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Beyond performance-based budgeting policy in Iran's public universities: Causes, outcomes, and strategies

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Abstract: The main aim of the present study was to analyze the causes, outcomes, and strategies of performance-based budgeting in the Iranian higher education system. To this end, a qualitative approach based on the grounded theory was used. In order to collect reliable data, in-depth semi-structured interviews were conducted with two groups of experts who were selected by purposive sampling method based on the selection of desirable cases. After qualitative content analysis of the collected information via encoding, the detailed report preparation method and comparison with expert opinions were taken into account to validate the findings. At a significance level of 0.0001, the kappa measure of agreement was 0.786. The results showed that finding a suitable mechanism to ensure accountability and transparency in universities was the main focus of performance-based budgeting approach, and its implementation was affected by various factors at the macro level (government) and micro level (university). Positive outcomes of this budgeting model include improved accountability and transparency, project-

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oriented nature of the model, and improved efficiency and effectiveness. Besides, threat to the nature and independence of the university was possibly a negative consequence of this plan. To use the benefits simultaneously and avoid the negative consequences, various strategies were proposed, including the expansion of the authority, independence, and freedom of the university and the involvement of the university's senior managers.

Keywords: university; higher education; performance-based budgeting; performance indexes; performance management.

I. Introduction

The university, as a dynamic social institution, has always witnessed a change in its function and redefinition of its identity, given the scientific nature of academia and the expectations of governments and society. Throughout history, many academic and managerial models have been used to improve academic performance. Because public universities are typically dependent on public funding, in recent decades, policymakers and academics have implemented performance-based budgeting policies in many universities around the world to improve accountability, transparency, and performance.^{1,2,3,4} Performance-based budgeting includes methods and mechanisms that strengthen the relationship between appropriations allocated to executive agencies and their outputs and consequences through the use of performance information.⁵ Many world-renowned universities, including the Universities of Tennessee, Ohio, and Indiana, are currently implementing different models of performance-based budgeting based on their local

¹ Kevin J. Dougherty and Rebecca S. Natow, "The demise of higher education performance funding systems in three states," *CCRC Working paper, no. 17* (May 2009): 50-55. <https://ccrc.tc.columbia.edu/publications/performance-funding-demise-three-states.html>.

² Thomas Sanford and James Hunter, "Impact of performance funding on retention and graduation rates" *Educational Policy Analysis Archives* 19, no.33 (2011): 1-27. <https://doi.org/10.14507/epaa.v19n33.2011>.

³ David Alstadt, Eric Fingerhut and Richard Kazis, "Tying founding to community college outcomes," *Jobs for the Future, Boston and Washington Dc* (April 2012): 1-40. <https://files.eric.ed.gov/fulltext/ED537261.pdf>.

⁴ Kevin J. Dougherty et al., "The Political Origins of Performance Funding 2.0 in Indiana, Ohio, and Tennessee: Theoretical Perspectives and Comparisons with Performance Funding 1.0," *CCRC working paper no. 68* (February 2014): 1-55. <https://ccrc.tc.columbia.edu/publications/political-origins-performance-funding-2.html>.

⁵ Keysie Miao, "Performance-Based Funding for higher education: A Detailed Look at Best Practices in 6 States," *Center for American Progress*, (August 2012): 1-12. <https://www.americanprogress.org/article/performance-based-funding-of-higher-education/>.

conditions and characteristics.^{6,7} In Iran, performance orientation and performance-based budgeting have been on the agenda of policy makers in the Fourth Development Plan (Articles 138 and 144), the Fifth Development Plan (Article 219) and the Sixth Development Plan (Article 7), and its implementation and experimental stages have already begun in the courts of the country. In this view, the present study has sought to explain and analyze the causes consequences, and strategies of this type of budgeting model.

Resource allocation strategies in any country depend on many factors including history, culture, political discourse, economic size and capacity, population, role of universities and their degree of independence, and number of universities and institutions of higher education.^{8,9} Research by the Organization for Economic Cooperation and Development (OECD) on a set of member countries has shown that the higher education financing system has important effects on the development of the higher education system and consequently the economic and social development of countries,¹⁰ there were two general waves in the formation and spread of performance-based budgeting as follows:

- 1) The First Wave (performance funding 1.0): performance-based budgeting as an incentive to universities:

The first model or first wave of performance-based funding allocation was implemented in 1979 at the University of Tennessee.¹¹ The first wave lasted until the first decade of 2000. Between 1979 and 2009, 26

⁶ Thomas Harnisch, "Performance-based Funding: A Re-Emerging Strategy in Public Higher Education Financing," *American Association of State Colleges and Universities*, *A Higher Education Policy Brief*, (June 2011): 44-65. http://www.aascu.org/uploadedFiles/AASCU/Content/Root/PolicyAndAdvocacy/PolicyPublications/Performance_Funding_AASCU_June2011.pdf.

⁷ Mary McKeown-Moak, "The New Performance Funding in Higher Education," *Educational Considerations* 40, no.2 (2013): 1-11. <https://doi.org/10.4148/0146-9282.1082>.

⁸ Yahya Mohammad Alshehri, "Performance-Based Funding: History, Origins, Outcomes, and Obstacles," *Journal of Higher Education Theory and Practice* 16 no. 4 (2016): 45-56. http://www.digitalcommons.www.na-businesspress.com/JHETP/AlshehriYM_Web16_4_.pdf.

⁹ Kevin J. Dougherty et al., "*The Policies of Performance Funding for Higher Education, Origins, Discontinuities and Transformation*," (Johns Hopkins University Press; 1st edition (May 15, 2015): 17-291

¹⁰ Justin C. Ortagus et al., "Performance-Based Funding in American Higher Education: A Systematic Synthesis of the Intended and Unintended Consequences," *Educational Evaluation and Policy Analysis*, 42 no.4, (2020): 520-550. <https://doi.org/10.3102/0162373720953128>.

¹¹ Harnisch, 46-56.

