

Research Article

Enabling Cognitive Effects of Vertical Information Sharing on Psychological Capital, Managerial Attitudes, and Performance


Fernanda Souto Machado¹
Vinicius Costa da Silva Zonatto¹
Larissa Degenhart¹
Debora Londero Kieling¹
Márcia Bianchi²


¹ Universidade Federal de Santa Maria, Santa Maria, RS, Brazil



² Universidade Federal do Rio Grande do Sul, Porto Alegre, RS, Brazil

Received September 20, 2021. This paper was with the authors for two revisions. Accepted July 13, 2022.

First published online August 16, 2022.

Editor-in-chief: Ivan Lapuente Garrido  (Universidade do Vale do Rio dos Sinos, Brazil).

Associate Editor: Pedro Jácome de Moura Jr  (Universidade Federal da Paraíba, Brazil).

Reviewers: Orleans Martins  (Universidade Federal da Paraíba, João Pessoa, PB, Brazil), Antonio Zanin  (Universidade Federal do Mato Grosso do Sul, Pioneiros, MS, Brazil), and one anonymous reviewer.

Editorial assistants: Kler Godoy and Simone Rafael (ANPAD, Maringá, Brazil).

ABSTRACT

This research analyzed the enabling cognitive effects of vertical information sharing on psychological capital, managerial attitudes, and managerial performance of professional controllers. A descriptive and quantitative survey was carried out with 267 professionals in the controllership area of companies operating in Brazil. In the context of the budget, the results indicate that, with the sharing of information between superiors and subordinates, the psychological capacities of these professionals are promoted, stimulating self-efficacy, hope, resilience, and optimism, dimensions that comprise psychological capital. People with a positive state of psychological development enhanced their involvement in work, reflecting positively on attitudes that promote performance in the tasks under their responsibility. The research contributes by providing new evidence of the effects of information sharing in companies operating in Brazil on the psychological capital of controllers and the intervening effects of the psychological capabilities of these professionals in the existing relationship between information sharing and managerial performance, which occurs through the promotion of proactive managerial attitudes toward budgeting and engagement at work, which positively reflect on managerial performance.

Keywords: information sharing; psychological capital; managerial attitudes; work involvement; managerial performance

JEL Code: M41, D91, O15

INTRODUCTION

The corporate budget is one of the tools used by managers for the planning and control of processes, being one of the most investigated topics in management accounting (Zonatto, Nascimento, et al., 2020), which requires concrete, clear, and available information in the exact moment for decision-making among all those involved in its elaboration and execution (Lavarda & Almeida, 2013). The relationship of superiors with their subordinates can encourage them to contribute to the definition of their budgets, develop a commitment to work, motivate, and improve their managerial performance (Mia & Patiar, 2002). Organizations that emphasize the participation of subordinates in the budget process involve a greater association of subordinates with budgetary and organizational objectives (Lunardi, Zonatto, & Nascimento, 2019).

According to Adler and Borys (1996), by stimulating autonomy and control, it is also stimulated motivation and satisfaction in people, helping them deal with the eventualities of their work and obtain better performance in the tasks under their responsibility. This feeling of involvement can expand the sharing of knowledge and skills between levels within the company (Adler & Borys, 1996) and generate cognitive effects that can provide a sense of mastery and transparency in the execution of tasks (Lunardi et al., 2019). Several cognitive and personal behavioral and environmental factors can influence people's action at work and result in an impact on their managerial performance in the budgetary context (Zonatto, 2014), such as psychological capital, managerial attitudes, and work involvement, aspects that influence, to some extent, the managerial performance of controllers in the budgetary context, becoming an essential topic for investigation.

Studies in the accounting area that seek to investigate the psychological capital of people and its influence on managerial performance are incipient (Degenhart, Zonatto, & Lavarda, 2022; Saithong-In & Ussahawanitchakit, 2016; Schlup, Beck, & Zonatto, 2021; Venkatesh & Blaskovich, 2012; Zonatto, Nascimento, et al., 2020). There are also few studies in the budgetary context that seek to analyze the positive aspects of people at work (Schlup et al., 2021). Psychological capital is composed of four positive psychological dimensions of a cognitive nature: self-efficacy, hope, resilience, and optimism (Luthans, Youssef, & Avolio, 2007), being the mental states of people that influence their attitudes and behaviors, which affect their managerial performance (Alessandri, Consiglio, Luthans, & Borgogni, 2018; Lunardi et al., 2019; Degenhart et al., 2022), which is consistent with the enabling approach proposed by Adler and Borys (1996), which aims to motivate and influence people, as well as people's actions and behavior, improving their capabilities to leverage their performance.

Thus, a research opportunity identified in the literature consists of analyzing the enabling cognitive effects of these capacities with other intervening variables (Degenhart et al., 2022; Nascimento, Zonatto, Degenhart, & Lunardi, 2019), such as managerial attitudes toward budget and involvement at work, essential employee attitudes (Moynihan & Pandey, 2007), as predictors of managerial performance (Degenhart et al., 2022). As it is a flexible construct to external influences, which includes aspects related to human cognition, knowing the antecedents of psychological capital that can reflect on better managerial attitudes and performance triggers an opportunity for intervention in the work context, helping organizations develop methods to

strengthen the psychological capital of people (Newman, Ucbasaran, Zhu, & Hirst, 2014), how to invest in management practices that manage the sharing of information in the organization, which has been addressed in the literature as an important factor influencing cognitive and behavioral aspects of managers in the budgetary context, being able to positively influence their performance at work (Lunardi, Zonatto, & Nascimento, 2020).

