

Effects of Job Involvement, Managerial Attitudes, and Information Sharing on Controllers Performance in the Budgetary Context

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Abstract

Purpose – This study investigates the intervening effects of job involvement, managerial attitudes, and information sharing in the relationship between the budget participation and managerial performance of controllers of companies operating in Brazil.

Design/methodology/approach – Descriptive research was performed through a survey with 318 respondents with budgetary responsibility in companies operating in Brazil. The individuals participating in the study carry out the role of controller, controller manager, or controller coordinator. The theoretical relations investigated in this research were tested using the structural equation modeling technique.

Findings – The results showed that budget participation positively influences job involvement, which showed a direct and indirect influence on managerial performance, mediated by managerial attitudes. Job involvement influences controllers' managerial attitudes and their willingness to share information with superiors. However, vertical information sharing does not have a direct influence on managerial performance.

Originality/value – The aim is to contribute to the existing knowledge related to this subject, by providing evidence of the effects of controllers' budgetary participation on their job involvement. The expectation is to produce evidence of the direct and indirect effects of involvement in the relationship between budget participation and managerial performance, mediated by managerial attitudes towards the budget and the willingness to share information with superiors.

Keywords – Budget Participation, Job Involvement; Management attitude; Vertical Information Sharing; Management Performance



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1 Introduction

Budget participation refers to the extent to which managers participate in budget preparation and influence budget objectives in their areas of responsibility (Kenis, 1979). Behavioral studies on budget participation gained momentum in the work of Argyris (1952), who provided qualitative evidence that the budget can negatively affect the mental state and behavior of employees.

According to Katz and Kahn (1978) and Diefendorff, Brown, Kamin, and Lord (2002), the effective functioning of an organization requires employees not only to perform their prescribed roles but also involves behaviors that go beyond formal obligations. An organization's budget processes can lead to an increase in a subordinate's involvement with the organization, which can then result in higher performance in the subordinate's tasks (Macinati and Rizzo, 2016; Shields and Shields, 1998).

The subordinate's involvement in the budget process has important cognitive effects that can promote the emergence of feelings of ownership and clarity in the performance of his/her functions. Engagement at work increases motivational processes that in turn influence job performance as well as other relevant outcomes in this context (Diefendorff et al., 2002), such as managerial attitudes and the propensity of individuals to share private information with their superiors. It is believed that greater manager involvement in work can positively influence these relationships.

For Moynihan and Pandey (2007), job involvement can be highlighted as an important attitude of employees. However, budgets improperly applied can lead to dysfunctional behaviors and negative attitudes among organizational members (Argyris, 1952). Most of the studies developed on this topic have focused on whether high budget participation leads to better performance and attitudes at work (Govindarajan, 1989).

With regard to attitudes, Milani (1975) found that participation was positively and

significantly associated with the managerial attitudes of the subordinates, which suggests that under conditions of greater budgetary participation, it becomes possible to improve the involvement of managers in the work. However, the evidence for the relationship between budget participation and managerial performance has presented conflicting and inconclusive results among some studies (Dani, Zonatto, and Diehl, 2017; Derfuss, 2016), suggesting that there are other intervening variables that determine the effects of participation on performance.

In this context, one research gap identified in the literature involves the intervening effects of workforce involvement in the relationship between budget participation and managerial performance. It is understood that participation alone is not able to ensure that subordinate managers will perform better, which is when they make more effort when carrying out their tasks, engaging with their work activities to ensure that established objectives can be achieved.

Thus, it is possible that, under conditions of greater budgetary participation, a higher level of managerial involvement in work occurs, which can result in managers' proactive management attitudes towards the budget, as well as positively influencing their propensity to share information with their superiors, which can result in better managerial performance. However, such relationships have not been investigated in the accounting behavioral literature, the motivation for which this study was developed.

In view of the above, the research question that guides this research is: What are the intervening effects of job involvement, managerial attitudes, and information sharing in the relationship between the budget participation and managerial performance of controllers? The main objective of this research is to investigate the intervening effects of job involvement, managerial attitudes, and information sharing in the relationship between the budget participation and managerial performance of controllers of companies operating in Brazil.

In this investigation, the research subject is the manager responsible for the Controllershship unit, which constitutes an organizational unit subordinate to a superior management division in the organization, with budgetary management responsibilities. Therefore, his/her hierarchical level in the organization is mid-level. Controlling is an important area of management support in organizations, providing a source of information. Thus, the controller is one of the managers who enable the attainment of organizational objectives (Sathe, 1983). Zonatto (2014) and Palomino and Frezatti (2016) highlight the paucity of studies developed specifically using a sample of controllers, which constitutes an opportunity for new studies.

Managers' perception that an organization's success may be partially linked to employee involvement in organizational processes, such as the budget, has led to a continuing interest of managers and researchers in analyzing employee involvement in relation to managerial performance (Vandenberg, Richardson, and Eastman, 1999). Worker involvement in the budget can contribute to greater clarity of the role of individuals in organizational activities since involvement can provide information that allows them to understand the expectations associated with their role, tasks, and responsibilities (Macinati and Rizzo, 2016).

Although budgets are often criticized by researchers and tool users, they are still widely used in most organizations (Libby and Lindsay, 2010). However, the budget tends to be less criticized when the subordinate's level of involvement and worker involvement during the budget process is high (Sponem and Lambert, 2010). Budgetary participation has been studied more frequently in international literature (Lavarda and Fank, 2014). In Brazil, behavioral research associated with budget participation and managerial performance is scarce, which makes the application of this study relevant (Dani et al., 2017; Santos et al., 2014).