US states implemented a performance-based budgeting model.¹² In the first type model, performance-based public funding resource allocation was in the form of gifts and rewards to the performance indexes and outcomes. On average, between 1 and 6 percent of additional government funding was allocated to the universities during the first wave of implementation of this model.¹³

- 2) The Second Wave: performance-based budgeting as a budgeting system: In the second type model (performance funding 2.0), the main budget of institutions and universities was paid through this new system. The amount of university funding varied according to state policy; In addition, in the second type of model, financial resources were paid to institutions with deprived students and poor backgrounds. By the end of 2015, 32 states in the United States had implemented this model, and 5 more states were working to implement it.^{14,15}

Many factors have played a role in driving universities towards performance and implementation of this funding model. Dougherty, Natow, Sosanya, Hana, Lara and Vikash¹⁶ identified three origins and supporting theories for the performance-based budgeting model:¹⁷ 1) advocacy coalition framework,¹⁸ 2) policy entrepreneurship theory,¹⁹ and 3) Policy diffusion theory.

According to the advocacy coalition framework, policy change is the product of a coalition of actors inside and outside the government that

¹² Harnisch, 46-56.

¹³ Kevin J. Dougherty, and Vikash Reddy, "Performance funding for higher education: What are the mechanisms? What are the impacts?," *ASHE Higher Education report*, 39 no. 2 (June 2013): 1-134, <https://onlinelibrary.wiley.com/toc/15546306/2013/39/2>

¹⁴ Renata Opoczynski, "the creation of performance funding in Michigan: Partnership," *Education Policy Analysis Archives*, 24 no 122, (2016): 45-49. <http://dx.doi.org/10.14507/epaa.24.2488>.

¹⁵ Amy Y. Li and Alice I. Kennedy, "Performance Funding Policy Effects on Community College Outcomes: Are Short-Term Certificates on the Rise?," *Community College Review* 46 no. 1 (2018): 3-39. <https://doi.org/10.1177/0091552117743790>.

¹⁶ Kevin J. Dougherty et al., "The Political Origins of Performance Funding 2.0 in Indiana, Ohio, and Tennessee: Theoretical Perspectives and Comparisons with Performance Funding 1.0," *CCRC working paper no. 68* (February 2014): 1-55. <https://ccrc.tc.columbia.edu/publications/political-origins-performance-funding-2.html>.

¹⁷ Dougherty et al., "The Political Origins," 11.

¹⁸ Paul A. Sabatier and Christopher M. Weible, "The advocacy coalition framework: Innovations and clarifications," in *Theories of the Policy Process* (London: Routledge, 2007):189–222.

¹⁹ Michael Mintrom and Phillipa Norman, "Policy Entrepreneurship and Policy Change," *PolicyStudiesJournal* 37 no.4(2009):649-667, <https://doi.org/10.1111/j.1541-0072.2009.00329.x>.

show deep common beliefs about social values, proper role of government, and social groups and have common political views on social problems, causes, and best-possible solutions.²⁰ Besides, according to the policy entrepreneurship theory, political change in the country and states created a new window of implementation of this model.²¹ In five of the six states, surveyed, political change in government – the Republican victory in parliamentary elections – paved the way for the growth and implementation of the type-1 model of performance-based resource allocation. Moreover, increasing the cost of higher education introduced the concept of responsibility, which was one of the components and objectives of performance-based financial resources allocation.²² Based on the policy diffusion theory, Dougherty, Natow, Sosanya, Hana, Lara and Vikash²³ suggested that advocates of performance-based budgeting model could be persuaded to implement this model by referring to the implementation of similar policies in other states, national policymaking organizations interviews, and external consultants' recommendations. For example, policymakers in different states, by looking at and imitating successful behavior and policies implemented in another state, set the stage for the implementation of that policy in their state.²⁴ In addition to the aforementioned three theories that had a major role in the development of the first type of performance-based budgeting model in universities, in the second wave of acceptance and implementation of financial resources allocation based on performance, there were factors such as the role of government, the influence of external actors, the motivation and perspective of the university board, and the economic recession.²⁵

II. Research questions

1. What factors led the government to use performance-based budgeting?
How?

²⁰ Dougherty et al., "The Political Origins," 12.

²¹ Mintrom and Norman, 649-667.

²² Kevin Dougherty, Rebecca Natow, Rachel Hare Bork and Blanca Vega, "The Political Origins of State-Level Performance Funding for Higher Education: The Cases of Florida, Illinois, Missouri, South Carolina, Tennessee, and Washington," *CCRC working paper, no. 22* (October 2010):1-101. <https://ccrc.tc.columbia.edu/media/k2/attachments/state-level-performance-funding-cases.pdf>.

²³ Dougherty et al., "The Political Origins," 16.

²⁴ Dougherty et al., "The Political Origins," 24.

²⁵ Dougherty and Natow, 50-55

2. What will be the consequences and outcomes of implementing performance-based budgeting in Iranian public universities?
3. What are the strategies for effective implementation of performance-based budgeting in Iranian public universities?

III. Research methodology

III.1. Research method

The research paradigm is interpretive and research methodology is qualitative grounded theory (GT). Since the qualitative method and interview tool can give us a better understanding of the deep and complex views and attitudes of the designers and implementers of the university-based model, the qualitative method based on the systematic approach of the grounded theory (GT) Corbin and Strauss, 1998 was applied.²⁶ In this method, the researcher, by being directly involved in the field of action, continuously comparing real data and consciously and purposefully selecting the most appropriate participants, examines the hidden angles of a phenomenon and formulates the theory himself/herself without relying on existing theories.

III.2. Research participants

According to the research topic, participants were classified into two levels: macro (government) and micro (university). It seems that many decisions at the macro level are made without the participation of the executors and with a centralization approach, and there may be disagreement about the methods of implementing the plans and programs at both the macro and micro levels. It is also possible that the views and attitudes of people working at the macro or micro level of an organization are different from each other and each sees the plan from different angles. In order to collect original data, two groups of informants were selected by purposive sampling method based on the selection of desirable cases using the semi-structured interview method. The first group involved macro policymakers composing of 10 managers and experts from the Plan and Budget Office of the Ministry of Science, Research and Technology, Ministry of Economic Affairs and Finance, and Plan and Budget Organization, whereas the second group

²⁶ Juliet Corbin and Anselm Strauss, "*Basics of qualitative research: Techniques and procedures for developing grounded theory*," (2nd Ed.), (London: Sage Publication, 1998).

