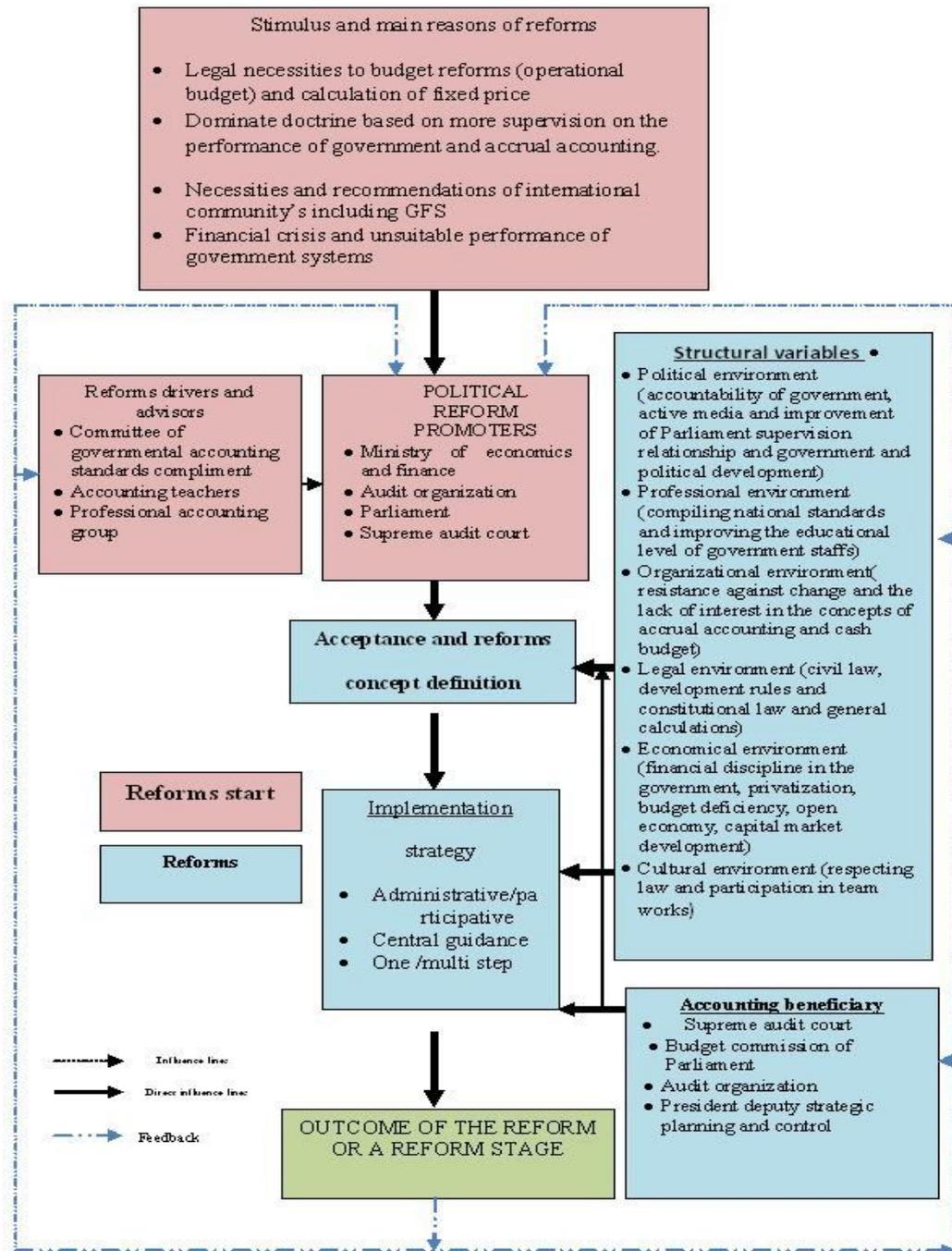


Fig. 4: Contingency-prescriptive model of governmental accounting reforms in Iran

DISCUSSION AND CONCLUSION

The brief review of the researches done on the application of the accrual basis in public sector accounting shows that organizations and boards of arranging governmental accounting reforms at international level emphasize more on using accrual basis in governmental accounting. The current condition of governmental accounting in Iran shows that in addition to global necessities in the country, by different reasons especially, operational budgeting, accepting accrual accounting is unavoidable. As contingency model, governmental accounting in Iran is going to have a big change and the main stimuli of this change is demand increase for more information following legal

necessities about the operational budget. The results of this research are used in the prediction of reforms future trend in Iran that is the verification of the predictability of Lüder model. In this research it was predicted that governmental accounting reforms in Iran is going toward accrual accounting with accountable-based and management-based approaches, so it is necessary that policy makers of reforms consider soft factors (organizational culture and staff skills) and hard (organizational structure, instruments and methods) together. Also, in this research authoritative and participative combinational strategies and phased and partial strategies are identified as the best strategies for governmental accounting reforms. As the respondents are a top management level in the country, their response can show dissatisfaction about authoritative strategies in the government. Thus, the success in using accrual accounting is dependent upon the change in this trend. In the verification of the results of this research based on the goodness of phased strategy in reforms can refer to the results of Diamond research (2002) that prefer phased transition to sudden and big bang transition.

Finally, it can be claimed that the results of this research that are including the identification of all the effective factors on governmental accounting reforms process in Iran and displaying them in the form of a contingency model (including stimuli, promoters institutions, contextual factors, best strategies and probable approaches) in two parts of reforms (current situation) and its implementation (future probable condition), For the first time a general view of the current situation of governmental accounting reforms in Iran and its future trend is available for authorities, and by scientific research and obtaining the views of experts and policy makers of this field and application of international model of Professor Lüder that tested in most of the countries in the world (George, 2003) this model can present a clear image of governmental accounting in Iran in international comparative literature of governmental accounting.

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