Likewise, other studies developed under the configuration proposed in this research were

not identified in the literature reviewed. Therefore, it is hoped that this study will contribute to the existing knowledge related to this subject, providing evidence of the effects of the budget participation of controllers of companies that operate in Brazil on their job involvement. Also, it is expected to produce evidence of the direct and indirect effects of this involvement in the relationship between budget participation and managerial performance, mediated by the managerial attitudes of these professionals in relation to the budget and their willingness to share information with their superiors.

2 Theoretical basis and research hypotheses

2.1 Budget Participation, Work Involvement, and Management Performance

In most organizations, budgeting plays a crucial role in planning and control, resource allocation, and coordination (Hannan, Rankin, and Towry, 2010). The business budget as a control tool has become an important instrument for organizations, due to, among other reasons, the need to maintain a balance between financial forecasts and the results actually achieved by department managers (Santos et al., 2014).

For Milani (1975) and Bruns and Waterhouse (1975), budgeting is one of the many administrative activities that evidence certain types of human reactions. Nouri and Parker (1998) argued that when subordinates become involved in budgeting, they become familiar with budget objectives. Consequently, there is an increase in their association not only with the budget objectives but also with all the organizational objectives.

Budgetary participation allows subordinates to better understand the budgeting process (Dani, Zonatto, and Diehl, 2017; Derfuss, 2016; Nouri and Parker, 1998). Shields and Shields (1998) suggested that the budget participation process increases subordinate

confidence, control, and subordinate involvement with the organization (Chong, Eggleton, and Leong, 2006).

Job involvement relates to the cognitive belief that the work meets the needs of the worker. It represents the degree to which an individual identifies with his or her work, both at work and outside it (Brown, 1996). Christian, Garza, and Slaughter (2011) explain that job involvement relates to how much work can meet the needs of an individual. It is the level of identification of the individual with the work performed (Cavalcante, Siqueira, and Kuniyoshi, 2014; Siqueira, 2008).

Thus, based on the above, the first hypothesis investigated seeks to analyze the direct relationship between the budget participation of controllers of companies operating in Brazil and their involvement in the work: H_1 : *Budgetary participation is positively related to job involvement.*

The importance of developing human resources policies and practices, high-performance work systems, and high job involvement has been demonstrated in the literature on strategic human resources management (Oliveira and Rocha, 2017). However, empirical research on engagement at work does not seem to support claims of the influence of worker involvement in the budget process on managerial performance.

The evidence produced by Brown and Leigh (1996) indicates a possible correlation between engagement at work and the managerial performance of subordinates. Bakker, Schaufeli, Leiter, and Taris (2008) point out that one of the reasons why workers develop better managerial performance in an organization is due to the creation of job involvement.

Other researchers have been interested in the relationship between job involvement and organizational variables (Kanungo, 1982). Although engagement at work is considered a key factor that influences important individual and organizational outcomes (Lawler, 1986), the study by Brown (1996) showed a non-significant relationship between subordinate engagement at work and managerial performance.

Thus, for this research, it is understood that under conditions of higher levels of budgetary participation, it becomes possible to increase the involvement of controllers in the work, which would positively impact their performance. Therefore, the second hypothesis to be tested in the research establishes that: H_2 : *Job involvement is positively associated with managerial performance.*

2.2 Job Involvement, Management Attitudes, and Management Performance

Although budgetary participation in some studies has shown positive and direct effects on managerial attitudes and performance, in most studies the effects of budget participation depend on another intervening variable (Shields and Shields, 2008). Models based on psychological theories suggest that participation is related to performance through the identification and involvement of the subordinate with the budget objectives (Murray, 1990), which may lead to a better managerial attitude.

Milani (1975) defined attitude in terms of employees' feelings and predispositions towards their jobs and employers in a budget context. For Yukl (1971), the results of many studies have supported the positive effects of budget participation on the attitudes of subordinates. In most cases, attitudes towards work have been shown to be an intervening factor that affects managerial performance when subordinates participate in budget activities (Yuen, 2007).

Thus, one reason to examine this variable in this study is the belief that a managerial attitude appropriate to the company will lead to more effective managerial performance, driven by the conditions in which this participation occurs and the level of involvement.

Budget participation can be most effective when staff members have a positive attitude that will ultimately improve employee performance (Yuen, 2007). Attitude at work is examined in studies because of its important role in the literature as an intervening variable, used to explain different levels of performance (Milani,

1975). In most cases, attitude towards work is offered as an intervening factor that leads to better performance (Milani, 1975).

The creation of high involvement systems has been important for the strategic management of human resources (Oliveira and Rocha, 2017). Thus, the effects of job involvement on individual attitudes and behaviors of subordinates in organizations (Jiang, Lepak, Hu, & Baer, 2012a) have been researched in the literature on the strategic management of the human resources of organizations and are elements that are reflected in performance.

In this research, it is understood that when controllers are more involved in the work, it can be assumed that these professionals develop proactive managerial attitudes towards the budget, which can result in better managerial performance. Thus, under conditions of higher levels of budgetary participation, it is understood that when they are more involved in their work these professionals will be more likely to develop such attitudes, leading to the third research hypothesis: *H₃: Job involvement is positively associated with management attitudes related to the budget.*

Concerning the relationship between managerial attitudes and performance, Milani (1975) found positive and significant correlations between budget participation and attitudes towards work, while Mia (1988) found that the managerial attitude moderates the effect of participation on performance. In this case, a more favorable attitude or motivation in combination with participation in the budget process was positively associated with improved performance (Mia, 1988).

Participation in the budget process has often been postulated to have a positive effect on managerial attitudes and performance (Govindarajan, 1986). However, their effects on performance are not always straightforward (Derfuss, 2016; Dani et al., 2017). This is because the mental states of individuals influence their actions, determining how they will behave. As a result, they tend to affect their managerial performance, positively or negatively.