The relationship between such variables was not investigated under the configuration proposed in this research, a theoretical gap that stimulates this study. Sharing information in the budgetary context allows managers with budgetary responsibility to better understand working conditions, allocated and available resources, and set goals and objectives, in addition to making better decisions in the face of environmental uncertainties (Mia & Patiar, 2002). Interaction and information exchange motivate people to put more effort into their tasks and achieve better performance (Castanha, Beuren, & Gasparetto, 2020). For this reason, it is believed that they tend to reflect positively on the psychological capital of controllers and their managerial attitudes. Such assumptions reflect on the cognitive and motivational effects of information sharing, which positively reflect on managerial performance in the budgetary context (Zonatto, Bauer, et al., 2020). In this sense, the problem question that guides the research is: What are the enabling cognitive effects of vertical information sharing on psychological capital, managerial attitudes, and performance?

Based on this problem, the objective of this research is to analyze the enabling cognitive effects of vertical information sharing on psychological capital, managerial attitudes, and managerial performance of professional controllers. With the shared information, the psychological capabilities of these professionals are expected to be promoted by stimulating their beliefs of self-efficacy, hope, resilience, and optimism, enhancing their involvement at work, and positively reflecting on attitudes that can promote their self-efficacy performance of the tasks under their responsibility. Given this, the research innovates by contributing to the understanding of the enabling effects of vertical information sharing on psychological capital, as well as the understanding of the interactions between these variables and two important managerial attitudes, which, in some way, reflect on managerial performance in the budgetary context.

Given the configuration proposed for analysis, the literature has partially addressed these relationships. The effects of psychological capital on work involvement were not observed, as well as information sharing as an antecedent to psychological capital, and their interactions as predictors of managerial performance in the budgetary context. Evidence in budget research has suggested that there is a set of factors that can influence the behavior of people at work and their performance, not just one (Dani, Zonatto, & Diehl, 2017; Derfuss, 2016), which is why there are conflicts of results identified in this literature, since the interactions established in the budgetary context, in different organizational environments, can affect managers differently. It is necessary to consider, when approaching topics related to cognitive aspects and mental states, such as psychological capital, that people tend to differ in their psychological capacities, which may explain such results.

Therefore, providing new evidence on such relationships allows us to understand how such interactions occur, promoting or inhibiting managerial attitudes that should reflect positively on

managerial performance, or providing an explanation for the understanding of when this does not occur, a relevant contribution of this research. Thus, this study has an important implication for knowledge on the subject, seeking to find evidence to expand the research developed in the behavioral area of accounting. The results contribute to a better understanding of the controllers on the conditions to improve their performance at work, as well as the organization to which they belong. This occurs through the qualification of management processes and the identification of adequate conditions for the resolution of organizational problems and the search for joint solutions to common problems. The analysis of these factors added to the variable 'managerial attitudes' concerning the budget and involvement in work can help organizations choose the best budget management practices that leverage these elements.

THEORETICAL BASIS

Enabling cognitive effects of vertical information sharing

The budget has been used as a management control mechanism that influences the behavior and mind of managers, constituting an important area of study in the behavioral investigation of accounting (Lunardi et al., 2020). When the budget process takes place jointly between superiors and subordinates, there is greater interaction and communication among all, so the dissemination of information is greater (Lavarda & Almeida, 2013), which characterizes the enabling cognitive effects of budget processes. According to Parker and Kyj (2006), although budgetary participation can facilitate information sharing, another factor for the exchange to take place is motivation, which is influenced by the commitment of the subordinates to the organization.

Those who want the company's success are more likely to provide information that can be used to improve their performance and that of the organization (Parker & Kyj, 2006). The relationship between subordinates and superiors and budgetary participation can be encouraged by the organization's older managers, aiming at a positive influence on subordinates' performance (Mia & Patiar, 2002). For Merchant (2007), greater participation of middle and low management in activities related to the budget can improve communication, generating an interactive dialogue in which information is disseminated (Parker & Kyj, 2006). Information sharing involves the level at which people make their knowledge available to their superiors (Parker & Kyj, 2006), which is a strategy to resolve information asymmetry and greater information awareness (Clarkson, Jacobsen, & Batcheller, 2007).

As the size of the organization increases, problems related to communication, social control, and coordination increase, making the sharing of information a key factor for the company's survival, since they need a large flow of channels for effective communication (Merchant, 2007). For Christensen and Pedersen (2018), the proximity of people in the organization is favorable to the development of interactions through passive and active contact. Passive contact happens when people are nearby, share the same office, and do not have to struggle to make information sharing happen. In active contact, there needs to be effort and manipulation of a situation for contact to occur, being casual encounters (Christesen & Pedersen, 2018).

Communication and information sharing develop a positive relationship between superiors and subordinates, which can help control the organization's resources through the understanding of objectives, policies, authority, and work details (Mia & Patiar, 2002). This relationship can be fundamental for decision-making and stimulate feedback, helping improve managerial performance (Mia & Patiar, 2002). When employees provide information about their work environment and activities to their superiors, they contribute to the decisions to be made, to better budgets, and to better managerial performance (Covaleski, Evans, Luft, & Shields, 2007; Nouri & Parker, 1998). Subordinates generally have more knowledge about their operational areas than their superiors, having private information (Parker & Kyj, 2006; Covaleski et al., 2007; Nouri & Parker, 1998).

