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Performance-Based Budgeting Control and Implementation in the Public Sector: Towards Sustainable Development

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ABSTRACT

This study investigates the crucial success variables of behavioral intention to adopt (BIA) in performance-based budgeting (PBB) within public sector organizations (PSOs). It also examines how BIA boosts organizational sustainability (OS) and organizational resilience (OR). Structural equation modeling was used to corroborate the hypothesized model based on data from surveys distributed to a sample of accountants in PSOs across two waves of data collection during the period of global lockdown and the new normal regime. Critical success variables and PBB implementation intention were positively correlated in terms of significance and effect magnitude. The findings also suggest that PBB could improve OS and OR. The insights from this analysis could help PSO executives recognize and seize resilient sustainable growth routes efficiently and effectively.

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1. Introduction

Public budget management efficiency and effectiveness have become major issues in many governments. Performance-based budgeting (PBB) management improves public service quality (Priatsaleh & Sinambela, 2025). According to agency performance measures, PBB efficiently distributes public budgetary resources (Park, 2022). More crucially, the COVID-19 pandemic increased public budgeting ambiguities, making it difficult for enthusiastic problem-solvers (Arapis & Chatterjee, 2025). The crisis forced government agencies to rethink their structure and performance due to long-term uncertainty. Public sector organizations (PSOs) were under pressure to keep operating and provide vital services to citizens when several industry and service organizations were forced to shut down to contain the pandemic. As the COVID-19 epidemic continues and its economic effects worsen, the economic uncertainty and market volatility it has produced, particularly regarding PSO budgeting processes and formats, should be explored. Due to COVID-19, budgeting methods and formats might change (Anessi-Pessina et al., 2020). Indeed, crises often had severe effects for most organizations that were unable to manage them. When facing these catastrophic effects, organizations must identify context adjustments, adapt, and innovate to develop acceptable answers.

Given these factors, numerous studies have focused on crisis responses, strategies, and efforts. Due to its essential goal of centralized spending monitoring and administrative abuse protection, PBB is essential for linking the planning and control processes to achieve organizational goals (Suwanda et al., 2021). It demonstrated how to leverage resources and access outcomes, unlike traditional budgets, which focused on expense control and used an input-based method instead of an outputs- and outcomes-based approach. However, budgeting methods should be reviewed and revised. This has required examining budgeting from many angles to find a wide range of issues and problems that are pertinent to the current crisis and the post-crisis era (Anessi-Pessina et al., 2020). In the present COVID-19 crisis and post-crisis age, it is crucial to address PBB implementation critical success elements and improve PSO organizational resilience (OR) and sustainability (OS). The current research begin with an intriguing inquiry into which important success elements could significantly affect PBB implementation intended to gather essential evidence.

> **RQ1**. What are the critical success factors (CSFs) of the behavioral intention to adopt PBB (BIA)? How far do they impact BIA?
>
> **RQ2**. To what extent does BIA impact OS and OR?

In the aspect of theoretical contribution, the obtained findings of this research enrich the body of literature on PBB in the context of public sector. Building on the perspectives of Wang et al. (2025), the effectiveness of management procedures and accountability may be improved through the implementation of PBB. Alternatively, this research is anticipated to cover a gap in literature, as a few studies examine the factors influencing PBB implementation within PSOs in developing countries. The empirical nature of this work provides a comprehensive explanation of the phenomena associated with PBB implementation in a developing country. As far as the authors are aware, this is one of the few initial empirical investigations that scrutinize the CSFs of PBB implementation during and after the COVID-19 pandemic. This study addresses the necessity of examining the incentives underlying the adoption and implementation of PBB in developing countries.

With the aim of conducting an in-depth investigation into whether the changes in PBB implementation intention among PSOs would occur, particularly during the period of lockdown and the subsequent new normal phase, this study appears to be more suitable for studies in developing countries. A review of the existing literature has documented that most previous research failed to grasp the implementation intention in long-term to advance this research stream. The current work attempted to formulate the components for these dimensions to be empirically examined using the structural equation modeling approach to determine and rank the relative significance of these constructs. The primary elements of these models provide researchers with a comprehensive and lucid framework for analyzing behavioral mechanisms in specific contexts, serving as the initial step in designing behavioral interventions. This manuscript expanded our understanding of the potential effects of the crucial success elements for PBB implementation. The study's theoretical contribution also involves elucidating the interconnections among the BIA of PBB implementation, OS, and OR.

By analyzing the effects of BIA on OR and OS, this study offers significant insights into the consequences of PBB supplementation on OR and OS. Regarding practical contribution, these observations could offer leaders in PSOs with novel points of view for leveraging budgeting as a coping strategy in the achievement of OS and OR. Additionally, these findings can assist policymakers and other government stakeholders in better appreciating how an effective budgeting strategy might close the gaps identified by PSOs in the institutional policies.

2. Background Literature and Theoretical Development

2-1. Overview of Prior Research

PBB is a financial management reform that associates resource allocation with quantifiable results, with the objective of improving fiscal discipline, operational efficiency, and transparency in the public sector. In their investigation of the correlation between organizational performance, PBB, staff capacity, and performance in Chinese public universities, He and Ismail (2023) discovered that PBB mediated the relationship between staff capacity and university performance, and was positively correlated with university performance. Furthermore, it was confirmed that senior management moderated the association between the chosen variables. Additionally, they proposed that PBB and staff capacity are both significant and meaningful prerequisites for university performance. According to Mirzamani et al. (2022), the inadequate capacity for administrative policy impeded the development of the budgeting system change plan and the appropriate annual plan, thereby causing numerous complications for the PBB's implementation. Azam and Bouckaert (2025) investigated the impact of PBB reform on the quality of performance information across several public sector organizational contexts, using contingency theory. Priatsaleh and Sinambela (2025) employed a descriptive methodology within a qualitative framework to examine the impact of PBB on enhancing the attainment of strategic objectives in BARANTIN. Khudhair et al. (2025) demonstrated that transactional leadership significantly improves PBB facilitation, while servant leadership exerts an indirect influence, underscoring the necessity for a balanced leadership strategy.