Thus, it is understood that under conditions of greater levels of participation and involvement of the controllers in the work, it becomes possible to identify a positive relationship between their managerial attitudes towards the budget and their performance, leading to the fourth hypothesis tested in this research: *H₄: Management attitudes are positively associated with managerial performance.*

2.3 Work Involvement, Vertical Information Sharing, and Management Performance

Budget participation gives subordinates the opportunity to interact and communicate with their superiors and to influence their budgetary objectives (Lau and Tan, 2003). Studies such as those by Miller and Monge (1986) and Comerford and Abernethy (1999) suggest that the benefits of involving managers in the budgeting process derive primarily from the exchange and dissemination of work-relevant information in order to facilitate decision making.

Shields and Shields (1998) consider that budget participation exists to share information between superiors and subordinates, to coordinate interdependencies, and to motivate and influence attitudes. Involvement of the subordinate in the budget process can increase as well as diminish a manager's communication with the immediate supervisor (Francis-Gladney, 2004).

The subordinate's participation in the budget setting affects work-related outcomes, such as managerial performance (Murray, 1990), which leads to increased motivation and commitment to the budget (Brownell and McInnes, 1986). From a cognitive perspective, budget participation is seen to improve the flow of information between superiors and subordinates, leading to higher quality decisions (Shields and Young, 1993).

According to Fisher, Frederickson, and Peffer (2002), budgeting is an important tool for planning and motivating subordinate performance. Research suggests that subordinate participation in the budget process has two

cognitive aspects: participation increases the quality of the budget and thus the utility of budgets, allowing subordinates to introduce their knowledge into the budget process, and participation provides the subordinate with information relevant to their work performance (Magner, Welker, and Campbell, 1996).

According to Oliveira and Rocha (2017) and Jiang et al. (2012a), performance appraisal systems, performance-related rewards, and the opportunity for career development and internal mobility promote employee motivation and effort. Thus, it is important for organizations to create policies for employee involvement and information sharing (Jiang et al., 2012a, 2012b), in order to enhance their performance.

Under these conditions, it is understood that the controller, when involved in the organization's budget processes, becomes more likely to share information with his/her superiors. Thus, in the fifth research hypothesis, it is established that: *H5: Job involvement is positively associated with the vertical sharing of information.*

Studies have found that budget participation is positively associated with work-relevant information (Chong and Chong, 2002; Shields and Shields, 1998; Magner et al., 1996). For Christensen (1982), budget participation may have a positive value when the communication structure is used to assess worker performance. According to Baiman and Evans (1983), budget participation allows subordinate information to be incorporated into the performance appraisal system.

As Shields and Shields (2008) explain, there are reasons for the existence of budget participation, the main ones being the sharing of information, motivation, and attitude. The involvement of subordinates in the budgeting process gives them the opportunity to access information (Baiman and Evans, 1983), which also allows them to communicate or reveal

some of their private information, which can be incorporated into performance standards (Baiman and Evans, 1983).

Budget communication between a manager and a supervisor exists when the manager conveys information relevant to the budget or receives it from the supervisor (Francis-Gladney, 2004). Thus, budget participation can be defined as the extent to which a manager has the opportunity to express opinions and influence the budget process (Brownell, 1982). A second general reason why organizations seek greater budget communication between managers and their superiors is its potential positive effect on attitudes, morale, and motivation related to managers' work and, in turn, behaviors such as job performance (Shields and Shields, 1998; Shields and Young, 1993).

Studies suggest that participation in the budget plays an important role in information exchange (Brownell and Dunk, 1991). However, not all individuals are likely to socialize their information. Hopwood (1976) emphasized that participation is an information-sharing mechanism from which individual employees obtain more information about their work. This information facilitates a clearer understanding of their work, thus improving their managerial performance (Mia, 1989).

Hence, it can be assumed that under conditions of greater budgetary participation, where controllers are more involved with the work, they are more likely to share information with their superiors, which may positively affect their managerial performance. Thus, the sixth research hypothesis states that: *H6: Vertical information sharing is positively associated with managerial performance.*

Figure 1 shows a summary of the relationships investigated in this research, based on the theoretical model of analysis developed for the study.

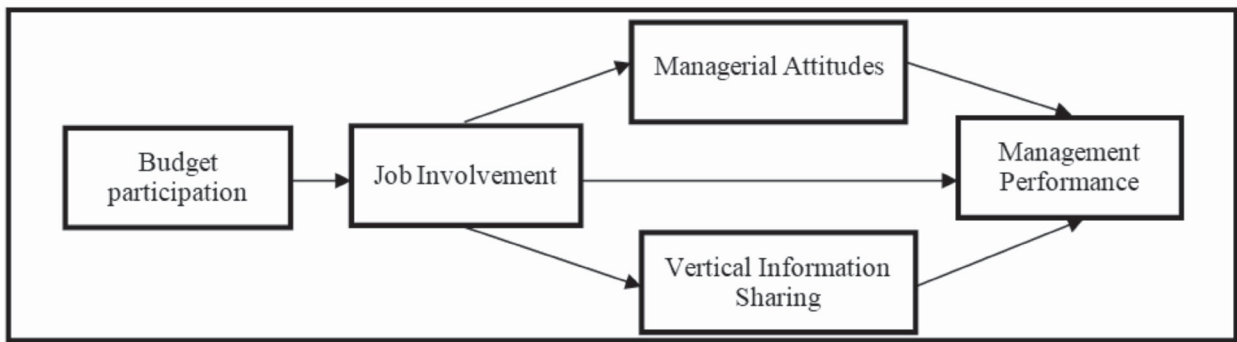


Figure 1 – Theoretical Analysis Model

Legend: BP. Budgetary Participation; JI. Job Involvement; VIS. Vertical Information Sharing; MA. Management Attitudes; MP. Management Performance.