The dissemination of private information makes their superiors develop better strategies in defining the budget, also ensuring adequate budget support to subordinates (Nouri & Parker, 1998), influencing their managerial performance (Lunardi et al., 2020). Information sharing concerns the sharing of subordinates' ideas with their immediate superior about the conditions of their area of responsibility, communication about the opportunities and problems faced by the company, and the dissemination of information that helps superiors resolve setbacks (Parker & Kyj, 2006). The intention to share information is a determinant of what information sharing can generate in the organization, such as reducing information asymmetry and achieving better managerial performance (Lunardi et al., 2020).

A relationship favorable to the sharing of information between superior and subordinate facilitates employee loyalty and trust in the company's management, stimulating cooperation and flexibility at all management levels (Mia & Patiar, 2002), and can also positively develop the psychological capital of people. This is due to the informative roles of budget processes, which characterize the cognitive, motivational, and achievement value effects that management processes generate in organizations (Zonatto, Bauer, et al., 2020), based on the qualification of information sharing (Lunardi et al., 2020; Zonatto, Nascimento, et al., 2020).

Knowing the antecedents of psychological capital can make the company develop strategies to strengthen the psychological capital of its employees, through support and leadership initiatives (Newman et al., 2014). Luthans, Norman, Avolio, and Avey (2008) identified that companies that provide support at work find it easier to develop psychological capital in their employees. Psychological capital demonstrates person motivational capacity through four positive psychological dimensions: self-efficacy, optimism, hope, and resilience (Luthans, Avolio, Avey, & Norman, 2007). It refers to positive psychological aspects, which encourage the person to believe in their ability to achieve the desired goals, mobilizing cognitive and motivational resources for this to occur.

High psychological capital generates positive expectations in people and greater security to deal with adversities that may arise during work and is more effective when people are clearer about their work activities and what is expected of them (Newman et al., 2014). Given the gap identified in the accounting literature, which deals with the effects of information sharing as an antecedent to psychological capital, the first hypothesis is assumed:

H1: The sharing of vertical information positively influences the psychological capital of controllers.

Enabling cognitive effects of psychological capital

Psychological capital is an intrinsic resource for people (Cavalcanti, Siqueira, & Kuniyoshi, 2014), capable of stimulating motivation and increasing performance in their activities (Avey, Reichard, Luthans, & Mhattre, 2011), as it influences people's behaviors and attitudes, motivating them to believe in their power to create their own success and when a greater effort is applied to the execution of their work, they achieve better performance (Nascimento, 2017). In the theoretical approach proposed by Luthans, Youssef and Avolio (2007), psychological capital is a one-dimensional construct proposed by four dimensions: hope, resilience, optimism, and self-efficacy. As it consists of psychological capabilities that are directly related, it needs to be approached as a single, second-order construct, composed of the four characteristics (a theoretical approach used in this research).

Self-efficacy comprises the trust and security that controllers must perform well in their tasks, problem-solving, setting goals, and budgetary objectives (Luthans et al., 2007; Nascimento et al., 2019). Optimism arises when one has a vision focused on positive results (Luthans, Norman, S. M., Avolio, B. J., & Avey, 2008; Nascimento et al., 2019). Hope is the set of agency, paths, and goals (Luthans et al., 2008); it is the willpower to seek to solve problems (Nascimento, 2017). Resilience is the ability to deal with adversity and face positive situations (Luthans et al., 2008) and stress at work (Nascimento et al., 2019).

Thus, psychological capital is an important means of measuring and predicting people's attitudes, behaviors, and performance (Avey et al., 2011). People with a high level of psychological capital are more willing to put more effort into the performance of their tasks, and this result is a consequence of the self-efficacy of people, which makes these professionals believe in their ability to achieve goals and apply more effort (Avey et al., 2011). Thus, they also show hope and optimism, finding solutions to problems, creating positive expectations about the results, and persevering in the face of adversity (Avey et al., 2011).

The organization that creates a supportive climate for the person is more likely to generate positive conditions for psychological capital (Luthans et al., 2008). Psychological capital is related to attitudes such as job satisfaction, organizational commitment, psychological well-being at work, and behaviors, such as organizational citizenship behavior (Avey et al., 2011). Employees who feel supported are more likely to develop new ways of performing a task, recover faster from adverse situations, and be optimistic in their assignments (Luthans et al., 2008). This converges with the enabling logic proposed by Adler and Borys (1996), which considers people as sources of predisposition and knowledge to be developed.

Nascimento's (2017) findings revealed that professional controllers with high levels of psychological capital tend to present positive attitudes and behaviors in the budget process and, consequently, they increase their performance in budgetary activities. Degenhart, Zonatto and Lavarda (2022) also identified the positive effects of the psychological capital of controllers in

managerial attitudes toward the budget, factors that provided the achievement of better managerial performance. Thus, people with a high level of psychological capital are more willing and enthusiastic to put more effort into carrying out their activities (Avey et al., 2011). According to Luthans et al. (2008), the four dimensions of psychological capital can impact management practices, in the case of this research, on the budget process, being relevant for analysis in new studies. This is because positive cognitive elements enhance people's beliefs, influencing their proactive actions in the work environment (Degenhart et al., 2022; Nascimento, 2017).