2-2. Theoretical Lenses

The Capability, Opportunity, Motivation, Behavior model. This study used Michie et al. (2011)'s Capability, Opportunity, Motivation, and Behavior model to understand PBB implementation intention since changing common actions required a behavioral shift in many agents. A significant benefit of employing this theory and its elements is the extensive examination of behavioral factors that may be overlooked by more specialized behavior change theories, as well as the identification of overarching techniques, referred to as intervention functions. This dynamic and methodical strategy for modifying behavior may help highlight actors' enablers and obstacles, as well as the reasons why intervention tactics succeeded or failed (Michie et al., 2011; Michie et al., 2014). This concept highlights that behavior only changes when capabilities, opportunities, and incentives to do the activity interact (Michie et al., 2011). Therefore, capability aspects refer to an individual's psychological and physical competence to do relevant acts (Michie et al., 2011). Opportunity included all external elements that promoted or boosted the behavior (Michie et al., 2011). The first component of the Capacity, Opportunity, Motivation, and Behavior model, Motivation, is identified as the mental processes that controlled behavior (Michie et al., 2011). It may also energize people to regulate their behavior.

Extended Theory of Planned Behavior. The Theory of Planned Behavior originates from the Theory of Multi-attribute Attitude, proposed by Fishbein (1963). Fishbein and Ajzen (1977) advanced the idea in 1975 by introducing the Theory of Reasoned Action, which addresses the psychological and cognitive components of consumer decision-making in specific contexts. Ajzen (1991) expanded on the Theory of Multi-attribute Attitude by introducing the concept of perceived behavioral control and formulating the Theory of Planned Behavior. It connected personal ideas to individual behaviors, examined the influence of attitudes on behaviors, and investigated that behavior is developed “from the inside out,” primarily highlighting the subjective experience of individuals and rational human conduct. Theory of Planned Behavior elucidates and anticipates human social conduct by examining aspects such as attitude, subjective norm, and perceived behavioral control, and their influence on behavior.

3. Hypothesis Development

According to Stevic et al. (2025), appropriateness is the extent to which behaviors or communication styles are regarded as fitting or socially acceptable within a specific setting. Appropriateness refers to the perceived relevance of a therapy, service, practice, or innovation, while feasibility assesses the degree to which a new treatment or innovation can be effectively implemented in a certain context (Weiner et al., 2017). The perceived appropriateness (PA) of PBB in this study is defined as the degree to which an individual considers the traits of PBB as appropriate in the context of PSOs. The epidemic has had a detrimental effect on all areas of politics and economy. In this regard, PBB was able to establish concrete relationships between organizational goals, targets, programs, operations, as well as key performance indicators, enabling precise actions to be taken easily in light of the ongoing comparisons between target and actual performance. The objectives could be achieved scientifically, and performance improvement could be motivated by the maintenance of input-output interlinks. Therefore, the first hypothesis of this research was postulated as follows.

Hypothesis 1 (H1). PA has a a significant and positive influence on BIA.

Perceived effectiveness (PE) denotes an individual's subjective conviction regarding an action, tool, or intervention and its efficacy in achieving a desired objective (Ajzen, 1991). It is assumed that PBB might make a substantial contribution to the development of a systematic budgeting process, which has a strong relationship with the expected outcomes resulting from the public policy process, as well as the organizational mission and expenditures. The PSOs were able to improve resource allocation, simultaneously include expenditure and performance, strengthen their ability to compare departmental costs, and reinforce informed judgments about organizational resources thanks to this implementation. Given that individuals' perceptions on specific issues influence their attitudes and behavior, the perceived support for PBB among public sector accountants would lead to the intention of PBB adoption. Therefore, the hypothesis was derived as follows.

Hypothesis 2 (H2). PE has a a significant and positive influence on BIA.

Qualified and trained staff have become one of the paramount drivers in the implementation process of performance-based budgets (PBB) (Amirkhani et al., 2019). This necessity arises from the complexity of PBB implementation, which requires firms to hire and retain qualified personnel capable of obtaining and analyzing data effectively. Accounting, as a practical social science, is crucial for supplying financial information that facilitates accountability and informs the decision-making processes of numerous stakeholders (Lira et al., 2025). In this context, the competencies of accountants will serve as the primary driving force for the successful implementation of PBB. According to Swan (2022), transactional leadership can be defined as the management of essential interactions with employees while maintaining existing organizational structures. In this regard, leadership could facilitate the translation of normative expectations into satisfaction with PBB by persuading their staff of the need for a change, taking action, and establishing internal and external supports to mitigate resistance to PBB adoption. Additionally, they can manage the organizational transformation from traditional budgeting to PBB in a positive manner. The deployment of performance-based budgeting (PBB) is defined as the practices that integrate performance measurement information with the budgetary process. This integration can take various forms, ranging from reporting performance information within budgeting documents to utilizing that information for resource allocation among different programs. Performance management systems are essential for enhancing organizational performance (Sharma et al., 2022). In this respect, performance management has been contemplated as a precondition for the favorable outcome of performance budgeting (Amirkhani et al., 2019). Therefore, the hypothesis in this study was derived as follows.

Hypothesis 3 (H3). Internal dynamics (ID) has a a significant and positive influence on BIA.

The essential peculiarities of the pandemic context may be recognized as unstable environments, economic instability, and social unpredictability (Garca-Gómez et al., 2021). PSOs would likely intensify their utilization of budgeting for planning to delve into and predict crisis-related environmental uncertainty as well as determine and decline its impact on their operations to guarantee for the quality of public service provided for their users and key stakeholders. Organizations are

adopting PBB to distribute resources more efficiently (He & Ismail, 2023). PSOs have undoubtedly a variety of objectives and stakeholders. It has been well-argued that public sector organizations (PSOs) focus on various strategies, as their fundamental goal is to meet the demands of stakeholders rather than solely concentrating on financial results. The alignment of the budgeting process with the perspectives of major stakeholders is considered crucial for achieving successful implementation and serves as evidence of the relationship between organizational goals and the various programs to be executed. In particular, the high degree of political and public support, the assistance of key budget actors as well as the encouragement of the executive and legislative branches would all assist in implementing PBB (Holzer et al., 2015). Therefore, the following hypothesis was formulated.