* Significance level found: $p < 0.01$.

Source: survey data.

3 Method and research procedures

The methodology used in this research is characterized as descriptive, the process used for data collection is the survey, and the approach used for analyzing the data is quantitative. Martins and Théophilo (2009) emphasize that quantitative research presents the data and evidence collected in a quantified and measured form. Quantitative research has clearly specified hypotheses and operationally defined variables and is concerned with the objective measurement and quantification of results (Godoy, 1995).

The population that is the object of this research consists of professionals responsible for controlling in companies that operate in Brazil, with budgetary responsibility in the organizations in which they operate. In a survey carried out using the LinkedIn business network, professionals with such characteristics were identified, with functions denominated as: controllers, controller managers, and controller coordinators.

The population was defined by identifying the companies in operation in the country that have managers with such functions. This population was chosen because controllers assume different positions in different companies, which makes them a strategic piece within organizations since these professionals play a key role in the

information generated in organizations (Siqueira and Soltelinho, 2001).

To define the sample to be investigated in the research, with the help of groups in LinkedIn, individuals with budgetary responsibility at the national level who performed these functions were contacted in the period from November 2016 to March 2017. Initially, an invitation was sent to the controller, in which the purposes of the research were presented and his/her participation in the study was requested. Sending the invitations before the research instrument meant that when the participants received the questionnaire they were aware of what was involved and could respond with greater precision and quality to the research questions. Thus, after they accepted the invitation, the questionnaire was sent to the controllers who showed an interest in voluntarily participating in the survey.

The analyzed sample is characterized as non-probabilistic, intentional, and obtained by accessibility, and counted on the voluntary participation of 318 controllers from different organizations based in the country. A total of 1985 invitations were sent, and 852 professionals accepted to answer the research instrument. However, by the deadline set for data collection, only 318 had done so. Thus, the analyzed sample represents 37.32% of the total potential

respondents of the research. As ethical procedures adopted, the participants were assured of their anonymity and that of the organization in which they operate.

For the data collection, a questionnaire was elaborated, with objective questions contemplating the variables analyzed in the study. Table 1 shows the variables used in the study, their operationalization, and definition.

Table 1
Constructs, operationalization, and definition of research variables

Variables	Operationalization	Definition	Authors
Budgetary Participation (BP)	Evaluates the influence an individual has on the budget process	Budgetary participation allows subordinates to communicate or disclose some of their information, which can be combined into budgets (Dunk, 1993). Thus, budget participation strengthens the quality of the budget, as it provides subordinates with an opportunity to communicate relevant information in budget decisions (Parker and Kyj, 2006; Kyj and Parker, 2008).	Milani (1975)
Job Involvement (JI)	Determines the degree of involvement of the subordinate with his/her work	Work-related attitude, which refers to the relative strength of employees' emotional attachment, identification, and involvement with their employing organization (Macinati and Rizzo, 2016).	Moynihan and Pandey (2007)
Vertical Information Sharing (VIS)	Determines the degree to which subordinates communicate information about local conditions to their superiors	Vertical information sharing exists when valuable information is spread throughout the organization. When information sharing does not occur, one individual may have more information than another, and none can have a complete set of information (Clarkson, Jacobsen, and Batcheller, 2007).	Parker and Kyj (2006)
Managerial Attitude (MA)	Evaluates the attitudes of subordinates to managerial activities	The cognitive management attitude tends to be more favorable in organizations that use the budget as part of the management control strategy (Merchant, 2007).	Adapted research instrument developed by Merchant (2007)
Management Performance (MP)	Verifies the performance of managers with budgetary responsibility in their work activities, analyzed by the respondent him/herself.	Employees understand the impact of their actions on performance measures, align their actions with organizational strategy, and thus achieve performance at work (Kaplan and Atkinson, 1998).	Mahoney, Jerde, and Carroll (1963, 1965), in the version proposed by Zonatto (2014).

Source: Own elaboration.

Before the hypothesis tests, the internal validity, unidimensionality, discriminant validity, reliability coefficient, and average variance extracted of each variable used in the study were analyzed. The validity and unidimensionality were tested using confirmatory factor analysis (CFA), using t-values, to make inferences regarding the hypotheses of the research, as well as chi-squared, degrees of freedom (df), a chi²/degree of freedom (df) of less than 5, coefficient of determination (R²), mean square root of the approximation error (RMSEA), with acceptable values between 0.03 and 0.08, comparison of fit index (CFI) and goodness of fit index (GFI), with ideal values

closer to 1 (Miles and Shevlin, 2007), to make inferences about the quality of fit of the model.

The discriminant validity was tested by comparing the variables with free correlations between the variables and fixed at 1. The chi-squared difference between the comparisons of the variables, when greater than 10,870, indicates the discriminant validity among the variables analyzed (Stratman and Roth, 2002; Koufteros, 1999). For reliability, the variables should have a Cronbach's alpha and composite reliability equal to or greater than 0.7 and an AVE equal to or greater than 0.5 (Gudergan, Ringle, Wende, and Will, 2008).

Since the level of analysis in this research focuses on individuals, based on the minimum number of controllers participating in the study, structural equation modeling was used to evaluate the theoretical relationships observed with the aid of the SPSS software (AMOS version 22). Hair Jr. et al. (2005) argue that for the use of structural equations, five respondents are necessary per indicator analyzed in the model. This minimum number of respondents was observed in this study. In order to reduce the constraints of the sample analyzed in the study, the model needed to be purified, eliminating indicators that have a low significance in the construct, in order to enable robustness of the analyses (Ringle, Sarstedt, and Straub, 2012; Gudergan et al., 2008).