involved micro-level executives and operational specialists of universities (9 administrators, faculty members, and budget experts of public universities). The researchers' reasons for selecting individuals and organizations were due to the fact that the PBO is responsible for using the new method of performance-based budgeting. The Ministry of Economic Affairs and Finance is also in charge of auditing and supervising how the public budget is spent, and the Ministry of Higher Education is in charge of receiving information from public universities, concluding memoranda of understanding with the government and Plan and Budget Organization, and monitoring university budgets. In the operational and micro sector, the directors and faculty members of public universities and the managers and experts of the university budget department interact directly with the implementation of the plan and find the results of the plan sooner than others. The continuity of the interviews and the constant presence of the researcher in the field of action continued until the theoretical saturation. The qualitative content analysis was conducted on the collected information via encoding method. To validate the findings, they were compared with the opinions of the experts and a detailed report was prepared. Table (1) shows the appearance of the participants in the research (M: means that the interviewee has been from the government (macro level); I: interview; M^I: means that interviewee has been selected from university (micro level))

Table 1

The appearance of the participants in the research

Row	Interview code	
Participants qualifications at the macro level (government)		
1	MI 1	PhD, responsible for reviewing the budgets of universities and higher education institutions. Secretary of Performance-Based Budgeting Working Group
2	MI 2	Responsible for reviewing the budgets of universities and higher education institutions
3	MI 3	Credits and Commitments of the Ministry of Science, Research and Technology of Higher Education, Expert under the Deputy Director General of Finance
4	MI 4	Higher education property, holding conferences and seminars on budgeting, accrual accounting and finance of higher education

Row	Interview code	
5	MI 5	Member of the Faculty of Economics, Director of the University Plan and Budget, Secretary of Region 3 and Member of the Policy Council of the Plan and Budget Office of the Ministry of Science, Designer of Higher Education Performance Oriented Budget, Member of the University Strategic Council, Research related to Research Topic
6	MI 6	PhD, University Accountant, Expert Associate of Deputy General Director of Finance, Ministry of Science, Research and Technology
7	MI 7	PhD, Integration of Accounts and Accounting Methods of Ministry of Economic Affairs and Finance, Supervisor of Performance-Based Budget Execution of other organizations, Cooperation with Plan and Budget Organization of Iran
8	MI 8	PhD, Treasury of the Ministry of Economic Affairs and Finance, Research related to performance-based budgeting
9	MI 9	PhD, Accounting Office of the Ministry of Economic Affairs and Finance, holding conferences and workshops related to performance-based budgeting, cooperation with Plan and Budget Organization of Iran
10	MI 10	Associate Professor, Member of the Committee for the Preparation and Development of Accrual Accounting, Department Manager, Member of the Working Group on Higher Education Resources and Economics of the Sixth Development Plan
Participants Qualifications at the Micro Level (University)		
11	M'I 1	Faculty Member - Head of the Performance Evaluation Department of Shiraz University - Higher Education Management, research related to the research topic
12	M'I 2	Faculty Member, Associate Member in Higher Education Budget Projects, Research and Scientific Projects in the Field of Higher Education Financial Resources
13	M'I 3	Professor, Faculty Member, PhD in general policy, research related to the research topic
14	M'I 4	PhD in Higher Education Management, Faculty Member, Member of the Restructuring Council of the Ministry of Science, Research and Technology, Research Related to Research Topic and Higher Education
15	M'I 5	Director General of University Budget and Financial Credits

Row	Interview code	
16	MII 6	Faculty Member, Associate Professor of Economics, Head of Faculty, Related Research in Performance Management
17	MII 7	Faculty Member, Associate Professor of Economics, Former Dean of the Faculty, Research Related to Higher Education Economics, Former Director General of Planning and Coordination of Economic Affairs of Khuzestan Province
18	MII 8	Professor, Faculty Member, Expert in the Economics of Higher Education, Research and Projects Related to Research Topic, Executive Positions Related to Budget and Finance, Coauthor of the Present study
19	MII 9	Faculty Member, Director of Supervision and Quality Assurance of University, Expert in the field of Performance Orientation of University, Related Research, Coauthor of the Present Study

III.3. Data collection method (interview protocol)

Based on the research objective, semi-structured interviews were used to collect data. The purpose of the interview was to obtain real data on the identification of requirements and barriers to the performance orientation of public universities.

III.4. Data analysis

Strauss and Corbin,²⁷ open, axial, and selective coding methods were used to analyze the data. The analysis was performed in three stages and the findings were reported in Table (2). These three stages were:

Table 2
Examples of open coding (taken from an interview)

Row	Sentences (extracted semantic units)	Open codes (labels)
1	The previous and even the current budgeting of the Ministry of Science was incremental, which was based on the input index of the axis. This type of budgeting is very fragile and weak.	Inadequacy of the previous budgeting model

²⁷ Corbin and Strauss, *Basics of Qualitative Research*, 37.

Row	Sentences (extracted semantic units)	Open codes (labels)
2	This plan will prevent the waste of resources, both in the conditions of economic prosperity and in the conditions of budget deficit.	Improvement of cost management
3	By implementing this model, our universities will become strategy-oriented, the lack of which is now strongly felt.	Program oriented
....		

Open Coding: To start the analysis, first the final files prepared in the previous step were open-coded. In open coding, each semantic unit of the interview was selected and labeled. Frequent review of the interview text provided relative confidence in extracting all semantic units and labeling.

Axial Coding: In order to achieve more abstract concepts that had better explain the phenomenon of performance-oriented requirements and barriers, open codes that are semantically more similar were organized into axial codes.

Table 3
How to make a connection between open codes and axial codes (extracted from an interview)

Axial codes	Open codes	Number of open codes
Increasing the authority and independence of university	State domination of the university / University dependence / Increase of legal authority / Freedom of action of executive directors / Non-interference of the government in the selection and appointment of senior managers	6
Design of agreed performance indicators	Involvement of university participation / University-government agreement / Government-university alignment / Development of performance indicators based on the nature of the university /	4
...		

Selective Coding: Selective coding is a general category that covers all axial codes. In this study, the selected code is to improve the accountability and transparency of the university through the implementation of performance-based budgeting system.