Hypothesis 4 (H4). Environmental motivation **(**EM) has a significant and positive influence on BIA.

Organizational sustainability (OS) emphasizes the responsibility of organizations to make significant contributions to sustainable development by balancing their economic, environmental, and social influences (Moldavanova & Goerdel, 2018). Internal sustainability refers to managerial actions directly related to the physical and psychological work environment of the organizational workforce. The adoption of performance-based budgeting (PBB) would clearly outline priority scales for the objectives to be met, programs to be implemented, and targets and outcomes to be achieved. In contrast, external sustainability focuses on organizational operations designed to benefit external stakeholders (Aguinis & Glavas, 2017). PBB is a tool to ensure organizational accountability for the organizational strategic planning procedures and to monitor expenditures, which should be sufficient to meet the needs of the public. This is because PSOs have had to generate public value through operations predetermined to gain the well-being of external stakeholders, such as environmental safeguard, advancement of health services, education, and so forth. It is also an approach for the financial incentive generation for organizations to plan for their future sustainability. Therefore, the hypothesis in this study was derived as follows.

Hypothesis 5 (H5). BIA has a significant and positive influence on OS.

OR was defined as an organizational competence helping organizations to exist, adjust, recover, and even prosper during the unexpected and catastrophic incidents and turbulent atmosphere as well (Ma et al., 2018). Budgeting enhances efficiency and effectiveness through planning and harmonization, supporting learning and monitoring by comparing actual outcomes with plans. It also integrates various organizational issues into a comprehensive plan to achieve different targets. The PSOs have undoubtedly been conditioned by this implementation to improve resource allocation, concurrent inclusion of expenditure and performance, increase departmental expense comparison capabilities, and reinforce informed decisions regarding organizational resources. Therefore, the hypothesis in this study was derived as follows.

Hypothesis 6 (H6). BIA has a significant and positive influence on OR.

The research model is illustrated in Figure 1, depicting the hypothesized relationships in accordance with the discussions presented above.

4. Materials and Methods

4-1. Operationalization and Measures

The questionnaire survey was utilized as the methodology for the current study. The questionnaire was translated into Vietnamese using a back-translation approach, ensuring alignment with the respondents' native language, as the original assessments were in English and the surveys were administered in Vietnam. Additionally, a pilot test was conducted to assess the items' reliability and validity. Prior to data collection, thirty-five prospective implementation respondents were requested to provide feedback on the measures' comprehensibility. The results revealed the high reliablity and validity of the measurements. The five-point Likert scale, varying from 1= strongly disagree to 5= strongly agree, was applied for all of the measurement scales in the current research. The summary of constructs with corresponding scale items is demonstrated in Table 1.

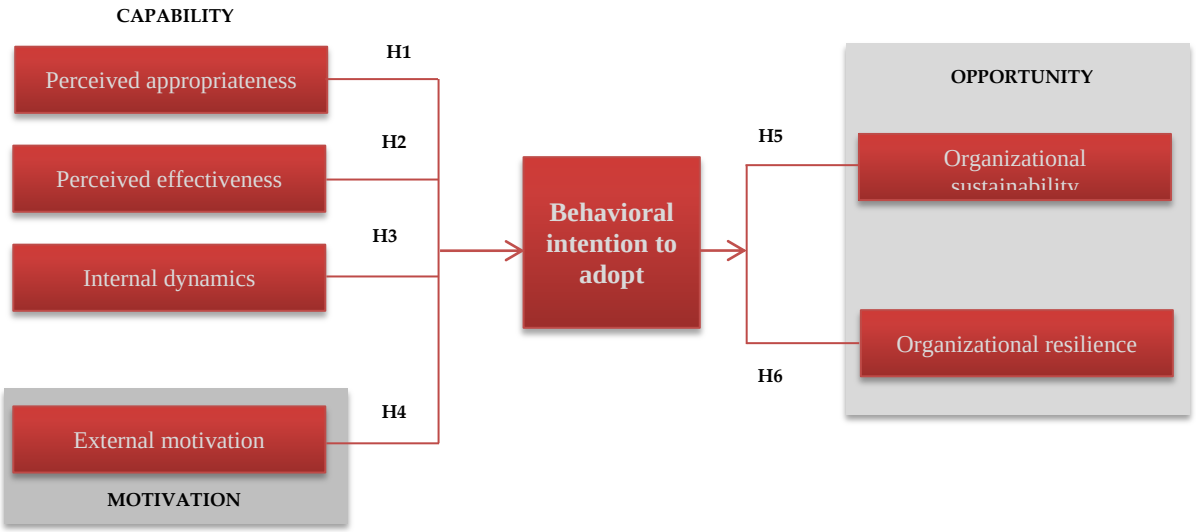

Fig. 1. Hypothesized Model

Table 1. Summary of Model-Related Constructs and Scale Items

Construct	Scale items	References
Perceived appropriateness		
	PA1: PBB focuses on the results or outcomes achieved.	
	PA2: PBB enhances stakeholder involvement in decision-making processes.	
	PA3: Continuous comparisons between target and actual performance allow for accurate measures.	Robinson & Last (2009)
	PA4: PBB improves organizational flexibility, efficiency, and employee engagement through accountability.	
Perceived effectiveness		
	PE1: Our budgeting emphasises transparency and responsibility, discipline, fairness, efficiency, effectiveness, and a performance-oriented approach.	
	PE2: Our budget realization report indicates our success and motivates the organization to improve.	
	PE3: The budget reflects the vision, goal, and objectives, existing conditions, and value-for-money outcomes.	Verasvera (2016)
	PE4: The organization's budget prioritizes the efficient use of finances to maximize results.	
	PE5: Procedures to achieve goals regulate budget implementation.	
	PE6: Budget implementation meets organizational goals.	
Internal dynamics		
Competence of accountant		
	COA1: Our accountant is competent in accounting and budgeting.	
	COA2: Our accountant solves problems well.	Palmer et al. (2004)
	COA3: Our accountant is socially adept.	
Effective performance management framework		
	EPMF1: Performance management improves service user and stakeholder results without increasing costs.	
	EPMF2: The performance management framework establishes metrics to improve and ensure quality.	Moullin (2017)
	EPMF3: The performance management framework promotes improvement, innovation, and learning.	
Transactional leadership		
	TL1: Our leader assigns performance goals to individuals.	
	TL2: Our leader can meet organizational needs.	Bass & Avolio (1990)
	TL3: Our leader articulates performance reward expectations.	
Environmental motivation		
Environmental uncertainty		
	EU1: The clients' requests have become unpredictable.	
	EU2: Customer preferences have evolved significantly.	Wijen & van Tulder (2011)
	EU3: The alterations in regularity have grown challenging to anticipate.	