Therefore, the attitudes of people are influenced when they have optimistic thinking and desire positive results (Nascimento et al., 2019). According to Avey, Reichard, Luthans, and Mhatre (2011), those who expect good things at work, who believe in their success, and who manage to control setbacks, have their attitudes and behaviors influenced by psychological capital, positively impacting managerial attitudes (Degenhart et al., 2022; Nascimento et al., 2019). Psychological capital acts at a person level (Saithong-In & Ussahawanitchakit, 2016) and has a greater influence on work results (Newman et al., 2014), positively reflecting managerial attitudes toward the budget (Degenhart et al., 2022; Merchant, 2007; Nascimento, 2017). In addition, psychological capital tends to impact work engagement, influencing the degree of identification that the person has with the company (Cavalcanti et al., 2014; Siqueira, 2008).

Avey et al. (2011) and Newman, Ucbasaran, Zhu and Hirst (2014), in the literature on psychology and organizational management, found a positive relationship between psychological capital, attitudes, behaviors, and person performance. Luthans et al. (2008) revealed that psychological capital can be an important link between performance and the supporting climate in the organization. In the accounting area, Venkatesh and Blaskovich (2012), Saithong-In and Ussahawanitchakit (2016), Nascimento (2017), Degenhart et al. (2022), Nascimento, Zonatto, Degenhart and Lunardi (2019), and Schlup, Beck and Zonatto (2021) found a positive and significant association between psychological capital and managerial performance. Furthermore, Nascimento et al. (2019), Nascimento (2017), and Degenhart et al. (2022) found a positive and significant relationship between psychological capital and the managerial attitudes of controllers concerning the budget.

Given the non-observance of research on the effects of psychological capital on work involvement in the budgetary context and considering the positive results of psychological capital on attitudes and performance, the following hypotheses are assumed:

H2: Psychological capital positively influences work involvement in the work of controllers;

H3: Psychological capital positively influences the managerial attitudes of controllers.

According to Luthans et al. (2007), the four dimensions of psychological capital motivate people to strive in their activities and improve their performance. For Bandura (1977), people's decision-making and level of assimilation and effort in a task are influenced by self-efficacy. Self-efficacy beliefs are important antecedents to performance, since, based on the availability of information, people can better assess their work activities to be developed. In this sense, when realizing that they can perform their work tasks, they become more likely to perform more to obtain a better

performance. According to Bandura (1986), when people feel confident, they are more likely to put more effort into tasks, more motivation, and more persistence when faced with adversity.

It is possible to perceive that self-efficacy triggers hope, optimism, and resilience. Having the willpower to achieve their goals, which includes hope, generates the motivation to develop ways to succeed in their tasks (Luthans & Youssef, 2004), leading to an improvement in their performance. Like the optimist state of mind, people who think favorably and expect good things to happen increase their self-esteem and morale (Luthans & Youssef, 2004). Resilience, the ability to deal with obstacles, is also linked to the person's proactivity, which can lead to gains for the company (Luthans et al., 2007).

For these reasons, self-efficacy, hope, optimism, and resilience, components of psychological capital, can be considered predictors of job performance. For Alessandri, Consiglio, C., Luthans, F., & Borgogni et al. (2018) and Degenhart et al. (2022), psychological capital is positively related to job performance. Possessing high psychological capabilities makes people tend to put greater effort into performing their tasks, reflecting on job performance. Therefore, the fourth research hypothesis is assumed: *H4. Psychological capital positively influences the managerial performance of controllers.*

Effects of work involvement and managerial attitudes

Organizations that promote the participation of people in the budget process tend to have a greater positive effect on attitudes and motivation in the company (Merchant, 2007; Nascimento, 2017; Degenhart et al., 2022). People's attitudes are influenced by mental states, altering their behavior, and influencing their managerial performance (Lunardi et al., 2019). Managerial attitudes refer to flexibility, capacity for innovation, production methods, and monitoring of results (Merchant, 2007). According to Milani (1975), attitudes understood as aptitude, judgment, and people's feeling about their work in the budgetary context, when proactive, lead to better managerial performance.

The development of human resources practices encourages positive attitudes among employees (Oliveira & Rocha, 2017). For Jiang, Lepak, Hu, and Baer (2012), such resources, such as involvement in work and information sharing, improve opportunities designed to enable people to enjoy their abilities and motivations to achieve goals. In this way, the managerial performance of everyone is the result of each one's capacity and the support and motivation they receive (Luthans et al., 2008).

The controllers, when actively participating in the process of defining the budget of their unit, tend to present proactive managerial attitudes about the budget (Zonatto, Nascimento, et al., 2020), with such attitudes being enhanced by the psychological capital of people, which also impact on their performance management (Nascimento, 2017; Degenhart et al., 2022). Therefore, the high managerial performance of managers with budgetary responsibility is a consequence of the presentation of proactive and positive budgetary attitudes (Lu, 2011). Thus, those people who can perceive the usefulness and relevance of the budget will perform better in

the development of their budget activities (Lu, 2011), due to the dedication of greater effort in their activities (Nascimento et al., 2019).