III.5. Validation of the findings

In order to evaluate the availability and reliability of the research findings, in addition to preparing a detailed report, the concepts extracted by the researchers were compared with an expert's opinions. The Kappa Cohen index was used to make this comparison. The closer this index is to the number 1, the more agreement there is between the researcher and the expert. The implementation steps were such that after analysis and coding by the researchers, another researcher as an expert in the field of research, without knowing the initial coding, also coded and extracted the concepts. Using SPSS software and at a significance level of 0.0001, the value of the Kappa of agreement was 0.786. Since this value is greater than 0.6, the availability and reliability of the data were estimated to be appropriate and desirable.

IV. Findings

After performing the three steps of open coding, axial coding, and selective coding, the axial codes were presented in the paradigm model of the grounded theory (Fig. 1).

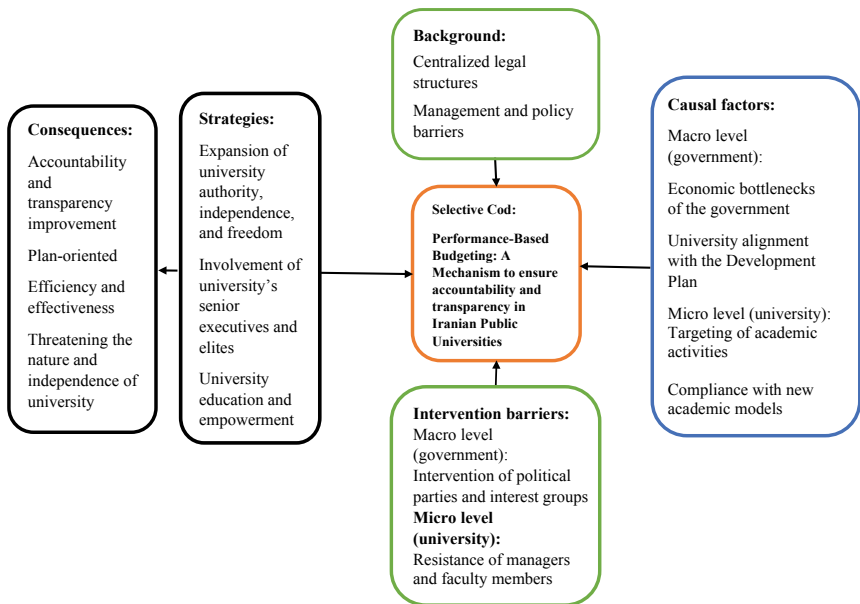


Figure 1

A model of performance-based budgeting University in Iran

V. Discussion

The overall objective of this study was to describe and analyze the causes, outcomes, and strategies of performance-based budgeting model in Iranian public universities. In what follows, the most important codes selected based on the paradigm model of Figure 1 are presented.

V.1. Factors and drivers influencing the tendency to implement performance-based funding

These factors are the drivers towards performance and implementation of performance-based funding. Two general categories of factors at the macro level (government) and at the micro level (university) are influential in this regard. The macro-level factors are factors outside university and include policymakers and influential groups. Besides, there are indications in the university itself of the desire of university administrators to implement performance-based budgeting policies that can be proposed as micro-level and intra-university factors.

V.1.1. Macro-level factors (outside university)

V.1.1.1. Government economic bottlenecks

In the Fourth Development Plan (Articles 138 and 144) and the Fifth Development Plan (Articles 219), policies were made in the field of performance and the use of performance-based budgeting, but the implementation of programs related to these policies was delayed for many reasons such as the existence of financial resources from the sale of oil and the existence of sufficient government funds.

- MI2: "When it comes to oil money, it does not matter how and how much you spend! However, when you have a crisis and you have no money, you become careful and then you spend. Both the government and the people are like that. Restrictions have increased today. The government spends and expects to see effective results. There is no extra money like before."

Public universities are financially dependent on the government, and no specific action has been taken in recent decades to break the dependency. In recent years, due to the economic difficulties of the government and the reduction of government financial resources, increase of public demands concerning civil construction and social costs, budget deficit, intensity of international sanctions, etc., the use of performance-based budgeting system has been on the agenda of government officials.

- M^I1: “You know, with the budget we have now, we cannot achieve the functions of universities and we have to implement this policy. In this situation, we either have to reduce our workload, in which case we distance ourselves from the institution of the university and its nature, or have to do cost management and use financial resources available in the best possible condition.”

V.1.1.2. Alignment of the university with development programs

One of the important criticisms about the relationship between the university and the government is the inconsistency of the two in order to achieve the five-year development plans and objectives of the country. The development of higher education in Iran led to the entry of many people with different motivations into universities. The high number of graduates in various academic disciplines did not correspond to the reality of the labor market and employment in the country. Universities focused mainly on education and were not responsible for employment, calling it outside their remit. On the other hand, graduates, organizations, society, administrators, and faculty members expected the university to be more involved in the economic and social development of the country and to have a better result than the current situation. Therefore, in recent years, the concept of university accountability has become a public demand by the government and society. Governments believe that universities should be accountable for the use of the country's public resources and that their performance should be tangible in the short term.²⁸ Proponents of the performance-based university model argue that with the implementation of the performance-based budgeting plan, the government and the university will agree on output-oriented performance indicators and the strategic plans of the universities will be accomplished in accordance with the government's objectives in five-year development plans and social and academic requirements. As such, academic involvement in the community will increase.

- M^I3: “Implementation of the new plan will lead to meaningful research and improve the university's relationship with society and industry.”

V.1.2. Micro-level factors (within the university)

V.1.2.1. Targeting of university activities

University as a social institution has various functions and objectives. The nature and mission of the university makes sense in relation to the three

²⁸ Dougherty, Jones, Lahr, Natow, Pheatt, and Reddy, 17-29.

functions of education, research, and community service. One of the important expectations of the university is to participate in the activities of the government and society by prioritizing and targeting its activities. Accordingly, universities have sought to program and target their activities in the community. The use of leverage of financial resources to direct and target academic activities has become common in the last decade.²⁹

- MI3: "I am holding my courses and writing my articles. Who comes to read my articles? Where does it help? But if this plan is implemented, all this will become purposeful. Academics resist this plan at first, but when it fits in, everything becomes purposeful. Then, I enjoy writing articles. Article is not for article's sake. It is to solve a problem, indeed."