Table 1.

Construct	Scale items
Support of stakeholder	
SOS1: Legislators and executives agree on organizational goals and performance criteria.	Holzer et al. (2015)
SOS2: Key budget actors have received backing.	
SOS3: There has been significant political support.	
Organizational sustainability	
Sustainability employee	
SEM1: Employee skills and career growth are promoted by our organizational policies.	Farooq et al. (2014)
SEM2: Our organization has flexible work-life policies to help our employees.	
SEM3: Management decisions about personnel are usually fair.	
Sustainability environment	
SEN1: Our organization protects and improves the environment.	Farooq et al. (2014)
SEN2: Our organization takes special measures to reduce our environmental impact.	
SEN3: Our organization seeks sustainable growth for future generations.	
Sustainability beneficiaries	
SBE1: Our organization donates heavily to charities.	Farooq et al. (2014)
SBE2: Our organization supports non-governmental organizations in difficult regions.	
SBE3: Our organization supports socially beneficial projects.	
Organizational resilience	
Capital resilience	
CAR1: Our financial reserves will reflect our approach.	Välikangas (2010)
CAR2: Our capital structure is solid.	
CAR3: Our capital utilization is high.	
Strategic resilience	
STR1: Our organization can quickly identify development issues.	Davenport & Cronin (2000)
STR2: Our organization follows a solid and effective strategic growth approach.	
STR3: Our organization can align strategic goals with operational capabilities.	
Cultural resilience	
CUR1: Our organizational culture encourages collaboration.	Meen & Keough (1992)
CUR2: Our culture boosts employee morale and spirit.	
CUR3: Our culture inspires excellence.	
Relationship resilience	
RER1: Our organization can create unique consumer value.	Vogus & Sutcliffe (2007)
RER2: Our organization promotes stakeholder and organization prosperity.	
RER3: Our organization has a good, reciprocal relationship with its employees.	
Learning resilience	
LER1: Our organization will gain a deep awareness of our situation.	Ramón & Koller (2016)
LER2: Our organization will choose the learning target based on its unique traits.	
LER3: To manage crises, our organization will learn from prior experiences.	
Behavioral intention to adopt	
BIA1: In the coming year, our organization will embrace PBB.	Venkatesh & Davis (2000)
BIA2: Our organization expects me to implement PBB next year.	
BIA3: Our organization will utilize PBB soon.	

4-2. Sample Selection, Sampling Technique

The primary data in this study were collected via two sampling units. The organizations and organizational accountants were respectively the primary and secondary sampling units. In the current research, the PSOs located in the Southern areas in Vietnam were selected. Additionally, Gupta (2021) suggested that the optimal sample size should be between 5:1 and 20:1, where 5 and 20 represent the sample size for each individual item, respectively. The combination of convenience and snowball sampling approach was employed in this study. Convenience sampling was initially utilized to reach the target audience. These volunteers enable researchers to access a far bigger pool of potential subjects who fulfill the study's parameters.

The period of lockdown. The first wave of data procurement took place during the lockdown since the overall situation of the pandemic was extremely serious, from the middle of July to the middle of November 2021. The closure of schools and non-essential service providers, restrictions on citizens' freedom of movement, and the suspension of public transportation were among the restrictions in this round of data gathering. Given the consideration that the likelihood of respondents completing a paper-based questionnaire would decrease during the COVID-19 pandemic, particularly during

lockdown periods. The telephone interview was considered as an alternation to capture the data for this research. The sample collection was executed through convenience sampling techniques. As such, a valid sample of 558 participants was acquired in this first wave of data collection, corresponding to a response rate of 74.40 percent.

The period of new normal. The same questionnaire as the first field survey was widely distributed to participants in this period. The paper-based questionnaire was directly distributed to the target population. The sample procurement was completed from the beginning of May 2022 to the middle of October 2022. After eliminating invalid responses, the final total number of valid surveys received was 808 with a response rate of 85.05 percent. Table 2 demonstrated the sociodemographic information of the respondents in two waves of data collection. The proposed model was analyzed using SPSS 30.0 and Smart-PLS 4.1.0.9.

Table 2. Demographic Information

Demographic Profile	Model 1 (Sample size = 558)		Model 2 (Sample size = 808)	
	Usable Responses	Weight %)	Usable Responses	Weight (%)
Gender				
Male	206	36.92	382	47.28
Female	352	63.08	426	52.72
Age				
Below 30	14	2.51	74	9.16
31 – 40	293	52.51	361	44.68
41 – 50	212	37.99	307	38.00
Above 51	39	6.99	66	8.17
Experience (years)				
Below 10	34	6.09	124	15.35
10 – Below 20	346	62.01	379	46.91
20 – Below 30	159	28.49	275	34.03
Over 30	19	3.41	30	3.71
Education				
Undergraduate	482	86.38	686	84.90
Postgraduate	76	13.62	122	15.10

5. Results and Discussion

5-1. Common Method Bias

In order to examine the potential existence and impacts of common method bias, this study utilized the Harman single-factor analysis. The presence of the common method bias was postulated when a singular factor accounts for more than 50% of the total variance extracted. Furthermore, all variance inflation factor (VIF) values should be below the threshold of 3.3 (Kock, 2015).

