





The Role of Innovative Behaviors in the Relationship between Budget Participation and Employee Performance in the Public Sector

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Abstract

This study aimed to investigate the mediating role of innovative behavior in the relationship between budget participation and employee task performance in the public sector. The research was applied in nature and utilized a descriptive-survey design. Data were collected from a sample of 384 employees working in executive agencies of Tehran Province using a standardized questionnaire. The questionnaire measured three variables: budget participation, innovative behavior, and task performance, using a five-point Likert scale. Reliability was confirmed with Cronbach's alpha coefficients above 0.80 for all variables. Data analysis was conducted using SPSS 24 and AMOS 24 through structural equation modeling (SEM), and confirmatory factor analysis (CFA) was applied to validate the measurement model. The results revealed that budget participation had a significant and positive direct effect on employee task performance ($\beta = 0.516$, $p < 0.001$). Furthermore, budget participation significantly predicted innovative behavior ($\beta = 0.894$, $p < 0.001$), and innovative behavior, in turn, had a strong and positive impact on task performance ($\beta = 1.396$, $p < 0.001$). The Sobel test confirmed that innovative behavior significantly mediated the relationship between budget participation and task performance ($t = 9.771$, $p < 0.001$), indicating a robust indirect effect. The findings emphasize the critical role of innovative behavior as a mechanism through which participatory budgeting enhances employee performance in the public sector. Promoting inclusive financial decision-making and cultivating innovative capacities among employees can jointly lead to significant improvements in organizational outcomes. These results offer theoretical and practical insights for reforming public administration through participatory and innovation-driven strategies.

Keywords: Innovative behaviors, employee performance, budget participation.

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1. Introduction

In the contemporary landscape of public sector management, the pursuit of enhanced employee performance has led to a growing interest in participatory mechanisms such as budget participation and their impact on organizational outcomes. Budget participation, traditionally considered a financial planning tool, is increasingly recognized as a managerial practice that fosters employee engagement, motivation, and accountability when properly aligned with organizational strategy and behavioral

expectations [1, 2]. This participatory process not only allows employees to contribute to budgetary decisions but also serves as a psychological signal of trust and inclusion, thereby influencing behavioral and performance outcomes [3, 4]. As organizations face intensifying pressures to innovate and adapt in response to dynamic environments, the role of budget participation has expanded beyond financial control to encompass broader strategic and behavioral dimensions, particularly in the public sector where structural rigidity often limits adaptability [5, 6].



Recent studies suggest that employee performance in the public sector is significantly influenced by both structural systems and behavioral components such as engagement, motivation, and innovative behavior [7-9]. Innovative behavior, in particular, has emerged as a critical mediator that translates participatory inputs into performance outcomes. It embodies the proactive, creative, and change-oriented actions of employees aimed at improving processes and outcomes within the organization [10, 11]. The integration of innovative behavior within budgeting processes has been examined as a pathway to overcome bureaucratic inertia and stimulate performance improvements in public institutions [12, 13]. This approach is particularly pertinent in contexts where performance-based budgeting is promoted as a reform strategy but faces implementation challenges due to organizational culture and structural limitations [14].

The mediating role of innovative behavior in the relationship between budget participation and employee performance is supported by a growing body of research that links participatory budgeting with psychological outcomes such as trust, autonomy, and intrinsic motivation—all of which are precursors to creative action and innovation [3, 15, 16]. Empirical studies have shown that enabling budgetary systems, when aligned with innovation-driven goals, enhance performance by creating environments that support experimentation, learning, and feedback [17, 18]. Additionally, strategic planning and organizational capabilities such as human capital, leadership support, and technology adoption have been found to moderate or enhance these relationships, indicating that budget participation must be situated within a broader ecosystem of organizational enablers to be effective [19-21].