4 Presentation and analysis of results

The data analysis was based on the operationalization of the theoretical model of analysis developed for the research (Figure 1), which determines relationships between budget participation, job involvement, vertical information sharing, managerial attitudes, and managerial performance. The model was implemented with the aid of structural equation

modeling (SEM) to examine the hypotheses proposed in the research.

After the data collection, it was verified that the research comprised 318 controllers from different organizations. The controller position covered the largest number of respondents in the study, totaling 239 respondents. The position of controller coordinator had 40 respondents, and controller manager had 39, which represents 12.26% of the sample analyzed.

Table 2
Description of the positions of the research participants and areas to which they are linked

Job description	Absolute Freq.	Relative Freq.
Controller	239	75,16%
Controller manager	40	12,58%
Controller Coordinator	39	12,26%
Total	318	100%

Source: prepared by the author (2017)

Initially, a descriptive analysis was carried out of the items that compose the variables analyzed in the study, seeking to verify the data trend and reliability (Table 3).

Table 3

Descriptive analysis of data

Var.	Ind	AC	Min	Max	Med	D.P.	Ass.	Curt	Var.	Ind	AC	Min	Max	Med	D.P.	Ass.	Curt
PO	PO_1	0,85	1	7	6,49	1,07	-2,78	8,75	AG	AG_1	0,85	1	5	4,57	0,64	-1,53	2,76
	PO_2		1	7	5,74	1,43	-1,20	1,05		AG_2		1	5	4,15	0,92	-1,03	0,71
	PO_3		1	7	6,44	0,99	-2,51	7,95		AG_3		1	5	4,25	0,86	-1,11	1,04
	PO_4		1	7	6,11	1,23	-1,72	3,22		AG_4		1	5	4,44	0,76	-1,62	3,36
	PO_5		1	7	6,42	0,97	-2,59	8,94		AG_5		1	5	4,45	0,71	-1,38	2,58
	PO_6		1	7	5,96	1,32	-1,61	2,55		DG_1		1	7	5,92	0,93	-1,03	2
ET	ET_1	0,79	1	7	5,62	1,27	-0,94	0,77	DG	DG_2	0,88	1	7	5,93	0,95	-1,2	3,04
	ET_2		1	7	4,44	1,44	-0,43	0,17		DG_3		1	7	6,02	0,91	-0,68	-0,21
	ET_3		1	7	4,29	1,56	-0,32	-0,41		DG_4		1	7	5,75	1	-0,63	0,08
	CI_1		1	7	6,10	1,13	-1,88	4,58		DG_5		1	7	6,08	0,97	-1,31	2,49
CI	CI_2	0,84	1	7	6,21	1,09	-2,23	6,42	DG	DG_6	0,88	1	7	5,84	1,07	-1,1	2,24
	CI_3		1	7	5,68	1,37	-1,35	1,80		DG_7		1	7	5,61	1,17	-1,06	1,61
										DG_8		1	7	5,29	1,42	-0,81	0,32
									DG_9		1	7	5,89	0,74	-0,43	0,13	

Legend: BP. Budgetary Participation; IW. Job Involvement; VIS. Vertical Information Sharing; MA. Management Attitudes; MP. Management Performance; AC. Cronbach's Alpha; Min. Minimum; Max. Maximum; AV. Average; SD. Standard Deviation; AS. Symmetry; CT. Kurtosis;

Source: survey data.

Table 3 shows that all variables had minimum and maximum responses on the scale used, which indicated the degree of disagreement (1) or agreement (7) in relation to the statement used in the study. These results demonstrate that the controllers operate in different budget configurations. In addition, the controllers perceive their influence in budgeting processes differently. Likewise, it can be seen that not all the research participants feel involved in their work and have proactive managerial attitudes towards the budget, as it is observed that not all the controllers share information with their superiors and achieve better performance.

In order to evaluate the relationships between the constructs analyzed in the research, structural equation modeling was carried out. The results of the fit indices of the structural model evaluated in the research are presented in Table 4.

Table 4

Measurement model indices

Indicator	Expected value	Initial Model
Chi ²		931.99
Degrees of Freedom - DF		294
Chi ² /Degrees of Freedom - DF	<5	3.17
Statistical significance - <i>P</i>	<i>p</i> < 0.05	0.000
Comparative Fit Index - CFI	> 0.90	0.848
Goodness of Fit Index - GFI	> 0.90	0.817
Root Mean Square Error of Approximation - RMSEA	< 0.10	0.083

Source: survey data.

It can be seen in Table 4 that the initial measurement model elaborated for the analysis of workers involved in the budget process, regarding managerial attitudes, vertical information sharing, and managerial performance, presented

acceptable values close to those expected, which suggests the validity of the model measurement. The adjustment index of this model presented a value of 3.17, this being significant at $p < 0.000$. The comparative fit index (CFI) obtained a value of 0.848, this being close to what was expected, along with the other indices analyzed in Table 4.

In order to ascertain the predictive quality of the theoretical constructs analyzed in the study,

the Cronbach's alpha coefficients, the composite reliability (CR), and the average variance extracted (AVE) of each of the constructs presented in the study were evaluated. The results are shown in Table 5.

Table 5
Dimensional Reliability Analysis

Dimensions	Composite Reliability	Variance Extracted	Cronbach's Alpha
Budget Participation	0,86	0,61	0,852
Job Involvement	0,81	0,59	0,795
Management Attitudes	0,87	0,57	0,856
Vertical Information Sharing	0,86	0,67	0,843
Management Performance	0,86	0,55	0,886

Source: survey data.