Another attitude that tends to have positive effects on the performance of controllers in the budgetary context is involvement in work, representing how much people are committed to their jobs and careers (Brown, 1996) and to what extent work is a priority in their lives (Moynihan & Pandey, 2007). For Christian, Garza, and Slaughter (2011), work involvement does not refer specifically to the work task, but to aspects of work, including how much it can satisfy the needs of people. It is a description of a person's experiences resulting from work (Christian, Garza, & Slaughter, 2011) and is incorporated as an important employee attitude (Moynihan & Pandey, 2007).

When work meets the needs of the person, the person feels involved in the work (Brown, 1996; Lunardi et al., 2019), being less likely to have thoughts about quitting the company and suffering negative psychological, social, or physical effects such as anxiety, stress, and work-family conflict (Brown, 1996). Those who believe that the company's human resources practices are positive are less likely to leave the organization (Oliveira & Rocha, 2017), more likely to get involved with it, and more likely to make greater efforts to develop their work activities, to achieve the objectives and goals defined by the organization (Lunardi et al., 2019).

Evidence found in the accounting literature suggests that work engagement (Brown & Leigh, 1996; Lunardi et al., 2019) and the managerial attitudes of controllers (Degenhart et al., 2022; Lu, 2011; Lunardi et al., 2019; Nascimento et al., 2019; Zonatto, Nascimento, et al., 2020) positively influence managerial performance in budgetary activities. On the other hand, the findings of Brown (1996) indicated that there is no influence of work involvement on managerial performance. This evidence reveals that such relationships need to be evaluated from an integrated and broader perspective, as proposed in this research, since there are factors that precede the behavior of people at work, such as information sharing and psychological capital, which can explain in what conditions such variables (work involvement and managerial attitudes toward the budget) can result in better performance.

Given the above, it is proposed that work involvement positively influences managerial attitudes and that these variables can exert a positive influence on managerial performance, which is believed to occur in conditions of high levels of information sharing and psychological capital of professional controllers. In this way, the research hypotheses that investigate the effects of such managerial attitudes are established as follows:

H5. Involvement in work positively influences managerial attitudes to the controllers' budget;

H6. Work involvement positively influences the managerial performance of controllers;

H7. Managerial attitudes toward the budget positively influence the managerial performance of controllers.

RESEARCH METHOD AND PROCEDURES

This research is characterized as descriptive, carried out through a survey, and with a quantitative approach to the data. The population object of the study consisted of professionals responsible for the controllership area in the organization they work, noting that the designation used in the work area for these professionals is different. In this research, the following terms were adopted: controllers, controllership managers, or controllership coordinators of organizations operating in Brazil. The research considers this population, since the controller is the professional who is responsible for the strategic alignment of the organization, acting in a way that has access to all areas and their information (Palomino & Frezatti, 2016; Ribeiro, Lunkes, Schnorrenberger, & Gasparetto, 2008).

For this sample, from June to September (2020), an invitation was sent via LinkedIn® business network to the professionals registered in the database. Receiving the professional's acceptance to participate in the research and the confirmation that they work as responsible for the controllership area, the link to the questionnaire prepared in Google Docs was sent so that they, voluntarily, if they so wished, could answer the research questions. A total of 2,115 invitations were sent, and of these, 930 initially accepted to respond to the research instrument, being sent the link to the data collection instrument.

The sample is characterized as non-probabilistic, intentional, and obtained by accessibility. Of the 930 who volunteered to participate in the research, 267 controllers responded to the questionnaire. This difference is explained by the fact that when invited, people initially mentioned that they could collaborate; however, after receiving the questionnaire, they did not necessarily answer it. Therefore, 267 controllers from different organizations in Brazil participate in the research. This sample is in line with the clipping studied by other researchers who investigated the themes addressed in this research (Lunardi et al., 2020; Nascimento et al., 2019; Zonatto, Nascimento, et al., 2020). The research instrument was developed with objective questions, considering the variables analyzed. We chose to use their original scales in the versions proposed by the authors. Table 1 presents the description of the variables used.

Table 1

Constructs and operational definition

Variables	Operational definitions	Scale	Authors
Vertical information sharing (VIS)	Determines the degree to which subordinates communicate information about local conditions to their superiors.	3 indicators Likert 7 points	Parker and Kyj (2006)
Psychological capital (PC)	A positive state of psychological development of the person characterized by self-efficacy, hope, optimism, and resilience.	24 indicators Likert 6 points	Luthans, Youssef, and Avolio (2007)
Managerial attitudes (MA)	Measures subordinates' attitudes toward managerial activities.	5 indicators Likert 5 points	Merchant (2007)
Work involvement (WI)	Determines the subordinate's degree of involvement in their work.	3 indicators Likert 7 points	Moynihan and Pandey (2007)
Managerial performance (MP)	Evaluates the performance measure of managers with budgetary responsibility in their work activities.	9 indicators Likert 7 points	Mahoney, Jerde, and Carroll (1963; 1965) cited in the Zonatto version (2014)

Note. Prepared by the authors.

The instruments used for data collection, despite having already been used by other researchers before their application, were appreciated by a professor, a doctor in accounting sciences, a researcher in management accounting, and two managers in the controllership area of large organizations. Likewise, a pre-test was carried out with students from a doctoral course in accounting sciences to ensure that the research participants would understand the questions and represent the concepts addressed in each construct.