In the new budgeting model, government and university agree on performance indicators. These indicators reflect the mission and nature of the university as well as the priorities, objectives and expectations of the government and society. In other words, based on a strategic plan, the university bases its activities such as research, education, and skills training on the expectations of the government and society, and takes on a new and effective role in regional and national development.

- MI7: "The fact is that we did not have a targeted budget. People's expectations are very high. When the budget is published, people want to know why the government spends the budget like this. They ask if we have achieved our goals or not!"

V.1.2.2. University compliance with new academic models

The nature of science is change and adaptation to modern knowledge, and universities, as a separate microcosm of society, are pioneers in this field. There are many academic and managerial models of universities in the world, and in a competitive and global environment, universities are trying to use the latest methods to improve their effectiveness and efficiency. The transformation of Iranian public universities with the academic, research, and entrepreneurial generations has shown that there is a desire, among Iranians, to conform and use the higher education experiences of other leading countries in the world. The performance-based budgeting model is no exception. In prestigious American and European universities, different models have been developed according to the type and conditions of universities, and university administrators are willing to use these models in

²⁹ Harnisch, 44-65.

order to prove their performance and convince the government to assign them more financial resources.

- MI3: “It was a plan that was being used all over the world, but we did not use it and we are still using the traditional and old system. We have exchanges with the world and we have economic relations. We need to update our information globally.”

V.2. Influential factors: Preconditions

In order to implement large and effective plans in higher education and universities, it is necessary to study the background and initial and indigenous conditions. Some underlying factors can cause a plan to achieve its objectives, and yet some might hinder or block the plan's implementation. Two general categories of factors that prepare the ground for performance-based budgeting are:

V.2.1. Centralized legal structures

By implementing a performance-based budgeting plan, the government expects universities to improve their performance in the defined indicators; however, there exists a contradiction between the performance expectations of the university and the degree of authority and power of the university to change them according to the existing legal structures of the country.

For example, the government expects students to study in a field during the standard period of study, while a university might be weak in attracting talented and capable students due to the weather conditions and the distance from the country's communication channels, and students do not show interest in choosing this university. In addition, the university has limited authority over the system for hiring and promoting faculty members and staff, selecting senior university administrators, and changing curricula and course contents. Furthermore, the lack of infrastructure for the implementation of the plan, such as the implementation of accrual accounting, the cost of completed academic activities, information and supervisory systems, and the lack of binding rules of the plan are among the preconditions for the implementation of the plan.

- MI5: “The legal and customary structures and stuff like that do not allow the university to easily flex its performance and make changes. All courses are free. Because the course is free, the student comes. In this situation, all disciplines are considered required though the

market does not need them. University funding should be free. 35% of the total university budget should be at its disposal, not 10%! How to move when the university has no resources? The university must have flexibility and freedom and even be able to lay off or recruit its own staff independently. The university in its current form is suspended.”

V.2.2. Structural problems of management and policy-making

Policy-making, planning and budgeting are related concepts that are discussed in a continuum. The lack of an executive link between these three concepts is evident in developing countries. We examined this issue under the heading of structural problems of management and policy-making. For example, many successful projects based on research that have had good results in other countries are mentioned in planning and policy-making, and for some time there are advertisements and follow-ups; however, they eventually fail in the absence of proper implementation conditions due to structural and managerial problems in the country such as the lack of planning, the lack of managerial stability, and the reduction of attention to decentralization and the transfer of authority to comprehensive public universities in the provincial capitals.

- M16: “I do not think the government can do this in this time. The infrastructure is not ready at all. Reform of the budgeting structure has been formulated and written, but there is a long way to go to implement it. It takes a long time! Much longer than just 2 or 5 years. No field is yet provided. The forms are completed and submitted every year, but the executive branch has not yet been involved in the plan, and the budget is still increasing. Activity-based costing has not yet been implemented in organizations. There are more and more tables and forms that are now being filled out, but the system and plan have not yet been implemented.”

V.3. Influencing factors: Interfering factors

Interfering factors indicate a situation that is not predictable and has not been considered in the plans of policy makers. The most important intervening factors are the resistance based on the distrust of managers and faculty members towards the government and the influence of powerful political actors due to political changes in the country.

V.3.1. Resistance based on the distrust of managers and faculty members

There are different views on the implementation of this plan in universities and among managers and faculty members. There are pros, cons and neutrals or indifferent views on the implementation of the plan. Pheatt et al. argued that faculty members' concerns are primarily about academic standards. They believed that the government and university officials only expect high passing rates and that they are supposed to pass all students under the new system.³⁰

- M'I4: "Basically, this approach has nothing to do with the academic literature. This is a matter of controlling the university, indeed. The control is from above and non-expert.

One of the important principles in the field of resistance of faculty members and executives is how to implement the plan in universities. Senior managers can create satisfaction and improve performance by supporting the plan and tying the indicators to the goals and mission of the university, or rather they can create serious barriers to the goals and mission of the university by imperfectly implementing the plan.

- M'I2: "There may be resistance; but it is the art of university management to tie the quantitative functional goals of the university to the themes and disciplines of the individuals' activities. The operating budget says, for example, how many books and articles must be published this year; however, it does not say on what subject? "The director of a university department should have the art of tying the interests of his faculty members to functional goals."

One of the most important concepts in this field is the problem of trust. The mental perception of faculty members and executives of the hidden intentions and objectives of the government officials and senior university administrators in conducting the plan is of great importance. If academics see the plan as a factor in undermining the university's independence, restricting academic freedoms and standards, controlling universities, etc., and if they distrust the government officials or senior managers of the university, then there will be serious obstacles to the effective implementation of the plan.

³⁰ Lara Pheatt, Hana Lahr, Kevin J. Dougherty, Sosanya M. Jones, Rebecca S. Natow, and Vikash Reddy. "Obstacles to the Effective Implementation of Performance Funding: A Multi-State Cross-Case Analysis." New York: Columbia University, *CCRC Working Paper no. 77*, (November 2014): 1-68. <https://core.ac.uk/download/pdf/158157273.pdf>.

