

# How does budget participation affect managerial performance in the higher education sector? A mediated-moderated model

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## Abstract

**Purpose** – Employee participation in budgeting enhances motivation and commitment, leading to better performance by enhancing ownership. Within Iraqi higher education institutions (HEIs), the current investigation delves into the influence of participative budgeting on managerial performance. Drawing upon goal-setting theory, this study discerns budget goal commitment as a mediating variable while also examining directive leadership as a moderator in the dynamics of this association.

**Design/methodology/approach** – The current study used partial least squares structural equation modelling (PLS-SEM) using SmartPLS 4.0. 373 questionnaires were collected from managers in Iraqi public universities, with 58.37% responding.

**Findings** – The findings show that budget goal commitment partially mediates the connection between budget participation and managerial performance. Furthermore, the results showed that directive leadership increases the positive associations between budget goal commitment and managerial performance.

**Originality/value** – This study expands the existing literature by shedding light on the mediating role of budget goal commitment and the moderating influence of directive leadership. It also enriches the discourse in management accounting by providing a more elucidation of how employee involvement in the budgeting process enhances managerial performance.

**Keywords** Budget goal commitment, Budget participation, Managerial performance, Directive leadership

**Paper type** Research paper

## 1. Introduction

Performance is considered an important part of measuring the level of success of any university (Kamaruddin and Hanefah, 2023; Mah'd, 2014). However, a disturbing trend is



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emerging globally: some HEIs are seeing a slump in performance. This decline in performance may be due to the non-optimal use of resources and the failure to use a practical approach in distributing these resources. This weakening in performance affects academic outcomes and tarnishes the reputation of universities, discouraging both local and international students from seeking admission, thereby further undermining their stature and potential for positive impact (Kenno *et al.*, 2021; Sofyani *et al.*, 2023). In the Iraqi context, government universities have received vast amounts of government grants to boost their performance, which has led to observed growth in their budgets over the past two decades (Alkndlee *et al.*, 2023). Nonetheless, most public universities are faced with a low rate of performance, which suggests a problem in how they manage vast amounts of funding. Thus, there is a requirement to implement management tools that ensure a high budget control level in order to improve performance. Furthermore, it is integral to determine factors that are integral to managerial performance (MP) in HEIs and develop an appropriate strategy to curb this poor performance. Thus, the research question under review focuses on what propels the excellence of MP in HEIs. More specifically, this study aims to understand whether involvement in budgetary processes enhances managerial capabilities in HEIs. Silva *et al.* (2023a, b), noted that budgeting is necessary and needs to be integrated into management systems because it positively impacts performance. Meanwhile, some studies have pointed out the importance of budget participation (BP) in improving MP (e.g. Alhasnawi *et al.*, 2023a, b; Her *et al.*, 2019; Nguyen *et al.*, 2019). Therefore, this issue has been given much attention with the aim of investigating the association between BP and MP (Nguyen *et al.*, 2019).

Numerous studies have investigated the association between BP and MP. However, the results are still unclear on whether the significance is positive or negative, which is inconsistent with the goal-setting theory (Alhasnawi *et al.*, 2023a, b; Her *et al.*, 2019; Silva *et al.*, 2023a, b). These contrasting findings can be attributed to (either) the use of single or multiple-item assessments or variances between industries (Durfuss, 2016). For instance, most research on the link between BP and MP has focused on the industrial sector. According to Chong and Johnson (2007), the lack of definitive findings may be related to a misunderstanding of how individuals participate in the budgeting and its impact on performance. Besides, it may be because other factors or variables influence MP outside just the level of participation in the budget process, such as the type of leadership style (Alhasnawi *et al.*, 2023a, b). Shields and Shields (1998) claimed that including mediation and moderation in a single framework improves our understanding of the complex link between BP and MP. Nevertheless, most past literature has been attentive to the mediating role of BP and MP (Jermias and Yigit, 2013; Macinati and Rizzo, 2014; Silva *et al.*, 2023b). Moreover, a few empirical studies have investigated the moderating variables that impact this relationship (e.g. Her *et al.*, 2019; Nguyen *et al.*, 2019). Alhasnawi *et al.* (2023a, b) stated that leadership style is one variable that may be enough to strengthen or weaken the relationship between BP and MP. Their study shows that participative leadership has a strong positive impact on the relationship between BP and BGC. Although participative leadership permits people to contribute to decision-making, directive leadership is more autocratic, with the leader making decisions independently and presenting clear roles to guide the individuals. Yet, there is a lack of studies that explore to what extent directive leadership impacts the relationship between BP and MP; therefore, it is unclear whether this leadership style, which has unique traits, can affect this relationship. Consequently, in contrast to earlier research that focused on participative leadership, the present study makes use of a directive leadership style as a moderating variable. The choice of directive leadership is essential because of the characteristics of this type of leadership. In addition, it contributes to and extends the ongoing studies about the relative benefits of this leadership behaviour on BP and MP relationships. Furthermore, this thoughtful choice emphasizes the significance of clear expectations and guidelines within the unique cultural context of Iraqi HEIs.