In public sector environments, where innovation is often constrained by formal rules and political oversight, the presence of participatory structures can mitigate these limitations by fostering a culture of involvement and shared responsibility [6, 22]. Research by Koomson et al. (2025) confirms that innovative behavior serves as a key mechanism that bridges budgetary participation and performance in government settings, suggesting that employee empowerment through participatory processes enhances not only functional outcomes but also behavioral innovation [12]. Similarly, studies in other public sectors have indicated that participatory budgeting contributes to collective innovation capacity and collaborative decision-making, which in turn improve employee morale and service delivery outcomes [9, 23]. These findings are further

corroborated by Nguyen et al. (2023), who demonstrate that servant leadership and learning goal orientation in the public sector significantly amplify the effect of participatory mechanisms on innovative work behavior [7].

Moreover, the intersection of budget participation and innovative behavior is also influenced by contextual factors such as psychological capital, organizational learning, and integrity, which shape the extent to which employees perceive participatory practices as legitimate and empowering [4, 24]. Organizational environments that promote open communication, transparent goal-setting, and knowledge sharing are more likely to translate budget participation into tangible performance gains through the channel of innovation [25, 26]. In contrast, when budget participation is perceived as symbolic or politically driven, it can lead to disillusionment and reduce motivation, undermining the potential benefits of the process [13, 27]. These findings underscore the importance of aligning budgeting practices with organizational culture and employee values to ensure their effectiveness.

Given the increasing complexity and performance demands in public administration, the integration of behavioral insights into budgeting and performance management systems has become essential. This shift reflects a broader trend toward the humanization of public sector management, where psychological, motivational, and relational variables are considered alongside procedural and financial ones [28, 29]. In this context, innovative behavior functions not merely as an outcome of budget participation but as a dynamic mediator that operationalizes participatory practices into sustained performance. It is also closely tied to constructs such as job engagement, satisfaction, and perceived organizational support, which mediate employees' willingness and ability to translate input into creative and effective output [8, 30].

In light of these insights, this study aims to explore the mediating role of innovative behavior in the relationship between budget participation and employee task performance within the public sector.

2. Methodology

The present study is classified as applied research, and due to the use of questionnaires for data collection, it falls within the category of descriptive-survey research. Furthermore, based on its objective, this study is categorized as applied, and from a methodological perspective, it is of the correlational type. The data related to the theoretical

foundations and research background were collected using the library method, while data concerning the research variables for hypothesis testing were gathered via survey and questionnaires. The statistical population of the study consists of employees in executive agencies in Tehran Province. Since the exact size of the statistical population is unknown and full access to all members was not feasible, a sample was selected from the population. Accordingly, convenience non-probability sampling was employed, and the sample size was determined using Morgan's table. Given the lack of precise information on the population size, the sample size was determined to be 384 individuals according to Morgan's table, and an equal number of questionnaires were distributed to and completed by the employees of the executive agencies in Tehran Province.

The data collection tool used in this study is a questionnaire. A standardized questionnaire was employed to gather data. Each item in the questionnaire contains a set of response options, and respondents are asked to select one

of the options as their answer. Each response option is designed to be logically related to the respective question but distinct from answers to other questions. Thus, the questionnaire was designed using a five-point Likert scale ranging from "strongly agree" to "strongly disagree." The questionnaire was distributed to respondents in person and consisted of two parts. The first part contained demographic information including age, gender, and education level. The second part contained 12 items related to the research variables. To determine the reliability of the questionnaire, Cronbach's alpha coefficient was calculated using SPSS software. Since the minimum acceptable reliability coefficient for research questionnaires is 0.70, it was observed that the calculated Cronbach's alpha values for all variables exceeded this threshold. Therefore, it can be concluded that the questionnaire demonstrates acceptable reliability and validity. Table 1 presents the results of Cronbach's alpha coefficients.

Table 1. Cronbach's Alpha Coefficient

Variable	Number of Items	Cronbach's Alpha
Budget Participation	4	0.812
Innovative Behaviors	4	0.845
Task Performance of Employees	4	0.823
Total Questionnaire	12	0.935

In this study, both descriptive and inferential statistical methods were used to analyze the collected data. Initially, SPSS software was used to present descriptive statistics and tabulate each variable with relevant statistical indicators. Subsequently, to analyze the data, test the hypotheses, and generalize the results from the sample to the population,

structural equation modeling (SEM) was employed using AMOS version 24.

3. Findings and Results

Table 2 presents the descriptive statistics for the research variables.