Initially, a descriptive statistical analysis of the data was performed, to have a critical view of its characteristics, identifying the theoretical interval (Likert scale), the real interval (maximum and minimum), the mean, and the standard deviation of the data, having the purpose of evaluating the frequency distribution of the responses obtained in the analyzed sample. Then, exploratory factor analysis (EFA) was performed, which examined whether the set of indicators grouped in the construct adequately assess that concept. The criteria used for this analysis were: Cronbach's alpha > 0.70 , total explained variance > 0.5 , Kaiser-Meyer-Olkin (KMO) > 0.50 , Bartlett's sphericity test $p < 0.05$, factor loadings of the indicators > 0.35 , and communalities > 0.60 , as recommended by Hair, Black, Babin, Anderson, & Tatham (2009).

After exploratory factor analysis, the Harman test (one-factor test) to verify the occurrence of method bias (common method bias), as recommended by Bido, Mantovani, and Cohen (2018). Subsequently, the confirmatory factor analysis (CFA) and the test of discriminant validity of the measurement constructs were carried out, according to the criterion of Bagozzi and Phillips (1982). This set of procedures gives greater consistency to the application of structural equation modeling (SEM) since it corroborates the validation of measurement constructs and the identification of the existence of method bias and autocorrelation problems between the analyzed constructs. Finally, MEE was carried out to analyze the theoretical relationships object of study and respond to the research objective and hypotheses. The parameters used for the evaluation and validation of measurement models are presented in Table 2.

Table 2

Criteria for assessing the adequacy of measurement constructs

Indicator	Recommended value	Reference	Expected value
Chi-square/DF (degree of freedom)	< 5		< 5
Statistical significance (p)	< 0.05		< 0.05
CFI (comparative fit index)	$< 0 \text{ e } < 1$		> 0.90
TLI (Tucker-Lewis index)	(better more close to 1)	Hair Jr. et al.(2009)	> 0.90
NFI (normed fit index)			> 0.90
RMSEA (root mean square error of approximation)	< 0.10		< 0.10
Cronbach's alpha (construct)	> 0.70		> 0.70
Factor loads (indicators)	> 0.40		> 0.40

Note. Adapted from Lunardi, M. A., Zonatto, V. C. S., & Nascimento, J. C. (2020). Efeitos cognitivos mediadores do compartilhamento de informação na relação entre participação orçamentária e desempenho gerencial. *Revista Contabilidade & Finanças*, 31(82), 14-32. <http://dx.doi.org/10.1590/1808-057x201908610>, (p. 21).

The fit indices of measurement models are observed to assess the predictive quality of the model. Thus, in addition to inferring the validation of measurement models, it is possible to assess their quality. MEE, on the other hand, is suitable for the analysis of the joint interactive effect of such variables. These procedures converge with those used in other studies on the subject, such as Lunardi et al. (2020), Zonatto, Nascimento, et al. (2020), Nascimento et al. (2019), and Degenhart et al. (2022). The search results are presented below.

PRESENTATION OF RESULTS

Table 3 presents a summary of the profile of the 267 controllers participating in the study.

Table 3

Profile of the professionals participating in the research

Age	Abs. Freq.	Rel. Freq.	WT Company	Abs. Freq.	Rel. Freq.
Up to 30 years	29	10.86%	Up to 5 years	175	65.54%
Between 31 and 40 years	118	44.19%	Between 6 and 10 years	50	18.73%
Between 41 and 50 years	82	30.71%	Over 11 years	42	15.73%
Between 51 and 60 years	35	13.11%	Total	267	100.00%
From 61 years	3	1.12%	WT Function	Abs. Freq.	Rel. Freq.
Total	267	100.00%	Up to 5 years	197	73.78%
Sex	Abs. Freq.	Rel. Freq.	Between 6 and 10 years	43	16.10%
Female	34	12.73%	Between 11 and 15 years	14	5.24%
Male	233	87.27%	Over 16 years	13	4.87%
Total	267	100.00%	Total	267	100.00%
Other variables	AV	SD	WT Budgetary Resp.	Abs. Freq.	Rel. Freq.
HLF	5.83	0.97	Up to 5 years	190	71.16%
LUBPE	5.87	1.32	Between 6 and 10 years	59	22.10%
BKL	6.52	0.77	Between 11 and 15 years	10	3.75%
LKBRPO	6.50	0.80	Over 16 years	8	3.00%
			Total	267	100.00%

Note. Abs. Freq. Absolute frequency; Rel. Freq. Relative frequency; WT Company. Working time in the company; WT Function. Working time in the function; WT Budgetary Resp. Working time that has budgetary responsibility; HLF. Hierarchical level of the function; LUBPE. Level of use of the budget for performance evaluation; BKL. Budget knowledge level; LKBRPO. Level of knowledge in budget routines and processes of the organization.

Note. Survey data.

Regarding the profile of the respondents, the study participants are average 40 years old, with 74.90% concentrated in the age group between 31 and 50 years old. In the analyzed sample, 87.27% of these professionals are male. It was identified that none of the respondents considered their hierarchical level in the function to be completely low (1), with the average of the responses obtained being high (5.83). The same is observed concerning the use of the budget for performance evaluation, in which the average obtained in the responses was 5.87.