The first factor in Model 1 contributed 11.821% of the total variance. The VIF scores, ranging from 1.539 to 2.950, were lower than the recommended cutoff of 3.3.

The first factor in Model 2 contributed 11.690% of the total variance. The VIF scores, ranging from 1.502 to 2.824, were lower than the recommended cutoff of 3.3.

5-2. Measurement Model Assessment

Based on the perspectives of Hair et al. (2024), outer loadings should exceed the value of 0.7. The average variance extracted (AVE) for the constructs should exceed 0.5 (Hair et al., 2024) to provide further support for convergent validity. The value of Cronbach's alpha and composite reliability (composite reliability rho_c) of each construct should surpass the cutoff value of 0.7 (Hair et al., 2024). The composite reliability rho_a should be higher than the cutoff score of 0.70 (Dijkstra & Henseler, 2015). The appropriate detail of reliability and convergent validity are presented in Table 3, highlighting that both of the Models 1 and 2 obtain the reliability and robustness of the measurement model.

As suggested by Henseler et al. (2015), the Heterotrait–Monotrait ratio (HTMT) indices were significantly lower than 0.85 (refer to Table 4). To that end, all the constructs in the proposed model demonstrated discriminant validity for the empirical data, both during the lockdown period and in the new normal phase.

Table 3. Summary of the Results for Convergent Validity and Construct Reliability

Constructs and operationalization		Model 1 (N=558) Adventure in the period of lockdown					Model 2 (N=808) Adventure in the period of new normal					Inference
		Convergent validity		Construct reliability			Convergent validity		Construct reliability			
		Factor Loadings	AVE	Cronbach's Alpha	Composite Reliability rho_c	Composite Reliability rho_a	Factor Loadings	AVE	Cronbach's Alpha	Composite Reliability rho_c	Composite Reliability rho_a	
Perceived appropriateness	**PA**	0.779 - 0.846	0.678	0.842	0.894	0.851	0.780 - 0.834	0.671	0.837	0.891	0.842	Retained
Perceived effectiveness	**PE**	0.728 - 0.828	0.568	0.848	0.887	0.853	0.721 - 0.815	0.564	0.846	0.886	0.854	Retained
External motivation	**EM**											
Environmental uncertainty	EU	0.877 - 0.904	0.793	0.870	0.920	0.870	0.877 - 0.902	0.795	0.871	0.921	0.872	Retained
Supports of stakeholder	SOS	0.852 - 0.882	0.746	0.829	0.898	0.830	0.851 - 0.878	0.742	0.826	0.896	0.826	Retained
Internal dynamics	**ID**											
Competence of accountant	COA	0.797 - 0.871	0.715	0.800	0.882	0.808	0.787 - 0.860	0.707	0.793	0.878	0.802	Retained
Effective performance management framework	EPMF	0.871 - 0.899	0.785	0.863	0.917	0.864	0.865 - 0.889	0.765	0.846	0.907	0.846	Retained
Transactional leadership	TL	0.833 - 0.868	0.722	0.808	0.886	0.808	0.818 - 0.868	0.703	0.788	0.876	0.791	Retained
Organizational sustainability	**OS**											
Sustainability employee	SEM	0.860 - 0.902	0.787	0.864	0.917	0.864	0.853 - 0.903	0.784	0.862	0.916	0.863	Retained
Sustainability environment	SEN	0.831 - 0.897	0.760	0.842	0.905	0.851	0.835 - 0.894	0.761	0.843	0.905	0.851	Retained
Sustainability beneficiaries	SBE	0.851 - 0.878	0.752	0.835	0.901	0.837	0.862 - 0.885	0.757	0.840	0.903	0.842	Retained
Organizational resilience	**OR**											
Capital resilience	CAR	0.853 - 0.874	0.741	0.826	0.896	0.829	0.846 - 0.876	0.736	0.821	0.893	0.824	Retained
Strategic resilience	STR	0.839 - 0.867	0.732	0.817	0.891	0.817	0.848 - 0.857	0.728	0.814	0.889	0.818	Retained
Cultural resilience	CUR	0.860 - 0.892	0.762	0.844	0.906	0.844	0.855 - 0.894	0.757	0.839	0.903	0.841	Retained
Relationship resilience	RER	0.863 - 0.871	0.754	0.837	0.902	0.839	0.863 - 0.871	0.754	0.837	0.902	0.838	Retained
Learning resilience	LER	0.850 - 0.871	0.743	0.827	0.897	0.831	0.838 - 0.867	0.733	0.819	0.892	0.826	Retained
Behavioral intention to adopt	**BIA**	0.875 - 0.925	0.811	0.883	0.928	0.889	0.874 - 0.921	0.808	0.881	0.926	0.886	Retained

Table 4. Summary of the Results for Discriminant Validity on Heterotrait–Monotrait Ratio

Model 1
Adventure in the lockdown period

	BIA	CAR	COA	CUR	EPMF	EU	LER	PA	PE	RER	SBE	SEM	SEN	SOS	STR	TL
BIA																
CA	0.3															
R	11															
CO	0.3	0.1														
A	92	11														
CU	0.2	0.3	0.0													
R	83	19	93													
EP	0.2	0.0	0.2	0.0												
MF	42	47	93	46												
	0.3	0.1	0.3	0.1	0.09											
EU	88	11	02	08	7											
LE	0.1	0.2	0.0	0.1	0.06	0.1										
R	69	47	48	78	7	90										
	0.4	0.1	0.2	0.1	0.09	0.1	0.0									
PA	03	15	11	03	9	69	96									
	0.3	0.1	0.1	0.1	0.07	0.1	0.1	0.1								
PE	62	39	27	56	9	46	65	43								
RE	0.2	0.2	0.0	0.0	0.03	0.1	0.2	0.0	0.0							
R	33	21	58	52	4	21	18	68	99							
SB	0.2	0.0	0.0	0.1	0.14	0.0	0.1	0.1	0.2	0.1						
E	57	71	66	01	4	89	04	18	64	78						
SE	0.3	0.0	0.0	0.2	0.05	0.0	0.0	0.0	0.0	0.1	0.2					
M	53	71	70	02	0	54	37	56	73	37	61					
SE	0.3	0.1	0.0	0.1	0.07	0.0	0.0	0.1	0.1	0.1	0.2	0.2				
N	42	55	65	70	3	49	86	12	19	11	52	63				
SO	0.1	0.0	0.1	0.0	0.13	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
S	59	63	19	77	4	98	58	51	73	99	29	67	88			
ST	0.1	0.1	0.0	0.1	0.04	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0		
R	28	69	54	58	4	41	11	74	24	26	64	96	84	69		
	0.2	0.1	0.2	0.1	0.04	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	
TL	05	46	47	85	0	19	37	70	77	44	52	20	75	51	61	