Table 2. Descriptive Statistics of Research Variables

Variable	Mean	Standard Deviation	Minimum	Maximum	N
Budget Participation	3.825	0.643	1.00	5.00	384
Innovative Behaviors	3.824	0.541	1.00	5.00	384
Task Performance of Staff	3.425	0.632	1.00	5.00	384

In this study, structural equation modeling (SEM) was used to examine the research hypotheses. To test the hypotheses, the conceptual model was first fitted using structural equation modeling through AMOS version 24 software. Subsequently, the model fit was assessed, and if deemed acceptable, the results were used to draw conclusions regarding the research hypotheses. Before fitting the structural model, it is necessary to evaluate whether the 20 observed

indicators (i.e., questionnaire items) appropriately fit the overall measurement model through confirmatory factor analysis (CFA). A poor model fit at this stage would indicate the need to refine the measurement model and would hinder progress to structural modeling using latent variables. At this stage, CFA was conducted to determine the degree of model fit, adequacy of factor loadings, standardized residuals, and explained variances for observed variables. The following figure

presents the measurement model for this study. In this model, both observed and latent variables are labeled accordingly.

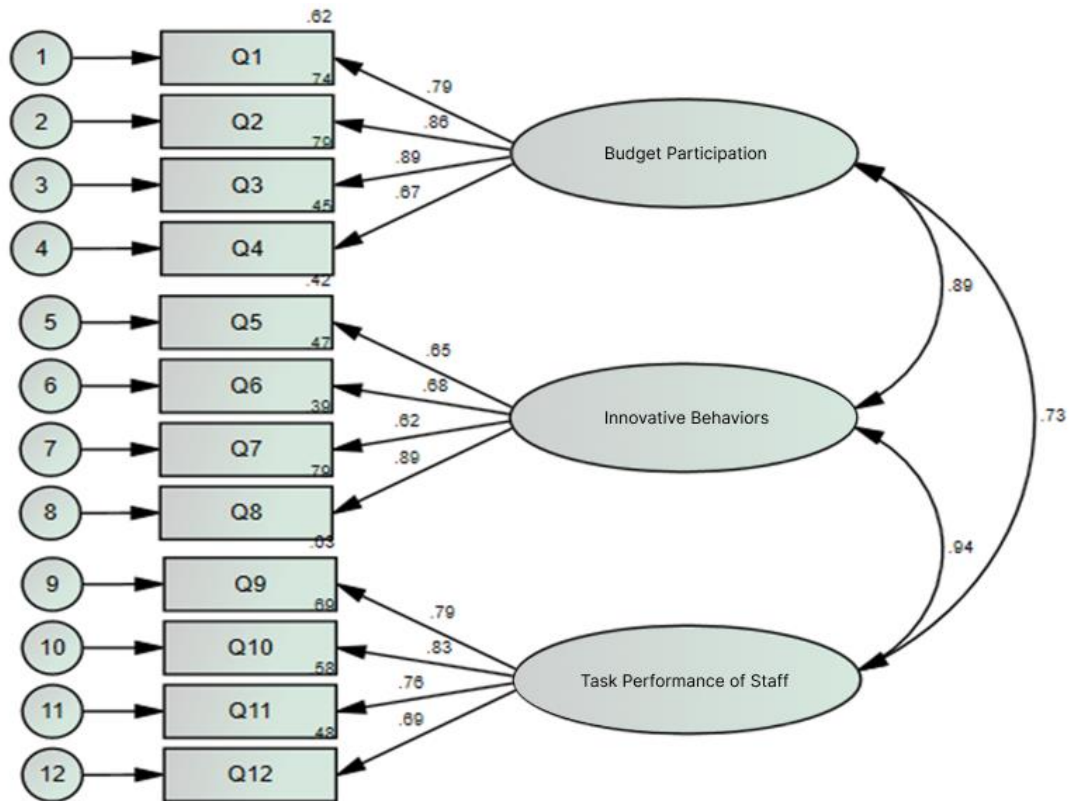


Figure 1. Measurement Model after Modifications

Before testing the hypotheses, it is necessary to ensure the validity and reliability of the measurement models for the research variables so that the structural

relationships can be evaluated afterward. For this purpose, goodness-of-fit indices are used, as presented in Table 3.