The perception of these managers concerning their level of budgetary knowledge is high, with an average of 6.52, which is also observed in budgetary routines and processes (6.50). These results corroborate the statements presented by Palomino and Frezatti (2016) and Ribeiro et al. (2008), evidencing that the hierarchical level of this function is high in most organizations in which these

professionals work, which is why they play prominent roles in organizational management, supporting the management system used in these companies. The controller helps the entire management team of the company, with a growing focus on the role of strategic thinking (Oesterreich, Teuteberg, Bensberg, & Buscher, 2019), working in the controllership area, generating information for the management of companies, and favoring the reduction of asymmetry informational (Lunardi et al., 2020).

Table 4 presents the summary of the results of the descriptive statistical analysis and the exploratory factor analysis performed for the validation of the measurement constructs.

Table 4

Descriptive statistics and exploratory factor analysis of the constructs analyzed in the research

Var	CA	TVE	Ind	FL	Com	TR	Min	Max	AV	SD	Ind	FL	Com	TR	Min	Max	AV	SD
IS	0.850	77.823	IS1	0.898	0.806	1-7	1.00	7.00	6.10	1.12	SE3	0.842	0.710	1-6	2.00	6.00	5.64	0.65
SE	0.831	56.500	IS2	0.902	0.814	1-7	1.00	7.00	6.19	1.11	SE4	0.854	0.729	1-6	3.00	6.00	5.69	0.55
HO	0.805	51.201	IS3	0.845	0.714	1-7	1.00	7.00	5.71	1.35	SE5	0.670	0.448	1-6	2.00	6.00	5.52	0.76
RE	0.683	46.647	WI1	0.753	0.566	1-7	1.00	7.00	5.54	1.27	SE6	0.629	0.395	1-6	1.00	6.00	5.63	0.71
OP	0.697	63.820	WI2	0.900	0.810	1-7	1.00	7.00	4.33	1.43	HO1	0.576	0.331	1-6	1.00	6.00	5.46	0.74
WI	0.792	70.778	WI3	0.864	0.747	1-7	1.00	7.00	4.19	1.55	HO2	0.756	0.571	1-6	1.00	6.00	5.01	1.01
MA	0.851	64.195	MA1	0.812	0.659	1-5	3.00	5.00	4.56	0.63	HO3	0.554	0.307	1-6	1.00	6.00	5.57	0.76
MP	0.890	54.902	MA2	0.722	0.521	1-5	1.00	5.00	4.14	0.93	HO4	0.771	0.595	1-6	2.00	6.00	5.17	0.84
			MA3	0.803	0.644	1-5	1.00	5.00	4.27	0.84	HO5	0.792	0.627	1-6	1.00	6.00	5.26	0.82
			MA4	0.829	0.687	1-5	1.00	5.00	4.42	0.77	HO6	0.800	0.641	1-6	2.00	6.00	5.06	0.87
			MA5	0.835	0.698	1-5	1.00	5.00	4.43	0.72	RE1	Exc.	Exc.	1-6	1.00	6.00	4.37	1.62
			MP1	0.717	0.513	1-7	3.00	7.00	5.91	0.92	RE2	0.597	0.356	1-6	1.00	6.00	5.19	0.83
			MP2	0.781	0.609	1-7	2.00	7.00	5.93	0.93	RE3	0.559	0.313	1-6	1.00	6.00	5.18	1.03
			MP3	0.669	0.448	1-7	4.00	7.00	6.03	0.90	RE4	0.799	0.638	1-6	3.00	6.00	5.10	0.77
			MP4	0.829	0.687	1-7	2.00	7.00	5.75	1.01	RE5	0.702	0.492	1-6	1.00	6.00	5.44	0.71
			MP5	0.780	0.609	1-7	1.00	7.00	6.07	0.99	RE6	0.730	0.533	1-6	3.00	6.00	5.49	0.62
			MP6	0.819	0.672	1-7	1.00	7.00	5.82	1.11	OP1	0.709	0.503	1-6	1.00	6.00	4.75	1.10
			MP7	0.688	0.474	1-7	1.00	7.00	5.61	1.15	OP2	Exc.	Exc.	1-6	1.00	6.00	4.43	1.51
			MP8	0.711	0.505	1-7	1.00	7.00	5.26	1.45	OP3	0.864	0.746	1-6	1.00	6.00	5.10	0.86
			MP9	0.652	0.425	1-7	4.00	7.00	5.86	0.76	OP4	0.816	0.666	1-6	1.00	6.00	5.18	0.91
			SE1	0.655	0.429	1-6	3.00	6.00	5.53	0.61	OP5	Exc.	Exc.	1-6	1.00	6.00	4.14	1.47
			SE2	0.823	0.678	1-6	3.00	6.00	5.72	0.55	OP6	Exc.	Exc.	1-6	1.00	6.00	3.02	1.52

Note. Survey data. IS: Information sharing; SE: Self-efficacy; HO: Hope; RE: Resilience; OP: Optimism; WI: Work involvement; MA: Managerial attitudes; MP: Managerial performance; Var: Variable; CA: Cronbach's alpha; TVE: Total variance explained; KMO: Kaiser-Meyer-Olkin; BST: Bartlett's sphericity test; Ind: Indicator; FL: Factorial load; Com: Commonalities; TR: Theoretical range; Min.: Minimum; Max.: Maximum; AV.: Average; SD.: Standard deviation.