It is observed that the variables analyzed in the study presented reliability coefficients that are considered adequate by the literature. The Cronbach's alpha (CA) of the final measurement constructs selected for the survey were higher than 0.795. The composite reliability (CR) also showed values higher than 0.7, with the lowest value found being 0.81. In turn, the variance extracted (AVE) indicates that all constructs had values higher than 0.55.

The discriminant validity analysis of the variables tested in the model was performed according to the procedures recommended by Fornell and Larcker (1981). Thus, we evaluated the shared variances, where the variances extracted from the constructs are compared with the shared variance (Eberle, Milan, and Matos, 2016). The results found are shown in Table 6.

Table 6
Discriminant validity of variables

Correlation of constructs with AVE					
	BP	JI	MA	VIS	MP
BP	0,54	-	-	-	-
JI	0,20	0,67	-	-	-
MA	0,00	0,26	0,67	-	-
VIS	0,00	0,33	0,00	0,43	-
MP	0,00	0,14	0,30	0,45	0,50
Discriminant validity using the criterion of Fornell and Larcker (1981)					
	BP	JI	MA	VIS	MP
BP	0,54	-	-	-	-
JI	0,04	0,67	-	-	-
MA	0,00	0,07	0,67	-	-
VIS	0,00	0,11	0,00	0,43	-
MP	0,00	0,02	0,09	0,20	0,50

Source: survey data.

As shown in Table 6, it can be seen from the discriminant validity test suggested by Fornell and Larcker (1981) that the variance extracted from the analyzed variables is higher than the shared variance of the analyzed constructs, which indicates their discriminant validity. Thus, we

analyzed the theoretical relationships investigated in the research, based on the results found in the structural model tested, in order to accept or reject the hypotheses established for the study. Figure 2 shows the final results of the path estimates of the measurement model used.

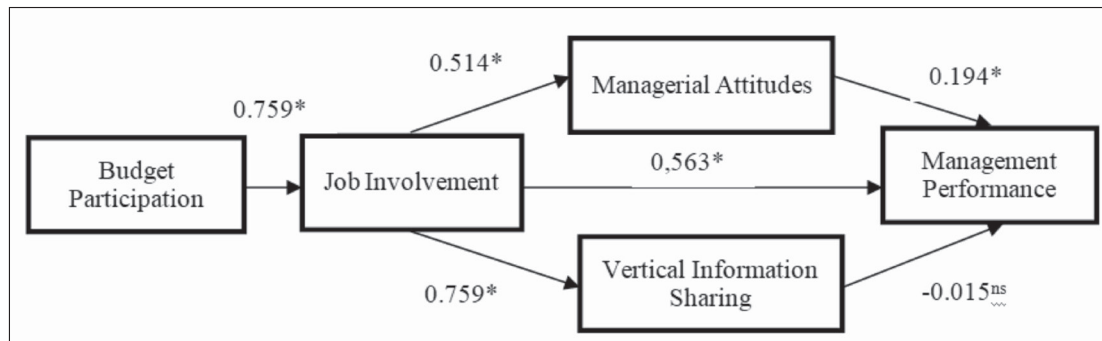


Figure 2 - Estimates of structural model paths.

Caption: BP: Budget participation; JB: Job involvement; VIS: Vertical information Sharing; MA: Managerial attitudes; MP: Managerial performance.

* Significance level found: $p < 0.01$.

Source: Research data.

It can be seen from the results presented in Figure 2 that budget participation strengthens (increases) job involvement, resulting in better managerial performance. Similarly, it can be seen that in conditions of higher levels of job involvement there is an increase in vertical information sharing and managerial attitudes,

which results in better controller performance. Therefore, it can be verified that job involvement constitutes a conditioning variable for obtaining better managerial performance in the budget context. The standardized coefficients and significance of the relationships in this model are presented in Table 7.

Table 7

Standardized coefficients and significance of the relationships of the models tested

Model Results									
Structural Pathways	Hypotheses	Estimate	E.P.	<i>t-values</i>	<i>p</i>	Standardized Coefficient	R ²		
JI ← BP	H ₁	0,294	0,064	4,557	***	0,759	0,58		
MA ← JI	H ₂	0,728	0,176	4,132	***	0,514	0,26		
VIS ← JI	H ₃	2,677	0,596	4,494	***	0,939	0,88		
MP ← VIS	H ₄	-0,009	0,080	-0,118	0,906	-0,015	0,45		
MP ← JI	H ₅	1,000	-	-	***	0,563	0,45		
MP ← MA	H ₆	0,243	0,083	2,914	0,004	0,194	0,45		

Note 1: Path between MP and JI set (*t* test not calculated).

Note 2: Levels of significance: Acceptable value: $p < 0.05$ - Value found: *** $p < 0.01$

Source: survey data (2018).

In Table 7, a positive and significant relationship can be seen between budget participation and job involvement, as well as between involvement and managerial performance. Thus, it is possible to verify the direct influence of budget participation on the job involvement of the controllers and of job involvement on their managerial performance, which confirms H1: budgetary participation is positively related to job involvement, and H2: job involvement is positively associated with managerial performance.

The findings of this research demonstrate that budgetary participation has a direct influence on the job involvement of the controllers. Likewise, job involvement positively and significantly influences the managerial performance of the controllers in the budget process. Thus, budget participation indirectly influences the managerial performance of controllers, based on the effects that it has on the job involvement of these professionals.

According to Chong et al. (2006), budget participation increases the confidence of subordinates as well as their involvement in their work. Regarding job involvement and managerial performance, Brown (1996) showed a non-significant relationship between engagement at work and managerial performance. However, Brown and Leigh (1996) showed a correlation between job involvement and managerial performance, thus corroborating the findings of this study.