Table 3. Goodness-of-Fit Indices for the Measurement Model

Model	CIMIN	df	GFI	IFI	TLI	CFI	NFI	RMSEA
Main Model	3.325	--	0.925	0.944	0.968	0.984	0.966	0.012
Acceptable Range	1-5	--	>0.90	>0.90	>0.90	>0.90	>0.90	<0.08

As seen in the table above, all indices fall within the acceptable range. Therefore, the confirmatory factor analysis (CFA) model fits the collected data well. At

this stage, the structural model of the study is tested to examine the main hypotheses. This model is shown in Figure 2.

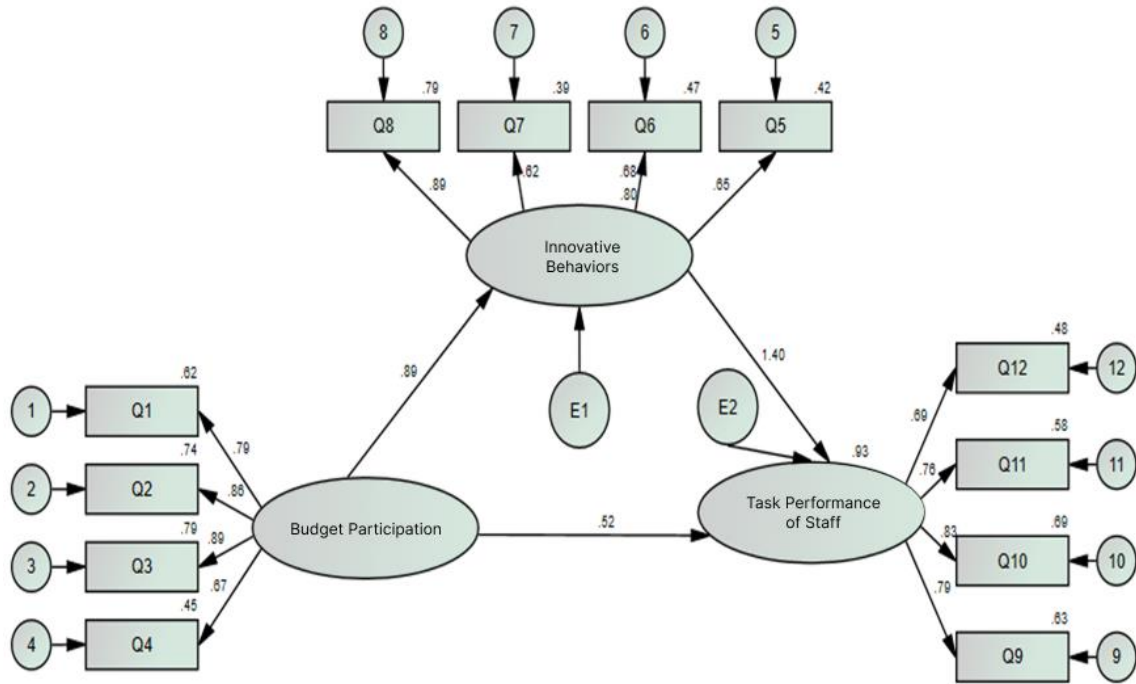


Figure 2. Structural Model of the Study

Based on the results of this model and the coefficients obtained from the structural analysis of the research data, the results of the structural path analysis

(involving relationships among the latent variables) are presented below.

Table 4. Structural Path Analysis and Hypothesis Testing Results

Hypothesis	Path	Standardized Coefficient	Standard Error	t-value	p-value	Conclusion
H1	Budget Participation → Task Performance	0.516	0.113	4.663	0.000	Supported (Direct Effect)
H2	Budget Participation → Innovative Behaviors	0.894	0.089	13.957	0.000	Supported (Direct Effect)
H3	Innovative Behaviors → Task Performance	1.396	0.140	7.336	0.000	Supported (Direct Effect)
H4	Budget Participation → Innovative Behaviors → Task Performance*	0.095	—	9.771	0.000	Supported (Sobel Test: Indirect)

*Mediation effect tested using Sobel test.