The current study is different from prior studies in several ways. First, it discovers the moderating influence of directive leadership, which is not examined enough (Alhasnawi *et al.*, 2023a, b). Thus, this study adds to the budget and MP literature by building a theoretical model and offering empirical evidence by exploring how directive leadership moderates the association between budget goal commitment (BGC) and MP. Secondly, according to Silva *et al.* (2023a, b), expanding the relationship between BP and MP through more research into neglected industries can help understand unclear findings. Thus, the current study contributes to the present literature by broadening the reach of goal-setting theory by investigating a previously unexplored context: public universities in Iraq. Third, the current study was conducted in the MEAN context, specifically in Iraq, an area neglected in prior studies. This study employed the goal-setting theory to explore the connection between participatory budget and MP in Iraqi public universities.

### *1.1 Motivation of study*

Several factors motivated researchers to conduct this research. BP is still a crucial issue in organizational milieus, as it provides one of the main tools to evaluate organizational performance (Duan *et al.*, 2022; Her *et al.*, 2019). One marked aspect of HEIs globally, particularly in Iraq, is their declining quality and performance (Alhasnawi *et al.*, 2023a, b; Salman *et al.*, 2023). This scenario demands a critical reappraisal of the link between BP and MP, mainly the prudent apportionment and use of financial resources (Khairan *et al.*, 2023; Mah'd, 2020). Moreover, the need for efficient budget management in the Iraqi HEI sector is evident with the demonstrated relationship between the budget implementation strategies and institutions' performance (Salman *et al.*, 2023). In this regard, the active participation of the employees in the budget-forming processes is assumed to make the information exchange more productive, create employees' more significant commitment to the organization's goals, and, consequently, become a strong point of MP (Nguyen *et al.*, 2019). Importantly, an outstanding problem in the literature is identified, which stems from the inconsistent and contradicting results regarding the BP and MP relationship in previous studies (Alhasnawi *et al.*, 2023a, b; Nguyen *et al.*, 2019; Silva *et al.*, 2023a, b). This discord among findings instigates the demand for further empirical studies to clarify the complicated and multifaceted nature of this relationship (Riyadh *et al.*, 2023; Silva *et al.*, 2023a, b). As a result, the present study purposes to contribute to the body of literature by providing a more finely-grained overall picture of the interaction between BP and MP in HEIs.

## **2. Literature review and hypotheses development**

### *2.1 Budget participation and budget goal commitment*

Goal-setting theory postulates that the active involvement of managers in the budget planning process significantly impacts their commitment to the budget goals, which is a psychological state reflecting their attitude toward these goals (Macinati and Rizzo, 2014). The BGC is expected to be positively affected by the increased involvement of managers in the budget process at Iraqi HEIs. The ability to participate in and influence the budget-setting process boosts subordinates' sense of control and engagement in budgets. Such feelings strengthen subordinates' devotion to budget objectives (Chong and Chong, 2002a). A body of prior accounting studies suggested that involving subordinates in budgetary decisions fosters a greater commitment to the established goals (Chong and Chong, 2002b; Macinati and Rizzo, 2014; Nguyen *et al.*, 2019). This can lead to increased commitment, motivation, and morale among staff members as it communicates to them that their superiors see them as valuable partners in decision-making (Jermias and Yigit, 2013; Nguyen *et al.*, 2019). Therefore, the study hypothesizes that budget participation's motivational aspect is expected to boost BGC significantly.