It should be emphasized that in the model measuring the influence of job involvement on managerial attitudes, the path is $\lambda = 0.514$ at $p < 0.000$. In the influence of managerial attitudes on the managerial performance of subordinates, the path presented a value of $\lambda = 0.194$ at $p < 0.004$. Thus, it is possible to affirm that job involvement directly influences the attitudes of the managers and managerial attitudes influences the managerial performance of subordinates, which confirms hypotheses H3: job involvement is positively associated with the

attitudes of subordinates, and H4: management attitudes are positively associated with managerial performance.

As Milani (1975) explains, the attitude of subordinates towards work is an intervening factor that leads to better managerial performance. In this sense, Yukl (1971) demonstrated a positive relationship between the budget participation and the managerial attitudes of subordinates. Milani (1975) also found a positive and significant correlation between budgetary participation and attitudes towards work, as evidenced in this study.

Regarding the influence of managerial attitudes on managerial performance, the results of this study corroborate with the findings of Mia (1988), who demonstrated the moderation of managerial attitudes in the effect of budgetary participation on performance. Yuen (2007) emphasized that budget participation can be most effective when staff members have a positive attitude, which will ultimately improve employee performance.

Table 7 also shows that the model for measuring the direct effects of employees involved in vertical information sharing presented a path of $\lambda = 0.563$ at $p < 0.000$. The direct effect of vertical information sharing on managerial performance was not significant, and the path was $\lambda = -0.015$ at $p < 0.906$. Thus, it is possible to prove by the empirical evidence produced in this research that job involvement influences vertical information sharing. However, this cannot be inferred from its direct effects on managerial performance. Thus, H5 is confirmed: job involvement is positively associated with vertical information sharing, but the findings refute H6: vertical information sharing is positively associated with managerial performance.

Hence, it is observed that job involvement has a positive influence on vertical information sharing by the controllers in the Brazilian companies. These results demonstrate that the more involved the controller is with organizational processes, the greater the tendency is for him/her to be willing to share information with his/her superiors.

However, in this research, greater vertical sharing of information did not directly imply greater managerial performance of the controllers. It is noted that even if information sharing occurs between superior and subordinate, which may result in a reduction of information asymmetry, this information sharing may not directly influence the performance of the subordinate, which suggests that other intervening variables might influence this relationship, thus constituting an opportunity to carry out new studies.

Even though this relationship is not identified as significant, it can be verified by the descriptive statistical analysis carried out that in conditions of greater participation there is greater involvement of managers and, consequently, greater sharing of information. Likewise, this involvement results in better performance. These results suggest that the effects of information sharing between superiors and subordinates can be conditioned by the ease of communication and loyalty and trust of the employees in the management of the organization, which tends to promote greater cooperation and flexibility at all managerial levels (Mia and Patiar, 2002).

In any case, it must be taken into account that this may not always make the subordinate feel more successful in the organization. Thus, it can be inferred that superior managerial performance will occur when, besides sharing information, the individuals are more involved with the work and adopt proactive managerial attitudes towards the budget.

For Magner et al. (1996), the subordinate's participation in the budget process allows him/her to include his/her knowledge in the budget process. Shields and Shields (1998) pointed out that budget sharing exists to share information between superiors and subordinates. In addition, Francis-Gladney (2004) showed that involvement in the budget process increased as well as decreased communication between superiors and subordinates.

The results found in the study demonstrate that greater budgetary participation and greater

employee involvement lead to better managerial attitudes, the vertical sharing of information, and better managerial performance of the controllers of companies operating in Brazil. Thus, it can be inferred that the greater the job involvement of these professionals, the better their managerial attitudes and the greater their willingness to share information with their superiors, which will contribute to achieving better managerial performance in the budgetary context.

5 Final considerations

This study investigated the intervening effects of job involvement, managerial attitudes, and information sharing in the relationship between the budget participation and managerial performance of controllers. The descriptive research was carried out through a survey of 318 respondents with budgetary responsibility in companies operating in Brazil. The data analysis was performed using a quantitative approach, employing structural equation modeling.

The results showed that budget participation positively influences job involvement, which showed a direct and indirect influence on managerial performance, mediated by the managerial attitudes of the controllers in relation to the budget. Job involvement influences controllers' managerial attitudes and their willingness to share information with superiors. These results reveal the intervening role of job involvement in the relationship between participation and performance. They reveal that the participation of controllers in the budget processes of their organizations improves their job involvement, influencing their managerial attitudes, their propensity to share information, and their performance.

These results corroborate with Yuen (2007), who revealed that attitudes towards work have been shown to be an intervening factor affecting managerial performance when subordinates participate in budget activities. Likewise, they are consistent with the findings of Milani (1975), who pointed out that attitude

towards work is an intervening factor that leads to better managerial performance.

In this research, the evidence produced suggests that job involvement enhances such attitudes, producing these effects. Therefore, it is perceived that job involvement is an intervening factor in the budgetary context, capable of influencing the attitudes, behaviors, and performance of controllers in their work. From the behavioral perspective, this is because the effects of budget participation on managerial performance do not always occur directly, and there are intervening variables that measure this relationship (Dorfuss, 2016; Dani et al., 2017).

These findings provide evidence of a relevant theoretical contribution of this research, since this variable has been neglected when carrying out studies developed under the behavioral approach to accounting that investigate the effects of budgetary participation on managerial performance, as well as other behavioral variables which affect the performance of individuals at work, such as their motivation and behavior.

Work involvement positively influences vertical information sharing. Therefore, it is a predictor for these professionals socializing private information with their superiors. In spite of this, vertical information sharing alone did not have a direct and statistically significant influence on the managerial performance of the controllers participating in the research, which reinforces the evidence that job involvement constitutes an important intervening variable in this context.