The structural path analysis conducted using AMOS 24 confirmed all four hypotheses proposed in the study. As shown in the combined table, budget participation had a significant positive effect on employee task performance with a standardized coefficient of 0.516 ($t = 4.663, p < 0.001$), supporting Hypothesis 1. Hypothesis 2 was also supported, indicating that budget participation significantly enhances innovative behaviors among employees ($\beta = 0.894, t = 13.957, p < 0.001$). Moreover, innovative behaviors were found to significantly improve task performance, with a

standardized coefficient of 1.396 ($t = 7.336, p < 0.001$), confirming Hypothesis 3. Finally, the mediation analysis using the Sobel test yielded a significant indirect effect of budget participation on task performance through innovative behaviors (effect size = 0.095, $t = 9.771, p < 0.001$), thereby supporting Hypothesis 4. These results collectively indicate that innovative behaviors play a mediating role in the relationship between budget participation and employee performance, reinforcing the importance of fostering

innovation in budgetary processes within the public sector.

4. Discussion and Conclusion

The findings of this study clearly demonstrate the significant and positive role of budget participation in enhancing employee task performance, both directly and indirectly through the mediating effect of innovative behavior. The structural path analysis revealed that employees who are involved in budget-related decisions tend to show higher levels of task performance, and this relationship is further strengthened when such participation fosters innovative behaviors. Specifically, the standardized coefficient for the direct effect of budget participation on task performance was substantial, and the mediated path through innovative behavior proved statistically significant, indicating that employees' creative engagement with organizational processes acts as a crucial mechanism translating participatory budgeting into performance gains. This finding aligns with the notion that participatory management approaches not only empower employees but also unlock their cognitive and motivational resources needed for innovative engagement [7, 30].

Supporting evidence from prior research corroborates the positive influence of budget participation on employee outcomes. For instance, budget participation has been consistently associated with improved managerial performance and increased sense of autonomy and accountability [1, 3]. By granting employees a voice in financial planning, organizations promote a sense of ownership and responsibility that translates into higher task commitment and performance. In addition, participation fosters clearer goal alignment and a better understanding of organizational constraints and opportunities, which enables employees to propose and implement practical improvements in their workflows [15, 17]. The empirical strength of this relationship in the current study highlights the importance of inclusive budgeting as a strategic tool for performance management in public sector environments.

Perhaps more critically, the mediating role of innovative behavior serves as the linchpin in explaining how participatory budgeting translates into performance improvement. Employees involved in budget processes are not only more informed and engaged but also more likely to experiment with novel approaches and solutions to problems. This aligns with prior conceptual frameworks that position innovation as the behavioral consequence of

motivation and engagement [8, 25]. The current study extends this understanding by empirically validating that innovative behavior significantly predicts task performance and is strongly influenced by participatory budgeting. This finding is consistent with recent research by Koomson et al. (2025), who identified innovative behavior as a key mediator in the budget participation–performance relationship within the public sector context [12]. Similarly, Nguyen et al. (2023) emphasized the role of leadership and learning orientation in fostering innovative behavior, suggesting that organizational culture and practices shape the efficacy of participatory mechanisms [7].

The study also aligns with behavioral accounting and public administration literature, where budget participation has been shown to improve psychological outcomes such as trust, satisfaction, and motivation, which in turn enhance performance [4, 5]. This cognitive-behavioral pathway supports the theoretical grounding of this research in social exchange and empowerment theories. Furthermore, research by Pulkkinen et al. (2024) has indicated that participatory budgeting, when framed as a collaborative and inclusive activity, not only contributes to financial transparency but also builds innovation capacity in local governments [9]. Such innovation capacity enables public organizations to be more agile and responsive, which is vital in increasingly complex and citizen-driven governance landscapes.

Another important implication of this study is the reinforcement of job design and engagement frameworks. The significant path from budget participation to innovative behavior echoes findings by Wang et al. (2024), who showed that high-performance work systems stimulate innovation through intrinsic motivation and organizational fit [30]. Likewise, the alignment between budget practices and job roles facilitates innovation and experimentation. These processes are reinforced in public contexts where bureaucracy and rigid structures often limit flexibility. This study confirms that even within such constraints, enabling practices like budget participation can catalyze innovation and performance, provided they are implemented authentically and supported by leadership and culture [24, 26].