H1. Budget participation has a positive effect on budget goal commitment.

### *2.2 Budget goal commitment and managerial performance*

Goal-setting theory refers to having objectives that can be beneficial to enhance performance, and existing research shows that when individuals accept and commit to a goal, they perform better (Locke and Latham, 1990). In Iraqi HEIs, the prevailing resource limitations and conflicting priorities require managers to commit to budget goals. Therefore, managers' participation in the budget process increases their commitment because they feel more aligned with these goals. Furthermore, Chong and Chong (2002a, b) noted that when individuals commit to a particular objective, it affects their actions and, as a result, how well they perform in reaching their budget goal levels. A robust commitment to budget goals indicates active engagement and efficient resource allocation, ensuring adequate support for academic and administrative functions. The alignment of managerial efforts and budget goals in Iraqi higher education cultivates accountability and strategic decision-making, and contributes to improving MP. A substantial number of studies indicate a positive and significant association between participation in the budget and BGC (e.g. Alhasnawi *et al.*, 2023a, b; Bernd *et al.*, 2022; Nguyen *et al.*, 2019). Thus, it suggests that high BGC leads to high performance. Thus, the following hypothesis has been established.

H2. Budget goal commitment has a positive effect on managerial performance.

### *2.3 Budget participation and managerial performance*

Budget participation denotes the degree to which managers participate in and influence the budget setting for their respective institutions (Chong, 2002). Using budgets to encourage and control employees at Iraqi HEIs can have unintended behavioural and attitude implications, and including subordinates in the budgeting process might mitigate these effects (Etemadi *et al.*, 2009; Sastrawan *et al.*, 2020). Setting budget-based goals can help top-level managers get all the information they need for an accurate budget, boost employee motivation, and ensure the budget is strictly adhered to Atiyah *et al.* (2023), Macinati and Rizzo (2014). Prior studies show that participation in budgeting has been shown to increase performance (e.g. Alhasnawi *et al.*, 2023a, b; Chong, 2002; Nguyen *et al.*, 2019; Sastrawan *et al.*, 2020) because it boosts job satisfaction, fairness, self-efficacy, role clarity, commitment, and trust in employees. In light of this justification, the study hypothesises that.

H3. Budget participation has a positive effect managerial performance.

### *2.4 Mediating effects of budget goal commitment*

Goal-setting theory proposes that individuals' contribution to decision-making increases their commitment to the goal (Silva *et al.*, 2023b). Active involvement of individuals in the budget process significantly correlates with developing a solid commitment to budget objectives. Therefore, employees perform better when they accept and commit to attaining a goal (Locke and Latham, 1990). On this basis, individuals can feel a sense of ownership of the budget goals when they are involved in the budget process. That feeling of control can improve their commitment to attaining budget objectives. Accordingly, BGC arises as a vital intermediary, seamlessly connecting the participatory aspects of budgeting with improved MP (Wentzel, 2002). This interrelationship highlights the necessity of deep goal commitment within budget participation frameworks to effectuate a tangible enhancement in MP predicated on collaboratively established budget goals (Fachrudin and Sholihin, 2021). Prior accounting studies have found a statistically significant association between BP, BGC, and MP (e.g. Jermias and Yigit, 2013; Nguyen *et al.*, 2019). In Iraq, employees react positively to the

participative environment because decision-making is shared among all society employees, and subordinates are considered equal partners by their superiors (Alhasnawi *et al.*, 2023a, b). Moreover, according to empirical studies and goal-setting theory, a high level of commitment leads to higher performance. Based on theory, when individuals commit to budget objectives, they try to make more efforts to attain those goals. Moreover, according to empirical studies and goal-setting theory, a high level of commitment leads to higher performance. Based on this theory, once individuals are committed to budget objectives, they try to increase their efforts to attain those goals. Thus, based on the above discussion, the next hypothesis has been established.

- H4. Budget goal commitment mediates the relationship between budget participation and managerial performance.