Model 2
Adventure in the new normal phase

	BIA	CAR	COA	CUR	EPMF	EU	LER	PA	PE	RER	SBE	SEM	SEN	SOS	STR	TL
BIA																
CA	0.3															
R	29															
CO	0.3	0.1														
A	60	15														
CU	0.2	0.2	0.0													
R	77	96	73													
EP	0.2	0.0	0.2	0.0												
MF	56	39	88	54												
	0.3	0.1	0.2	0.1	0.09											
EU	68	66	77	48	9											
LE	0.1	0.2	0.0	0.1	0.03	0.1										
R	95	20	35	51	9	79										
	0.4	0.0	0.1	0.0	0.10	0.1	0.1									
PA	22	90	97	97	5	58	11									
	0.3	0.1	0.1	0.1	0.05	0.0	0.1	0.1								
PE	70	13	24	50	1	92	42	79								
RE	0.2	0.2	0.0	0.0	0.08	0.0	0.2	0.0	0.0							
R	30	11	41	33	0	96	00	69	94							
SB	0.2	0.0	0.0	0.0	0.10	0.0	0.1	0.1	0.2	0.1						
E	62	88	39	91	7	62	39	01	34	64						
SE	0.3	0.1	0.0	0.1	0.04	0.0	0.0	0.0	0.0	0.1	0.2					
M	68	19	94	88	7	75	33	69	87	46	66					
SE	0.3	0.1	0.0	0.1	0.06	0.0	0.1	0.1	0.1	0.1	0.2	0.2				
N	34	39	73	07	5	50	04	27	33	50	66	60				
SO	0.1	0.0	0.1	0.0	0.09	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
S	45	44	16	52	5	87	58	39	59	74	46	67	70			
ST	0.1	0.1	0.0	0.1	0.02	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0		
R	68	85	42	55	0	79	26	84	03	44	76	22	06	46		
	0.1	0.1	0.2	0.1	0.04	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.1	
TL	52	63	80	62	2	94	00	85	58	06	20	46	36	58	39	

Structural model assessment. Concerning Model 1, the results in Table 5 and Figure 2 revealed that ID (H3; β= 0.252, t-value = 6.426, p-value = 0.000) was the greatest positive significant impact on BIA followed by PA (H1, β= 0.249, t-value = 6.609, p-value = 0.000) and PE (H2, β = 0.240, t-value = 6.467, p-value = 0.000). In the meanwhile, EM was substantiated to be the least positive significant impact on BIA (H4, β= 0.205, t-value = 5.552, p-value = 0.000). The paths between BIA and OS (H5, β = 0.401, t-value = 11.926, p-value = 0.000) as well as BIA and OR (H6, β= 0.352, t-value = 9.392, p-value = 0.000) were significant. Therefore, H1 to H6 were supported. The value of R^2 was 0.324 for BIA, 0.161 for OS, and 0.124 for OR. During the lockdown period, Table 4 highlighted that the f^2 effect size results for each construct showed significance ranging from small to medium. This study also reinforced encouraging predictive relevance, with Q^2 values of 0.254 for behavioral intention to adopt (BIA), 0.058 for organizational sustainability (OS), and 0.028 for operational results (OR), all of which were above zero (Hair et al., 2024).

Concerning Model 2, the results in Table 5 and Figure 3 revealed that PA (H1, β= 0.268, t-value=8.614, p-value=0.000) was the greatest positive significant impact on BIA followed by PE (H2, β=0.244, t-value=7.870, p-value=0.000) and ID (H3, β=0.225, t-value=6.762, p-value=0.000). In the meanwhile, EM was substantiated to be the least positive significant impact on BIA (H4, β= 0.210, t-value=7.034, p-value=0.000). The paths between BIA and OS (H5, β=0.404, t-value=14.035, p-value=0.000) as well as BIA and OR (H6, β=0.375, t-value=12.022, p-value=0.000) were significant. Therefore, H1 to H6 were supported. The value of R^2 was 0.319 for BIA, 0.164 for OS, and 0.140 for OR. In the new normal phase, Table 4 underscored that the f^2 effect size results for each construct demonstrated significance ranging from small to medium. This study also fortified gratifying predictive relevance, with Q^2 values of 0.251 for BIA, 0.060 for OS, and 0.032 for OR, all of which were above zero (Hair et al., 2024).