Moreover, the findings reflect broader debates in public sector reform regarding performance-based budgeting and the shift from output to outcome-oriented evaluation. While the Iranian context, as explored by Seyedi et al. (2025), highlights implementation challenges in performance budgeting due to internal organizational factors, this study offers a behavioral lens, emphasizing that even without full

structural reform, participatory practices can yield performance improvements by fostering psychological investment and innovative behavior [14]. These results bridge macro-level policy aspirations with micro-level organizational realities, indicating that internal engagement strategies such as budget participation can serve as levers for behavioral change and productivity.

From a theoretical standpoint, the findings support integrative models that combine structural, behavioral, and psychological dimensions of performance. Marchiori et al. (2022) proposed a model linking human capital, IT capabilities, and innovativeness to performance outcomes, suggesting that innovation acts as the operational mechanism for capability utilization [18]. Similarly, Roshan Ghias et al. (2021) emphasized that organizational capabilities and competitive advantage are mediated by innovation performance in driving new product success [19]. The current study provides complementary evidence in the public sector context, reaffirming that innovation behavior is not only a valuable end but also a critical pathway linking organizational participation with functional excellence.

Lastly, this research adds nuance to the role of contextual and cultural variables. While previous studies have often focused on corporate or Western settings, this study confirms that the underlying behavioral mechanisms—participation, innovation, and performance—are also valid and impactful in Iranian public sector institutions. However, contextual differences such as hierarchical cultures, institutional inertia, and political influences may modulate the strength or expression of these relationships. This finding echoes the perspectives of Shi et al. (2023), who noted that performance outcomes in public institutions are shaped by both efficiency and effectiveness, which are often contingent on administrative structures and local governance contexts [21].

Despite the robustness of its findings, this study is not without limitations. First, the cross-sectional design of the study restricts the ability to make definitive causal inferences. While structural equation modeling provides a rigorous method for testing relationships, longitudinal data would be more suitable to capture the dynamic interplay between budget participation, innovative behavior, and task performance over time. Second, the study focuses solely on executive agencies in Tehran Province, which may limit the generalizability of the results to other governmental organizations with different administrative structures or cultural dynamics. Third, the reliance on self-reported data through questionnaires introduces the risk of social

desirability bias and common method variance, which may inflate the strength of observed relationships. Additionally, the study did not account for other potentially influential variables such as leadership style, organizational commitment, or individual personality traits, which could further enrich the model.

Future research could address these limitations by employing longitudinal or experimental designs to explore causal pathways and temporal changes in the constructs. Researchers may also consider expanding the geographical scope of the study to include diverse regions or countries for comparative analysis, thereby assessing the cultural universality or specificity of the findings. Moreover, integrating qualitative methods such as interviews or case studies could offer deeper insights into how employees experience and interpret budget participation and how these perceptions shape their behavior. Future studies might also examine moderating variables such as leadership quality, organizational justice, or technological support to better understand the boundary conditions under which budget participation leads to innovation and performance. Finally, researchers could explore sectoral comparisons—such as between public and private organizations—to assess how institutional logics influence the relationship between participatory management and innovation.

The practical implications of this study are manifold for public sector managers and policymakers. First, organizations should actively promote budget participation not just as a procedural formality but as a strategic management tool to engage employees and enhance accountability. Second, fostering a culture of innovation through training, recognition systems, and supportive leadership can amplify the positive effects of participatory budgeting. Third, designing performance management systems that recognize and reward innovative behavior will help institutionalize creative engagement as a core organizational value. Lastly, public institutions should invest in communication and trust-building efforts to ensure that participatory processes are perceived as genuine and empowering rather than symbolic or manipulative. These steps will not only enhance task performance but also build organizational resilience and adaptive capacity in an era of increasing complexity and change.

Authors' Contributions

Authors equally contributed to this article.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

All procedures performed in this study were under the ethical standards.

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