### 2.5 The moderating role of directive leadership

The evidence refers to the fact that leadership has no direct effect on employee performance but instead influences performance via motivational mechanisms. In contrast, empirical research has argued that budget participation is used to motivate employees, and one of the mechanisms of motivational participation is commitment to goals (e.g. Maiga, 2005). Budget goal commitment is one of the main goals of budget participation by the mechanism of motivational influence (Jermias and Yigit, 2013), while directive leadership can enhance that commitment through the motivational mechanism (Somech, 2005). Clear guidelines, direct monitoring, and unambiguous instructions are important intermediary factors determining how sound goal commitment translates into MP outcomes (Somech, 2005). Managers with a directive leadership style give their subordinates a systematic framework for achieving their goals, which can advance goal clarity and alignment (Guiquan *et al.*, 2018). Based on this, employees are more likely to show higher levels of commitment to the set objectives (Islam *et al.*, 2018).

Moreover, due to the fact that resource constraints and strategic allocation are critical within Iraqi HEIs, a directive leadership style can provide a worthy framework for managing budgets. The dynamic nature of the HEI landscape in Iraq, attached to the challenges of resource limits and competing priorities, demands a leadership style that offers clarity and commitment. In the context of the budget, the directive approach can facilitate decision-making and efficient allocation of resources. While other leadership styles, such as participative, have their merits, we believe that directive leadership is particularly suitable for our study due to its emphasis on clarity, guidance, and structured decision-making—all of which are essential elements when examining the intricate relationship between BGC and MP in the specific setting of Iraqi HEIs. Therefore, it is thought that directive leadership, in which a leader gives clear instructions, closely watches over subordinates, and stays in charge of the decision-making process will act as a moderating variable in this situation. As a result, striking the proper balance between directive leadership and autonomy becomes critical for optimizing the synergy between goal commitment and MP. According to the above arguments, this study claims that directive styles would help in strengthening the relationship between BGC and MP (see Figure 1):

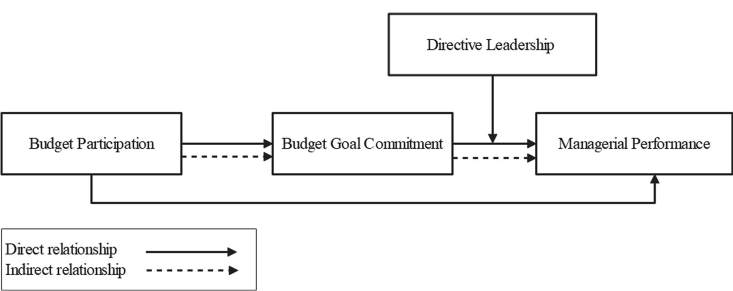
- H5. The directive leadership style moderates the relationship between budget goal commitment and managerial performance.

## 3. Research methodology

### 3.1 Sample and data collection

The present study has used a quantitative approach through a structured questionnaire, which has been widely used in prior studies (Kumari and Ajward, 2023). While there are 35

**Figure 1.**  
Research framework



**Source(s):** Figure created by authors

public universities in Iraq (Salman *et al.*, 2023), data was collected from only 20 universities that have full authority to prepare their budgets. Another reason for excluding the 15 universities is their full dependence on government funding. This means that their participation in preparing the budget may be weak (Alhasnawi *et al.*, 2023a, b), affecting the study goal of investigating the effect of budget participation on managerial performance. Based on G\*Power, the minimum sample size is 85. On the other hand, according to Hair *et al.* (2017), the sample size must exceed the number of structural paths that the structural model directs or be equal to or >10 times the indicators. Moreover, based on Krejcie and Morgan, the sample size should be 341 because the number of managers in Iraqi public universities is 3,073. Based on the different administrative responsibilities in Iraqi universities, there are different types of managers. However, the current study focused on managers who have a role in budget preparation. Therefore, deans, deputy deans, heads of the department, and financial, management, and audit managers were chosen as the respondents of this study. They were chosen due to their important roles in budget preparation (Alhasnawi *et al.*, 2023a, b). The final sample achieved the minimum sample size according to the above-mentioned criteria, which was 373 questionnaires. The data collection period was five months, from January to the end of May 2023. The researchers distributed approximately 639 questionnaires. However, 373 questionnaires were valid for analysis with a 58% response rate.