One possible explanation for these results may be related to the effects of information sharing between superiors and subordinates being conditioned by the perceptions of subordinate managers in relation to the ease of communication, loyalty, and/or trust between employees and superior management, which tends to affect levels of cooperation and flexibility at all managerial levels (Mia and Patiar, 2002). Since these elements were not investigated in this research, they constitute an opportunity for carrying out

new studies.

The findings also revealed that budgetary participation enhances the job involvement of controllers, which has a direct and indirect influence on managerial performance, based on the managerial attitudes of the controllers. Likewise, these influence their willingness to information, which can enhance the information flow between the different departmental units of the organization, improving budget forecasts and the performance of managers and units of responsibility. As a result, they can help reduce conflict of interests and the levels of informational asymmetry that exist.

Thus, the findings of this research allow us to conclude that budget participation enhances the involvement of controllers with budgetary responsibility of companies operating in Brazil. This variable acts in determining how the effects of this participation on performance occur, as well as the effects of managerial attitudes in relation to the budget and the vertical sharing of information of these professionals in the budget context.

Some research opportunities under the behavioral approach in accounting can be taken from this evidence. Analyzing the effects of job involvement on occupational stress in the budget context may indicate under what conditions the dedication of individuals attenuates the negative effects of occupational stress. The same can be observed for the effects of other intervening behavioral variables, such as their psychological capacities and their personal resilience. These elements may reveal how involvement enhances performance, considering other intervening variables present in the budget process.

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Research Instrument Used in Data Collection:

Block 1 - Budgetary Participation

The statements below are related to managers and their “Budgetary Participation” in the company where they work. Please indicate the extent to which you disagree with or agree with the statements below. The degree of agreement varies between (1) strongly disagree and (7) totally agree.

N.	Statements about Budgetary Participation	Strongly disagree				Totally agree			
		1	2	3	4	5	6	7	
BP_01	I'm totally involved in budgeting for my unit.								
BP_02	My superior provides ample information when my unit's budget is reviewed.								
BP_03	In preparing the budget for my unit I have autonomy to express opinions or make suggestions on the budget to my superior, even without being asked.								
BP_04	I have considerable influence on the final budget for my unit.								
BP_05	I believe my contribution to the budget process in my unit is considerable.								
BP_06	Regarding the budget for my unit, I am frequently sought by my superior to exchange information and give opinions and suggestions on the forecasts made.								

Block 2 - Job Involvement

The statements below are related to managers and their “Job Involvement” in the company where they work. Please indicate the extent to which you disagree with or agree with the statements below. The degree of agreement varies between (1) strongly disagree and (7) totally agree.

N.	Statements about Job Involvement	Strongly disagree				Totally agree			
		1	2	3	4	5	6	7	
IW_01	The most important things I do involve my work.								
IW_02	I like my job more than anything else I do.								
IW_03	The greatest satisfaction in my life comes from my work.								

Block 3 - Vertical Information Sharing

The statements below are related to “Information Sharing” in the company where you work. Please indicate the extent to which you disagree with or agree with the statements below. The degree of agreement varies between (1) strongly disagree and (7) totally agree.

N.	Statements about Vertical Information Sharing	Strongly disagree				Totally agree			
		1	2	3	4	5	6	7	
VIS_01	I share my ideas with my superior about the situation in my area of responsibility.								
VIS_02	I communicate information to my superiors about the opportunities and problems facing the organization.								
VIS_03	Information is shared with superiors who help deal with problems in the organization (for example, to learn about better ways to carry out activities).								

Block 5 - Management Attitudes

The following statements are related to “Manager Attitudes” in the company where you work. Please indicate the extent to which you disagree with or agree with the statements below. The degree of agreement varies between (1) strongly disagree and (7) totally agree.

N.	Statements about Managerial Attitudes	Strongly disagree			Totally agree			
		1	2	3	4	5	6	7
MA_01	I believe that budgeting allows me to be a better manager.							
MA_02	I believe that the budget allows me to be more flexible.							
MA_03	I believe that the budget allows me to be more innovative.							
MA_04	I believe that the budget allows me to be attentive to my successes as a manager.							
MA_05	I believe that budgeting allows me to improve my production methods.							

Block 6 - Management Performance at Work

The following activities are related to the “Managerial Performance at Work” of the managers participating in the research. Please self-evaluate your performance in comparison with your peers, based on each of the activities (tasks) specified below. The self-assessment scale ranges from [1] below-average performance to [7] above-average performance.

N.	Activities involving Management Performance at Work	Below Average Performance			Above Average Performance			
		1	2	3	4	5	6	7
MP_01	Determining goals, policies, and lines of action (for example, work scheduling, budgeting).							
MP_02	Collection and preparation of information, usually in the form of records, reports, and accounts (for example, measuring production, record keeping, job analysis).							
MP_03	Exchanging information with people in your organization who are not your subordinates, in order to relate and adjust programs (for example, expeditions, liaisons with other managers, organizing meetings).							
MP_04	Evaluating proposals or reported/observed performance (for example, employee evaluations, judging output records, product inspection).							
MP_05	Guiding and leading the development of your subordinates.							
MP_06	Maintaining the workforce of your unit (for example, employee selection and promotion).							
MP_07	Acquiring, disposing of, or contracting goods and services (for example, tax negotiations, contracting suppliers, collective bargaining, advertising).							
MP_08	Leveraging the general interests of your organization through lectures, consultations, or contact with others outside the organization.							
MP_09	How do you evaluate your overall performance?							

Supporting Agencies:


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Contribution of each author

Contribution	Micheli Lunardi	Vinícius Zonato	Juliana Nascimento
1. Definition of research problem	√	√	
2. Development of hypotheses or research questions (empirical studies)	√	√	
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5. Definition of methodological procedures	√	√	
6. Data collection	√	√	√
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