V.3.2. Influence of powerful political actors

Dougherty et al.³¹ considered the will of influential political groups and parties as one of the most important factors in the development of performance-based budgeting in some US states. They believed that governmental authorities diligently represented the implementation of this policy and called on the University Board of Trustees to implement new methods for allocating state budgets to universities so that universities can be more accountable to government budget receipts; however, this type of budgeting system stopped after a while in some universities (Dougherty et al.). Dougherty and colleagues considered the reduction of strong political supporters as an important factor in stopping this system and academic model. The legislators who led and represented this policy lost their policy-making position and influence at the end of their term. Besides, the newly appointed statesmen generally had other views and priorities.³²

- MI1: "Consider universities abroad. Can we say that they have implemented this plan because they also have budget constraints? This is a successful experience that the country wants to have. Look at private companies. Municipalities, health insurance, etc. are the places where this model has been implemented."

V.4. *Implications of the performance-based model of university*

V.4.1. Accountability and transparency

Budgeting is the response to citizens who want to know how and where their money is spent.³³ The performance-based budget allocation model was part of the paradigm of trying to improve accountability in higher education. Resource dependency theory also supports the consequence of improving accountability and transparency through the use of this type of budgeting model. According to resource dependency theory, higher education institutions depend on government funding for their survival. If the government links incentives and financial resources to the performance of universities and these financial resources are attractive and sufficient enough, higher education institutions will have internal changes to obtain them in

³¹ Dougherty et al., "The Political Origins," 14.

³² Dougherty, Natow, Bork and Vega, CCRC working paper no. 22.

³³ Christopher Neary "U.S. Higher education performance-based funding policy diffusion and its association with state political ideologies and state budgeting taxonomies" (PhD diss., Iowa State University, 2019). <https://lib.dr.iastate.edu/etd/17065>.

order to better respond to new changes. This theory suggests that universities should ensure their competitiveness and viability by realizing agreed output-oriented performance goals. Governments seek to motivate higher education institutions to change the university's strategies, activities, programs, and culture through a performance-based budgeting model.

- MI1: "If the university does not welcome this plan and does not adapt and synchronize, the university will be out of competition. If the performance-based budgeting system is not implemented in the universities, they will face financial problems and crises. Indifference is useless because other universities are implementing the plan."
- MI8: Any executive body that uses government funding should be financially transparent. This is what strengthens the financial system and the resistance economy. Transparency - Accountability is at stake.

The implementation of this budgeting model can create transparency. The fact is that at present public universities do not make much effort to obtain funding, and public resources are paid solely on the basis of the number of students and faculty members or equipment, development, or running costs such as salaries. Implementing this plan will make the university more accountable for receiving funding, at least compared to the traditional input-based budgeting. In other words, universities should report their reasons for spending more effectively and meet the agreed criteria. Besides, due to the launch of information systems related to this budgeting system, transparency in university expenses and revenues will be strengthened. Accountability and transparency are the most important goals seen for the implementation of this type of budgeting model.

- MI1: "Operational budgeting encompasses all systems and activities. All activities will be systematized and structured. Suppose a teacher requests a pen. The teacher registers his request sitting at his desk. The application will be referred to the Deputy of Education and then to the Deputy of Finance. Next, the procurement and administrative affairs will be done. The procurement officer checks the warehouse. If they have a pen, they give it to the teacher, and if not, they have to buy. They need to document the costs. See how much transparency is here."

V.4.2. Plan-oriented

Another consequence of implementing performance-based budgeting is planning at both the government and community and the university levels.

As suggested before, the link between policy-making, planning, and budgeting in developing countries is weak. The implementation of this plan will cause the university to be involved in the indicators and goals agreed upon with the government and the local community. On the other hand, based on the nature of this budgeting model, it is essential to provide a comprehensive plan by determining university objectives priorities so that an exact and clear use of financial resources in accordance with the objectives can be realized and checked.

- MI1: "This system can be very helpful in strategic planning. Something that our universities are very weak in now. Universities either do not have a strategic plan or if they do, they do not adhere to it. Operational budgeting steps try to assist universities in strategic planning. Through this system, the university knows what its resources are and how much it is, and it can carry out its activities based on its strengths and weaknesses and the plan features."

V.4.3. Efficiency and effectiveness

Dougherty et al,³⁴ Posited that the most important government criticism of universities, which was a precondition for the effective implementation of performance-based budgeting policy, is the reduction of the efficiency and effectiveness of universities in society and in relation to government needs. Therefore, emphasizing the realization of the expected results with the highest degree of economic efficiency, improving efficiency and effectiveness, and facilitating the monitoring of budget implementation are among the most important goals of the performance-based financial resource allocation plan. It seems that by implementing this model and due to the targeted spending of limited financial credits, many unproductive and unnecessary activities in universities are eliminated. Furthermore, information and monitoring systems may eliminate activities or jobs that are less efficient for the functioning of universities.

- MI9: "Universities must be useful. We were caught up in the routine of paying the budget. We are not plan-oriented and mission-oriented. We did not prioritize. Wherever we saw the need, we came and spent the resources aimlessly. Management must have three main goals: operational efficiency, effectiveness, and economic well-being. The goal is to enhance productivity."

³⁴ Dougherty and Reddy, ASHE Higher Education report, 39 no. 2.

Moreover, since the main financial resources are focused on performing a function or an indicator based on the priorities and needs of a university, it is likely to achieve effectiveness and obtain desirable results. Extensive needs or goals prevent high quality goals from being achieved, and hence effectiveness might not be attained.

V.4.4. Threat to the nature and independence of the university

In addition to the positive consequences seen for this budgeting model, undesired consequences have also been reported. The nature of the university is such that it has many positive effects in the cultural, economic, political, and social fields. These effects are long-term and in many cases cannot be measured. Therefore, trying to quantify all the goals, activities, and functions of the university in the form of the number of articles, the number of graduates and other quantitative indicators is not acceptable to academics. The dependence of public universities on government budgets has led to violations of university independence, not only in terms of financial resources but also in other areas related to the functioning of universities. Emphasis on increasing the number of graduates in a field will lead to leniency and impose pressure on faculty members to pass all students whether they have acquired the required qualifications or not. Threats to academic freedom, delays in funding, and pressure on faculty members can be interpreted as unprofessional interference at the university.³⁵

- M'I5: "Performance-based budgeting was the PBO's revenge on the universities for their financial independence. Though we do not have any financial controllers, different budget systems monitor us closely. Controllers went out and budget systems came in through the window. The Ministry of Higher Education should have reacted to this monitoring and control."