### 3.2 Instrument development and measurement of variables

The items were adapted and modified to suit the study's specific needs while maintaining the content and accuracy of the measurements. The validity of the adapted or adopted items was examined by seeking the opinions of three practitioners and five academic experts from different institutions. Additionally, the questionnaire underwent evaluation of English and Arabic grammar by specialists in both languages. The back-to-back translation approach has been used by two experts who translated the questionnaire into Arabic and then back to English in order to ensure the accuracy of the translation. The terminology used in the questionnaire was chosen to suit the comprehension level of managers in the Iraqi Ministry of Higher Education. Budget participation (6 items), managerial performance (9 items), and budget goal commitment (9 items) were measured using the scale adapted from Nguyen *et al.* (2019), while directive leadership (9 items) was measured using the scale adapted from Guiquan *et al.* (2018). Except for MP, which was measured on a scale from 1 (very low) to 5 (very high), other variables were evaluated using a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).



### 3.3 Common method bias

Technical and statistical strategies have been applied to ensure the data are common-method bias-free. The first method was telling participants that their answers would be anonymous and that they should provide their true opinions regardless of the consequences (Abubakar, 2018). Second, single and common latent factor analyses were employed to confirm that a common method bias did not exist (Althunibat *et al.*, 2021). Harman's one-factor and marker variable are different techniques to test common method bias. Despite the marker variable approach offering a more solid evaluation, Harman's one-factor analysis provided a preliminary check for common method bias due to its exploratory nature, and simplicity. Moreover, in terms of implementation and interpretation, it is relatively simple. As a result of its transparency, it is accessible to readers with varying levels of statistical expertise. As a result, many researchers have used it in earlier studies, such as Ng *et al.* (2022) and Hoque and Brosnan (2012). Harman's one-factor analysis shows that the variance rates are under 50%. As a result, the issue of common technique bias disappears.

### 3.4 Results

**3.4.1 Data estimation.** The descriptive analysis was performed using SPSS version 26. PLS-SEM was used to test the research model. While the Statistical Package for the Social Sciences (SPSS) was used to conduct descriptive analysis, the SmartPLS 4 has been utilized to test the measurement and structural model. The respondents' demographic data have been displayed Table 1. Males account for 87.1% ( $n = 325$ ) of the entire sample size, while females comprise 12.9% ( $n = 48$ ) of the population. This disparity demonstrates the existence of a gender gap in Iraqi higher education. Approximately 40% ( $n = 151$ ) of the participants were between 30 and 40. According to the data, 58.4% ( $n = 218$ ) of respondents hold a doctoral degree. In comparison, there were 21.10% ( $n = 79$ ) respondents with master's degrees and only 12.0%

Items	Characteristics	Frequency	Percentage (%)
Gender	Gender	325	87.1
	Male	48	12.9
Age	less than 30 years	6	1.6
	30 to 40	151	40.5
	40 to 50	132	35.4
	Above 50	84	22.5
Education	Others	6	1.6
	Diploma	25	6.7
	Bachelor	45	12.1
	Master	79	21.2
	PhD	218	58.4
Position	Dean	36	9.7
	Deputy Dean	79	21.2
	Head of Department	164	44.0
	Manager in Audit	37	9.9
	Managers in Finance	48	12.9
	Administrative manager	9	2.4
Work duration	Less than two years	6	1.6
	2–6 years	108	29.0
	6–10	145	38.9
	10–15	76	20.4
	More than 15	38	10.2

**Source(s):** Table created by authors

**Table 1.**  
Demographic  
information (373)

(n = 49) with bachelor’s degrees. The remaining 6.7% (n = 25) are diploma holders, and 1.6% (n = 6) have additional qualifications. Furthermore, 42.39% (n = 164) of the sample consisted of department heads. Deputy deans comprise 21.1% (n = 79), followed by the managers in the financial departments at 12.8% (n = 48). The manager of the administrative position is the rarest at 2.4% (n = 9).