Table 5. Structural Coefficients (β) of the Hypothesized Model

	Model 1 (N=588) Adventure in the lockdown period					**Model 2 (N=808) Adventure in the new normal phase**					
Relevant path	**Path coefficient**	**Standard deviation (STDEV)**	**95% Confidence interval**	**t-value**	**p-value**	**Path coefficient**	**Standard deviation (STDEV)**	**95% Confidence interval**	**t-value**	**p-value**	**Result**
PA → BIA	0.249	0.038	[0.176 - 0.323]	6.609	0.000	0.268	0.031	[0.207 - 0.328]	8.614	0.000	Supported
PE → BIA	0.240	0.037	[0.163 - 0.308]	6.467	0.000	0.244	0.031	[0.181 - 0.303]	7.870	0.000	Supported
ID → BIA	0.252	0.039	[0.175 - 0.328]	6.426	0.000	0.225	0.033	[0.158 - 0.289]	6.762	0.000	Supported
EM → BIA	0.205	0.037	[0.130 - 0.275]	5.552	0.000	0.210	0.030	[0.151 - 0.269]	7.034	0.000	Supported
BIA → OS	0.401	0.034	[0.331 - 0.462]	11.926	0.000	0.404	0.029	[0.346 - 0.458]	14.035	0.000	Supported
BIA → OR	0.352	0.037	[0.277 - 0.423]	9.392	0.000	0.375	0.031	[0.313 - 0.435]	12.022	0.000	Supported
R^2	$R^2_{BIA} = 0.324$; $R^2_{OS} = 0.161$; $R^2_{OR} = 0.124$					$R^2_{BIA} = 0.319$; $R^2_{OS} = 0.164$; $R^2_{OR} = 0.140$					
f^2	$f^2_{PA \Rightarrow BIA} = 0.087$; $f^2_{PE \Rightarrow BIA} = 0.083$; $f^2_{ID \Rightarrow BIA} = 0.086$; $f^2_{EM \Rightarrow BIA} = 0.058$; $f^2_{BIA \Rightarrow OS} = 0.192$; $f^2_{BIA \Rightarrow OR} = 0.141$					$f^2_{PA \Rightarrow BIA} = 0.100$; $f^2_{PE \Rightarrow BIA} = 0.084$; $f^2_{ID \Rightarrow BIA} = 0.069$; $f^2_{EM \Rightarrow BIA} = 0.061$; $f^2_{BIA \Rightarrow OS} = 0.196$; $f^2_{BIA \Rightarrow OR} = 0.163$					
Q^2	$Q^2_{BIA} = 0.254$; $Q^2_{OS} = 0.058$; $Q^2_{OR} = 0.028$					$Q^2_{BIA} = 0.251$; $Q^2_{OS} = 0.060$; $Q^2_{OR} = 0.032$					