V.5. *Effective performance strategies in university's performance-based model*

V.5.1. Expansion of university authority and independence

Policymakers seek to change and improve university performance by implementing a performance-based budgeting plan, but this will not be

³⁵ Dougherty, Jones, Lahr, Natow, Pheatt, and Reddy, 17-29.

achieved largely without expanding the scope of university authority. For example, a university is expected to increase the number of graduates in a field, but because the university is in an unsuitable geographical location and is not a brand university, it may have students with a weaker background and may not be able to achieve the stated goal scientifically.³⁶ Therefore, expanding the university's authority and independence in terms of the method of admission of students, hiring faculty members and staff, selection of university administrators, university cost structure, re-engineering of organizational positions, etc. leads to the flexibility of the university in meeting new expectations. However, academic values may be threatened if this strategy is not used properly and the differences between universities are not taken into account. Data faking, providing unrealistic information and statistics, pressure to accept students who have not yet acquired sufficient skills and experience are among the consequences of the mismatch between the university's authority and new expectations in this area.

- MI5: "University has no authority to determine its cost structures. The university cannot easily change a centralized issue. For example, it cannot dismiss or recruit faculty members. As such, universities cannot be performance-oriented unless we give them the necessary authority and they become freer. This authority does not exist in our current systems."

In addition to the expansion of authority, the different nature of the university requires that the university should be independent. The university is a scientific environment and is the center of wisdom of society and the place of specialized and critical discussions.

Having independence does not mean denying accountability, monitoring and auditing the university's financial processes. It seems that the supervision of the university board of trustees over the university is a solution to the problem of threats to the independence of the university by implementing this budgeting model.

V.5.2. Involvement of the university

An important criticism against macro-level policies is that they are often done without consulting and taking into account the conditions of the target

³⁶ Kevin J. Dougherty and Rebecca S. Natow, "Analyzing Neoliberalism in Theory and Practice: The Case of Performance-Based Funding for Higher Education" *Centre for Global Higher Education, Working paper*, no. 44(March 2019): 1-56. <https://doi.org/10.7916/d8-a1kt-7p96>.

organization. Centralized decision-making will make universities resist the implementation of the plan. Furthermore, the lack of support of senior managers from the implementation of the plan will to a large extent cause disruption in the implementation process. Bargaining, negotiation, participatory decision-making, and the presence of senior university administrators in the initial specialized working groups can encourage the participation of universities in the implementation of the plan.

- M^I3: “The implementation trends are top-down, bottom-up, and hybrid. They are doing something here. If the trend is not combined and if there is no support from the bottom and if they do not consult on how to do the procedure, my guess is that they will not succeed. Participation provides success. The terms and conditions are also very important. Environmental factors are influential. The ground must also be prepared.”

V.5.3. Education and empowerment

One way to effectively implement the performance-based budgeting model is empowering employees, managers and faculty members. Unfamiliarity of university administrators with the objectives, philosophy, and necessity of implementing this model, as well as unfamiliarity of staff with budgeting information systems and how to collect data and analyze them in the university will lead to the failure of objectives in the implementation phase. Furthermore, the university is a training ground for professionals and experts of other organizations, and the university is expected to train skilled and capable staff associated with this budgeting model and to help develop a culture of using this model in other organizations. Education also reduces the initial resistance of universities and accelerates awareness of the positive effects and consequences of the model in the university among academics.

- M^I5: “We do not have anything as human resource empowerment in the financial sector. In this plan, we are far behind the Ministry of Health. We are the best university, but we do not train financial specialists!”

VI. Conclusion

Nowadays, political and environmental pressures, finance and workplace factors, university accountability and responsibility, and the needs and expectations of the beneficiaries have resulted in the diversity of scientific

communities within universities. The root of these changes can be found in the evolutions and in the conditions and needs of society. The availability of financial resources for the implementation of plans, activities, and functions of the university is an absolute necessity. New generation universities in their approaches seek to develop and expand their financial and revenue resources to be able to have the necessary efficiency and effectiveness in the competitive organizational and inter-organizational environment. Despite the efforts of universities to develop sources of income and emphasis on the concepts such as financial independence and freedom from the government, the universities still receive most financial resources from the government. Financing and accurate performance appraisal are among the most important government-university agreements in the development era. Under the agreement, government officials have expected universities to be accountable for the resources they received and to demonstrate, with accurate performance metrics, that they had spent the resources on activities with the highest social achievement. Due to this global trend, in recent years, Iran's higher education has also moved towards performance-based budgeting. Proponents of the performance-based approach to financial resource allocation argue that if funding is allocated based on educational and research outputs and their implications, the plan executors and decision makers within education systems will always be diligent in optimizing resource allocation and will be motivated to meet the real needs of applicants and funders. This mechanism can be presented via objectives such as improving accountability, transparency, and responsibility of managers and increasing efficiency and effectiveness in higher education, as a driving and policy-making force in directing and influencing higher education. This grounded theory research has investigated the performance-based budgeting model at both macro and operational levels. The findings showed that the government economic bottlenecks, inefficiency of input-oriented budgeting system, improving efficiency and effectiveness, targeting budget, improving accountability and transparency, inclination to observe immediate and functional results in the university, targeting academic activities, and modeling successful global projects are effective factors in shaping the tendency of the government and the universities towards this model. Besides, any budgeting model has its own objectives and consequences. However, undesirable consequences are not aimed by policymakers. Among the outcomes identified in this study are: improving accountability and transparency, being plan-oriented, improving university financial discipline, enhancing productivity, improving government and university

supervision of financial, organizational, educational and research processes, targeting research projects, adjusting disciplines and universities according to the needs of society, encouraging the universities to increase their financial incomes, reducing government attention to long-term considerations and objectives of the university, and inadequate understanding of the identity and mission of the university in financial institutions. It seems that the reason for the success of this model in some universities is due to how it is implemented. After providing the basic requirements and laying the groundwork for the implementation of this model, the effective implementation strategies identified in Iranian public universities are: implementation of the legal requirements and technical prerequisites of the plan, increasing the authority, independence and freedom of action of the university, comprehensive and agreed-upon design and development of performance indicators, education and empowerment of the university through training courses, attracting the participation of academics in the plan implementation, etc.