*3.4.2 Measurement model.* Factor loadings (FL), composite reliability (CR), and average variance were extracted to assess convergent validity. Factor loading values ranged from 0.698 to 0.899 on average, exceeding the threshold of 0.5 suggested by [Hair et al. \(2017\)](#). Notably, items with a loading value lower than 0.5 were deleted. As shown in [Table 2](#), all AVE values were more than 0.5, and the CR was more than 0.7 ([Hair et al., 2017](#)); therefore, content validity was met. Moreover, the present study used the heterotrait-monotrait criterion (HTMT) to test discriminant validity. For the mediation-moderated analysis, PROCESS was used.

	Items	FL >0.7	CR >0.7	AVE >0.7
<i>Budget participation</i>				
1	BP1	0.698	0.929	0.686
2	BP2	0.821		
3	BP3	0.880		
4	BP4	0.875		
5	BP5	0.857		
6	BP6	0.824		
<i>Managerial performance</i>				
1	MP1	0.782	0.939	0.660
2	MP2	0.791		
3	MP3	0.838		
4	MP4	0.806		
5	MP5	0.807		
6	MP6	0.843		
7	MP7	D		
8	MP8	0.770		
9	MP9	0.883		
<i>Budget goal commitment</i>				
1	BGC1	0.809	0.913	0.601
2	BGC2	0.787		
3	BGC3	D		
4	BGC4	0.790		
5	BGC5	0.772		
6	BGC6	0.739		
7	BGC7	0.699		
8	BGC8	D		
9	BGC9	0.824		
<i>Directive leadership</i>				
1	DL1	0.837	0.931	0.772
2	DL2	0.895		
3	DL3	0.899		
4	DL4	0.881		

**Table 2.**  
Results of the  
measurement model

**Source(s):** Table created by authors



Moreover, the present study used the heterotrait-monotrait criterion (HTMT) to test discriminant validity. Discriminant validity was demonstrated by HTMT values, which were below 0.85, as shown in Table 3.

### 3.5 Assessment of structural model

PLS-SEM has been used to test the study's hypotheses using the bootstrapping procedure SmartPLS 4 to generate 5,000 resamples. The present study examined inner VIF values, path-coefficient findings,  $R^2$  values,  $f^2$  values, and  $Q^2$  values for predictive relevance. Since the path coefficients connecting the components in PLS-SEM were calculated using a series of regression analyses, it was essential to rule out the possibility of collinearity skewing the results (Hair *et al.*, 2017). The collinearity test results are shown in Table 4. Since the VIF scores for each individual construct were below the cutoff of 3.3, collinearity is not a problem.

Table 4 shows that BP has a significant relationship with MP ( $\beta = 0.539$ ,  $t = 14.610$ ,  $p > 0.01$ ,  $f^2 = 0.584$ ) and BGC ( $\beta = 0.621$ ,  $t = 21.356$ ,  $p > 0.01$ ,  $f^2 = 0.629$ ). Moreover, BGC was found to have a significant positive association with MP ( $\beta = 0.417$ ,  $t = 8.270$ ,  $p < 0.01$ ,

**Table 3.**  
Discriminant  
according to HTMT  
result

Constructs	1	2	3	4
1. Budget goal commitment				
2. Budget participation	0.674			
3. Directive leadership	0.759	0.341		
4. Managerial performance	0.784	0.834	0.440	

Source(s): Table created by authors

Path coefficient	St. Beta	St. Error	T-t	P-v	2.50% LB	97.50% UB	VIF	$f^2$	Result	$R^2$	$Q^2$
H1- BP → MP	0.539	0.037	14.610	0.000	0.467	0.610	1.719	0.584	Accept	0.611	0.601
H2- BP → BGC	0.621	0.029	21.356	0.000	0.564	0.679	1.000	0.629	Accept	0.385	0.382
H3- BGC → MP	0.417	0.050	8.270	0.000	0.319	0.517	2.806	0.214	Accept		
H5- PL × BP → BGC	0.124	0.028	4.425	0.000	0.070	0.180		0.044	Accept		

Conditional indirect effect(s) of BP and MP at values of directive leadership	Indirect effect		Confidence interval		p-values
	St. Beta	T-t	LB	UB	
H4- BP → BGC → MP	0.259	7.750	0.195	0.330	0.000
Low level of directive leadership	0.276	5.799	0.182	0.367	0.000
Mean level of directive leadership	0.373	8.396	0.288	0.462	0.000
High Level of directive leadership	0.471	9.208	0.370	0.572	0.000
Index of moderated mediation	0.064	5.208	0.271	0.461	0.002