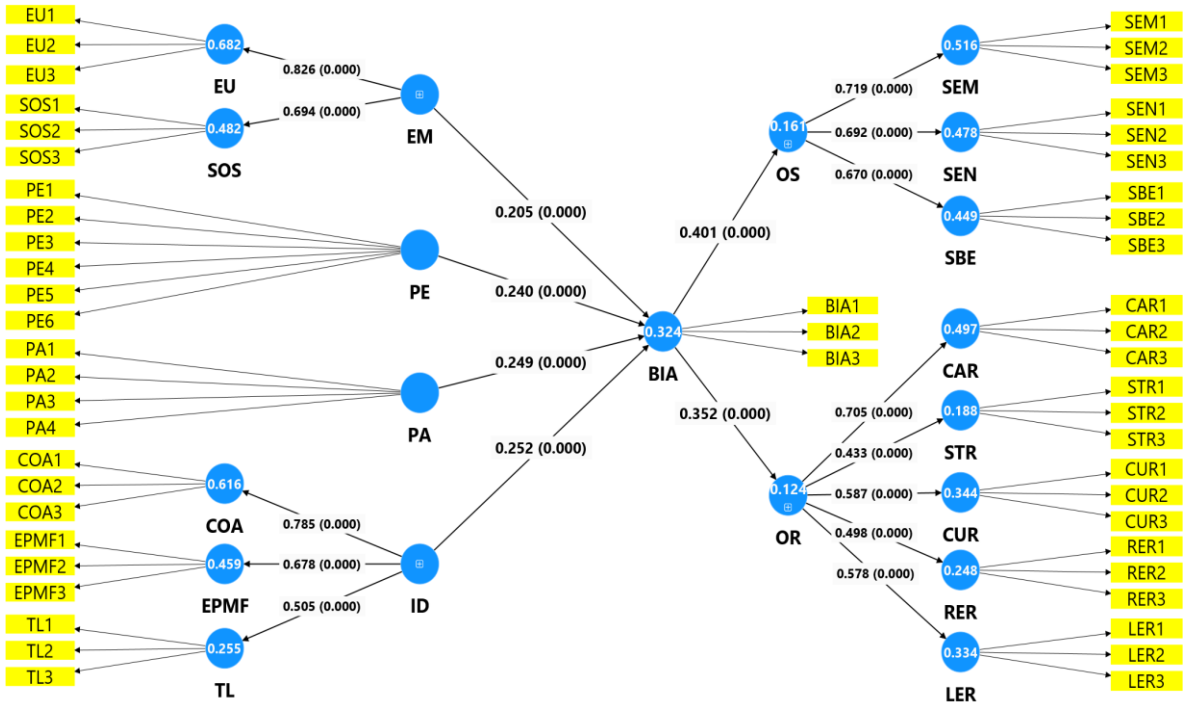

Fig. 2. Structural Model for Model 1

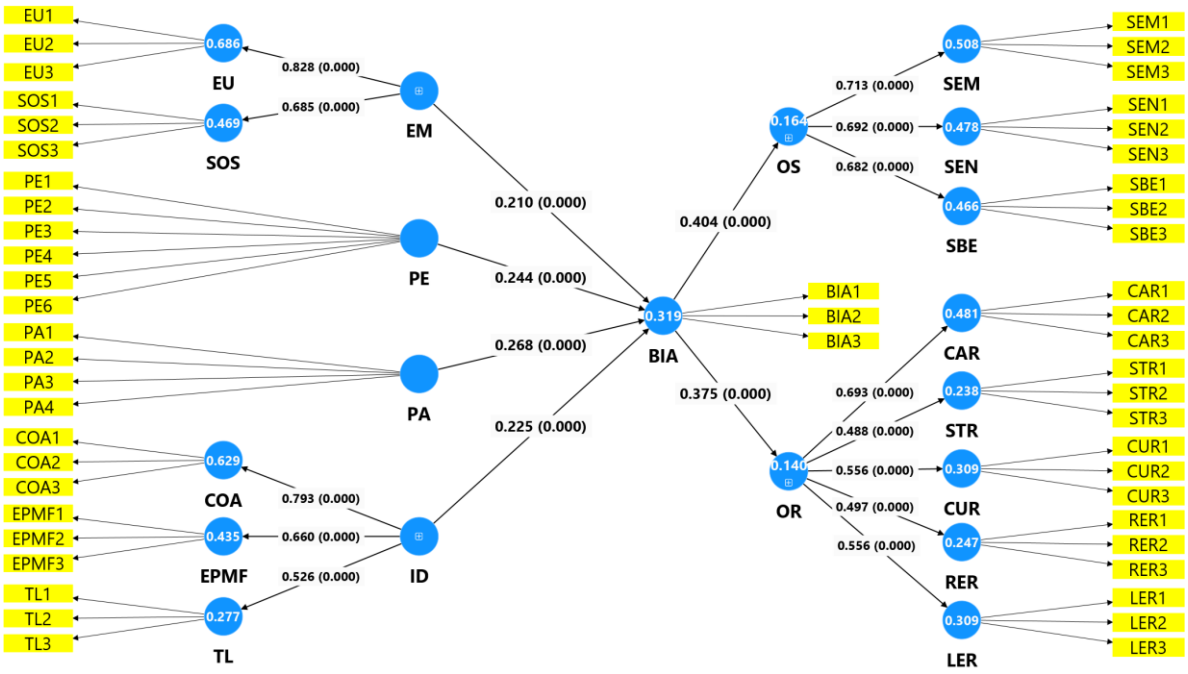

Fig. 3. Structural Model for Model 2

6. Concluding Thought and Future Referrals

6-1. Theoretical Implication

It is evident that PA and PE have significant influences on determining BIA throughout both the lockdown period and the new normal phase. The available information strongly supports the notion that both PA and PE were reliable indicators of BIA. According to researchers, this scientific endeavor may be among the fewer studies to offer novel and important insights into the unique impacts of PA and PE on BIA. Organizations are adopting PBB to distribute resources more efficiently (He & Ismail, 2023). The PBB method emphasizes on outcomes and performance rather than solely on the administrative and procedural dimensions of budget management (Priatsaleh & Sinambela, 2025).

This is becoming progressively crucial due to escalating global concerns, such as economic crisis, climate change, and pandemics, which compel governments to adopt more responsive and data-driven policies.

Moreover, ID and EM were verified to be among the most stable critical success factors of PBB implementation throughout both the lockdown period and the new normal phase. According to researchers, this scientific endeavor may be among the few studies to offer novel and important insights into the unique impacts of ID and EM on BIA. The findings of this research are partially in line with the research of Khudhair et al. (2025) who found that TL significantly enhances PBB facilitation, while servant leadership induced an indirect effect, highlighting the need for a balanced leadership approach. This research supports and expands upon the findings of Mauro et al. (2018), who emphasized that the ID and external pressure were the factors that determined the institutionalization of PBB. It is evident that the role of EM and ID for BIA remained unchanged during both the lockdown period and the new normal phase. The implementation of performance-based budgeting (PBB) has the potential to be effective based on the effectiveness model (EM). Furthermore, the successful implementation of PBB would be bolstered by strong public and political support, backing from key budget stakeholders, and encouragement from both the executive and legislative branches (Holzer et al., 2015).

Implementation outcomes are crucial in implementation research and practice (Weiner et al., 2017). In line with researchers' expectations, BIA was reported to impact OR throughout both the lockdown period and the new normal phase. This study also found similar results to prior investigations about the impact of budgeting on enhancing OR (i.e., Barbera et al., 2020; Eichholz et al., 2024). As anticipated, the obtained observations in this research underlined the significant impact of BIA on OS throughout both the lockdown period and the new normal phase. The statistical data supported and expanded upon the stated findings about the impact of budgeting on facilitating OS (i.e., Mirzamani et al., 2022). Currently, the main focus is on how PBB affected the ability of an organization to withstand and recover from challenges.

The primary focus of every organization in the new normal period is to strengthen their OR, since it was crucial for achieving the overall sustainable development (Rai et al., 2021). The use of PBB would allow PSO to improve and enhance the allocation of resources, while also considering costs and performance. It would enhance the ability to compare spending between departments and support informed decision-making regarding organizational resources. According to He and Ismail (2023), the budgeting system serves as a tool for coordinating different departments within the organization, as well as for controlling and measuring employee performance, motivating them, and improving communication.

6-2. Practical Implications

Management lessons from this empirical investigation indicate that PA and PE are crucial to achieving the goals of PBB implementation. To promote PBB implementation, PSOs should purposefully raise awareness and provide regular training for their accountants. PSO leaders at all levels must promote, coach, and set challenging but achievable goals for accountants. It was believed that public sector accountants needed advanced PBB skills. PBB courses for accountants should be carefully chosen by leaders. New accountants need a safe, comfortable learning environment, career planning guidance, and a sense of community. Leadership was also emphasized as a crucial concern for PSOs. Leadership boosted policy implementation and institution performance enhancement. Leadership should create a clear vision of the new paradigm with defined criteria to adopt PBB. Without effective leadership, PBB was unlikely organization-wide. An environment that encourage leaders to promote and encouraged subordinates to be more imaginative and productive in managing successful organizations should be examined. Performance management is crucial to the PBB implementation of PSO in this study. Therefore, an effective performance management system should create more social interaction communities to routinely gather important stakeholders' support for efficient budget allocation and increased organizational performance. Policymakers were recommended to implement and improve crises-related environmental uncertainty. To solve financial and institutional shortcomings, governments should support an efficient performance management system in all PBB implementation activities.

6-3. Limitations and Orientation for Future Research

Several constraints will serve as foundational starting points for future initiatives. The sample from the Southern region of Vietnam may not be readily applicable to other contexts due to its regional origin significance. Consequently, conducting replications and expansions in broader geographical areas would evaluate the robustness and generalizability of the results. The second limitation is the restricted data set obtained through an anonymous survey from a convenient selection of respondents. The convenience and snowball sampling methods employed in this study may have biassed the results towards specific demographics. To corroborate existing findings, the circulation among the target group should be augmented. When feasible, random samples should be obtained in subsequent studies to validate findings. This study is among the rare efforts to examine the predictors of PBB implementation intentions inside successful performance management systems during the COVID-19 crisis across two significant time periods; nonetheless, the interconnections within the structural model appeared static. In this regard, employing a more the longitudinal approach is the most appropriate solution for empirical validation of the findings.

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