VI.1. Implementation steps of performance-based budgeting

One of the important and determining issues in the efficiency and effectiveness of performance-based budgeting is how to implement it. According to the identification of the causes, methods and consequences of performance-based budgeting, researchers believe that the implementation steps of performance-based budgeting are:

VI.1.1. Review of executive programs and activities of public universities

The most important factor in the budgeting system and performance-oriented university model is the executive plan. The executive program of the universities should be developed based on the economic, social, political, and cultural needs of the society and its approach should be to help the government and develop the country. Some of Iran's public universities have strategic plans and the purpose of determining what programs and activities to carry out in each year of the implementation of this program has also been determined. However, what is important is that the Ministry of Science, Research, and Technology as the representative of the university reach an agreement with the Program and Budget Organization as the representative of the government on an annual plan. In this annual program, the government and the university must agree on important matters such as strategies, policies, executive measures and plans, activities and performance measures and quantitative goals.

VI.1.2. Determining the performance indicators

Based on the quantitative goals related to each activity that were calculated from the executive plan, indicators and performance metrics are determined and the government and the university agree on the goal of each indicator. For example, if the index is the publication of research articles, the university and the government agree on a number and a reasonable amount.

VI.1.3. Costing of programs and activities

This step is at the university level, and its meaning is that the university is responsible for costing its activities. At this stage, the establishment of the cost accounting system is necessary. After that, the cost of each academic activity is calculated and determined.

VI.1.4. Performance management

Performance management is a process that by converting the strategic goals of universities into measurable criteria, collecting and analyzing data, reporting performance and reviewing performance information reports and applying its results in different fields, leads to the improvement of the organization's performance. Performance management includes measuring and evaluating performance as well as improving and monitoring the implementation of the performance agreement.

VI.2. Advantages and opportunities of implementation of performance-based budgeting in Iran's public universities

With considering the current conditions of Iran's public universities, it seems that the implementation of performance-based budgeting has the following advantages and opportunities:

VI.2.1. Executive guarantee

The fact is that, especially in third world and developing countries, many plans and goals do not come true. In other words, there is no strong executive guarantee for their realization. Performance-based budgeting uses the budget as an agent and a guaranteeing lever to improve performance, accountability and transparency, and by changing the way of allocating and distributing the public budget of public universities, it makes the university more responsive to its outputs and the needs of the surrounding environment.

VI.2.2. Interaction between the university and the government

Another advantage of implementing performance-based budgeting is providing a context for the university and the government in which it is possible to discuss and bargain on goals and indicators according to the needs of society. In this type of budgeting, the university and the government as agents and executives must agree on the indicators and goals, and this will not be possible unless the university and the government interact and get closer.

VI.2.3. The participation of the university in the development of the country

In the five-year development plans of Iran, the role of organizations, including the university, has been defined, and the university must fulfill the goals seen in order to develop the country. However, there was no agreement and legal requirement with a high executive guarantee in this field, and the university could perform its traditional duties and roles in the field of action and not participate. It seems that by implementing performance-based budgeting, faculty members will act purposefully and based on the needs of the society in carrying out scientific and student projects, especially in the selection of theses and dissertation topics at the graduate level.

VI.2.4. Innovation and adaptability to the environment

The government pays the budget of universities annually. In Iran, government and university agreements on some short-term goals and indicators can be concluded for one year or based on a five-year development plan. This means that according to the new expectations of the activity environment of the government and the university in the society and the changes in various scientific fields, some indicators agreed by the government and the university can be added or reduced.

VI.2.5. Development of financial and income resources of the university

As mentioned in the section on the reasons for implementation of performance-based budgeting and based on the theory of resource dependence, the financial constraints of the government and the dependence of public universities on the public budget are among the reasons for the implementation of this type of budgeting. It is predicted that the implementation of the performance-oriented university model can double the incentive to develop revenue sources for public universities. Also, if one of the performance

indicators agreed between the government and the university is to earn new income through projects with society and industry, it can be predicted that the faculty members of public universities will be driven to implement financial projects with industry and society in order to achieve this indicator.

VI.2.6. Motivating senior and operational managers of the university

Based on performance-based budgeting, if the senior and operational managers of the university help to improve the university's performance indicators, the government and the university will encourage them.

VI.2.7. Improving the university performance evaluation system

Currently, and with the current management models, there are various qualitative and quantitative indicators for the internal and external evaluation of public universities, and this evaluation is reviewed and given feedback on a continuous and annual basis. But the reality is that due to the lack of accountability culture, the results of the performance evaluation are not taken seriously and are less considered in the policy making process or the reform of university processes.

VI.2.8. Improving the information mastery of managers

Through setting up information systems and collecting operational data from various university indicators, managers' information about the state of universities increases.

VI.2.9. Improvement of student services

Among the performance indicators implemented in world-renowned universities based on the performance-oriented approach, is the number of graduates or their employment rate. According to this index, the survival and permanence of the student becomes important and as a result, continuous monitoring of his performance in different courses and providing counseling and welfare services are among the priorities of the university.

VI.2.10. Facilitating knowledge management and organizational learning

Obtaining funding of a faculty depends on the interaction, cooperation and coordination of its employees, faculty members and administrators. It is

predicted that the free dissemination of information based on knowledge management theory, organizational learning theory, and also the learning organization will be strengthened due to the efforts of the staff to improve performance and take the maximum budget.

The final point is that the researchers believe that the implementation of performance-based budgeting will not solve all the problems of Iran's public universities and higher education, and perhaps the incomplete and unfavorable implementation of this model will cause public universities to face new problems. The fact is that the inconclusive and constant conflict between the government and the university over the past few decades has caused the trust in the government as a policy maker and representative of society to decrease due to the non-fulfillment of the government's development and implementation plans and the loss of public resources. On the other hand, the not so favorable performance of the university has diminished the role of this social institution in the development of the society. The important mission of performance-based budgeting is to end this long-term conflict and solve society's problems with an interaction-oriented approach. A place where the university, as a symbol of civil society, by maintaining its independence for the use of public funds, institutionalizes accountability, transparency, and responsibility in the society. Iran's policy makers should caution in using this strategy and prioritize preserving the independence, nature and mission of the university. In addition they should pay attention to the long-term goals of the university, immeasurable educational indicate, university's diverse, and service of university in society.

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