Note(s): BP: Budget Participation; BGC: Budget Goal Commitment; DL: Directive Leadership; MP: Managerial Performance

Source(s): Table created by authors

**Table 4.**  
Structural model

$f^2 = 0.214$ ). Therefore, hypotheses H1, H2, and H3 have been supported. The mediation result of BGC (BP to BGC to MP) was significant ( $\beta = 0.259$ ,  $t = 7.670$ ,  $p < 0.01$ ), which means that H4 has been accepted. Moreover, the present study used the analytical method described by Nitzi *et al.* (2016) to support the mediation hypothesis. First, the existence of the BGC mediation effect was tested by generating a 95% bias-corrected bootstrap confidence interval of the indirect effect using the bootstrapping approach with a resample of 5,000. Table 4 shows that the bootstrap confidence interval values in the 95% bias-corrected level do not include 0 anywhere, suggesting that BGC mediates the connection between BP and MP. The correlation between BP and MP was significant, which means that mediation is partial. Furthermore, moderation analysis results show that directive leadership significantly moderates the relationship between BGC ( $\beta = 0.124$ ,  $t = 4.425$ ,  $p < 0.001$ ,  $f^2 = 0.044$ ) and MP. As a result, H5 is accepted. The researchers refer to the  $R^2$  range between 0 and 1, with larger values referring to high prediction accuracy (Appannan *et al.*, 2022). Path coefficient results show that MP yielded the highest coefficient determination ( $R^2 = 61.1\%$ ) by BP and BGC. In addition, the relationship of BP on BGC produced an  $R^2$  of 38.5% (see Table 4). Lastly, the result shows that the  $Q^2$  values for both endogenous constructs (BGC and MP) were more than zero (see Table 4), representing that the model has predictive relevance (Geisser, 1974; Zaidan *et al.*, 2023). A mediation moderated occurs when there is a moderation relationship regarding the links that structure the indirect influence of BP on MP (Hayes, 2013). This indirect effect depends on the value of the moderating variable, directive leadership. A formal test of mediation-moderated called the mediation-moderated index, must be conducted to assess this conditional process model (Hayes, 2015). The index measures how linearly related the mediator and mediating effect are. Table 4 shows that the moderated mediation hypothesis is supported because the confidence interval does not contain zero (95% CI: 0.271 to 0.461). The indirect effect of BP on MP through BGM depends on the directive leadership style.

#### 4. Discussion

Drawing upon goal-setting theory, the current study examined the association between BP, BGC, and MP. This study identified BGC as a crucial mediator in linking BP to MP. The result indicates that BP is positively related to BGC and MP. The results also identified BGC as a variable that mediates their relationship. Moreover, the findings show that directive leadership positively moderates the relationship between BGC and MP. These results support those observed in prior studies about the association between BP and MP conducted by Chong and Chong (2002a, b), Nguyen *et al.* (2019), and Silva *et al.* (2023a, b). The current study has gone some way toward enhancing our understanding of the mediation role of BGC in relational participation mechanisms and its influence on performance. Participation in budget processes and budget objectives in HEIs contributes to improving performance, creating a sense of ownership, and attaining all-around organisational achievements. These results would support the hypothesis of the goal-setting theory that commitment to goals leads to high performance. It emphasises the psychological aspect of goal setting, showing that integrating objectives through participating means is vital to the trend towards increased performance.

Moreover, the research looks into the moderating role of directive leadership style, and consequently, the understanding of the relationship is increased. Considering the kind of leadership that influences the relationship between budget inclusion and management performance, it is paramount to look at how these types of leadership do that. The data showed that a leadership style, particularly a directive one, could enhance the correlation between BGC and MP more closely. The finding that directive leadership moderates the link between BGC and BIC is entirely new for leadership theory. This type of leadership approach,

which focuses on using specific instructions for goal accomplishment, leads to greater goal commitment and, therefore, performance efficiency. Perhaps this is because directive leadership allows for setting clear expectations and a structure that could be used to improve the attainment of goals by such leaders. This interaction is evidence that the success of leadership styles might be context-specific based on the level of buy-in of middle-level managers, who often accept leadership styles based on these situational factors as advised under the path-goal theory.

#### *4.1 Theoretical implications*

Using goal-setting theory, this study investigates how BGC works as a moderator between BP and MP. Despite the key goal-setting theory being on personal goal-setting and achievement, this study sheds light on how this theory may be utilised in the context of budget, where purposes are frequently cooperative and ingrained in management control systems. Moreover, this study adds to the BP literature by examining directive leadership as a moderator variable in the goal commitment-managerial performance relationships, which sheds light on this ignored aspect. In doing so, the study contributes valuable insights into how leadership styles can improve or mitigate the relationship between BP and MP. The combination of both moderating and mediating variables in a single framework can provide a greater understanding of the complete picture of budget participation's effect on MP. In addition, the current study adds to the existing body of knowledge by investigating BP concerning HEIs, specifically in the MENA area, thus deepening our comprehension of its consequences in various contexts.

#### *4.2 Practical applications*

The study introduces valuable insights into understanding the complex interaction between BP and MP, especially HEIs. More specifically, this study shows a subtle view of the goal-setting theory in higher education budgeting processes. Moreover, it provides a complete picture of the influence of various factors on managerial performance under budget contexts by introducing budget goal commitment as a mediator. Hence, the need for HEI managers to commit to budget goals is emphasized. This allows academic leaders and managers of HEIs to improve performance, which leads to the success of an institution through a culture of ownership and commitment. Therefore, managers and administrators should enhance an effective commitment to budgetary goals to improve the possibility of achieving academic and institutional goals. Besides, results show that directive leadership plays a crucial role in moderating the relationship between BGC and MP. Therefore, inside the institutions, leaderships should realize how their style can reduce the impact of employees' commitment to goals. This means that organizations or even universities should reconsider their leadership styles that emphasize on the level of employee commitment to the attainment of budgetary goals. For example, a directive style of leadership could lead to high performance in instances where employees show high commitment as they are given a clear goal and support. These research results provide valuable contemplations regarding the BP-BGC-leadership styles-MP relationship, thus, offering companies a guidance to improve their budgetary practices and performance.

### **5. Conclusion**

This study validates the fundamental principles of goal-setting theory by examining the complex interplay between BP, BGC, and MP. The findings reveal that BGC plays a crucial mediating role in the relationship between BP and MP. Additionally, the research identifies directive leadership as a moderator in these dynamics. The results underscore the beneficial

impacts of BP on both BGC and MP. In addition, BGC is a critical mediator of BP and MP relationship. This study highlights the necessity of cultivating a robust commitment to budget objectives among employees to enhance MP. Furthermore, examining the moderating role of directive leadership yields valuable viewpoints, revealing that leadership style significantly modulates the influence of BGC on MP. These exposures provide a more covered understanding of the interaction among individual autonomy, organisational frameworks, and leadership paradigms. It suggests that enhancing MP necessitates a unified approach that acknowledges both the motivational aspects inherent in goal commitment and the influence of leadership style. This study makes a significant contribution to the management and organisational behaviour literature by providing actionable advice on how to increase managers' effectiveness in the workplace by being more strategic in their approach to budgeting and using different leadership styles wisely.

## 6. Future research directions

Although the contribution of this study is significant, it should acknowledge some limitations. Despite efforts to avoid common method bias by using procedural and statistical measures, it may happen due to the use of a questionnaire. Future research could further address this issue by including longitudinal designs. Gathering data at different times (longitudinal designs) allows researchers to separate the measurement of predictor variables from outcome variables. Furthermore, this approach allows scholars to control for stable individual differences over time, such as stable personality traits or organizational characteristics, which can contribute to common method bias. Exploring the effectiveness of other leadership styles in future research, such as supportive or transformational leadership is crucial for gaining insights into diverse leadership outcomes. In addition, there are limitations to generalising the findings of the current study to the MENA region due to the study's narrow focus on 20 universities in Iraq. Future research needs to emphasize the need for validation across a more diverse range of regional institutions. Future research must investigate the role of budgetary participation in aligning the revenues and expenses of MENA countries.

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