The results presented in Table 4 reveal the final composition of all indicators that were grouped into their respective measurement constructs. Cronbach's alpha (CA), which assesses the reliability of constructs, is higher than 0.683 in all analyzed constructs. The results of Bartlett's sphericity tests indicate that all measurement models are statistically significant. Concerning the total explained variance, all constructs reached values greater than 0.5, except the psychological resilience construct, which reached a value close to this result, which indicates a high explanatory power of these variables. In the measurement models evaluated, all indicators that remained in the model had a factor loading greater than 0.554, and only four indicators were excluded from the measurement constructs (RE1, OT2, OT5, and OT6). From such evidence, it can be concluded that the final composition of the constructs is adequate and presents quality for the analysis proposed in this research.

The results of the descriptive statistical analysis presented in Table 4 also reveal that most of the variables used have indicators that reached a minimum and maximum responses on the scale used, which indicates a degree of disagreement or total agreement with the statements made. These results reveal that not all organizations present levels of information sharing, in the same way that the involvement at work and the managerial attitudes of the managers participating in the research differ. There are still differences between the managerial performance of these managers and their psychological capital. It is possible to observe that not all respondents believe they have the confidence to put effort into the tasks to be successful, have constancy on the way to the goals, and are resilient.

These results reveal important implications for the field of studies since they show differences that may explain the conflicting results found in previous studies developed on the subject. They reveal that when the level of analysis is the person and person characteristics, especially psychological capabilities, there are intrinsic factors that can distinguish perceptions, reactions, and human behavior at work, which explains the distinct effects of managerial attitudes on managerial performance at work in a budgetary context (Nascimento et al., 2019; Lunardi et al., 2020; Zonatto, Nascimento, et al., 2020). It is also necessary to consider the enabling effects of information sharing, which are not present, at the same level, in different organizational environments (Lunardi et al., 2020). Therefore, such aspects are factors that can influence the definition of the level of involvement of managers at work.

In the case of this research, these findings show that in some organizations, subordinates have difficulties sharing their ideas and information about their tasks, opportunities, and problems with their superiors, which can affect the qualification of decisions taken in the organizational context in which the manager is inserted, and consequently may reflect negatively on the execution of their tasks and their performance. When information sharing is deficient, it favors information asymmetry and negatively influences subordinates at work (Clarkson et al., 2007). Effective internal communication generates a feeling of recognition in subordinates, making them collaborate to achieve the company's goals (Castanha et al., 2020).

People who are less involved with work, and have inadequate managerial attitudes, may not be committed to the established budget goals or the resources allocated in the organizations, which can make it impossible to perform their work activities properly, reflecting, in some way, in their

performance and the performance of the organization. According to Degenhart et al. (2022), employees' commitment to the company's goals makes them dedicate themselves more to achieving them. People involved in the work demonstrate more effective commitment to the company (Castanha et al., 2020).

In the budgetary context, a necessary demand for the qualification of management processes is related to the availability of information between superior and subordinate, involving the budget. For there to be greater sharing of information, it is necessary to better define objectives and goals and an adequate allocation of resources, which will serve to develop the activities of managers with budgetary responsibility. The interaction that exists in the budgetary context within the business environment allows people to relate and search for resources, for the definition of goals, and for conditions for performance evaluation (Zonatto, Weber, & Nascimento, 2019), which generates cognitive effects capable of impacting managerial performance (Schlup et al., 2021).

For this reason, the analysis of the theoretical relationships object of study becomes relevant. Once the data were collected through the application of a questionnaire, the Harman test (one-factor test) was then performed to identify the occurrence of method bias (common method bias) as recommended by Bido et al. (2018). The results found indicated the composition of nine factors, the first of which explains only 27.713% of the total explained variance, which demonstrates the non-existence of method bias. The results of the discriminant validity test, based on the analysis methodology proposed by Bagozzi and Phillips (1982), also revealed that the differences found between the measurement constructs are statistically significant. Thus, these tests reinforce the possibility of applying the ESM, so that the relationship between the constructs analyzed in the research can be evaluated.

Figure 1 shows the synthesis of the results.

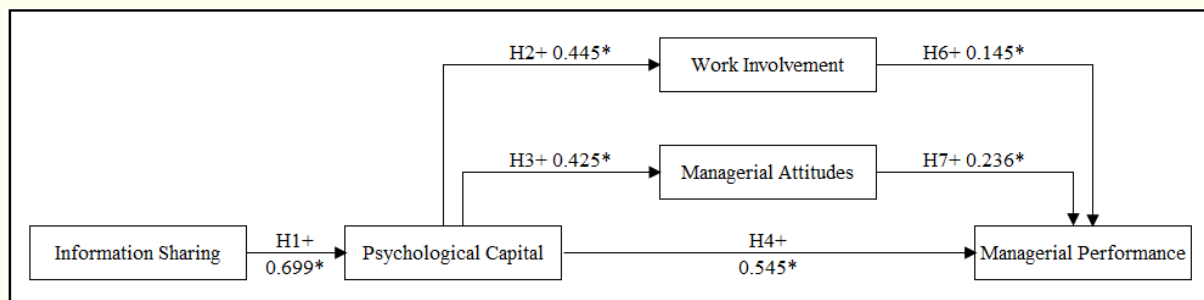


Figure 1. Estimates of purified structural model paths.

Note. Survey data. Model fit indices: Chi² 1349.062; Degree of freedom (DF) 730; Chi²/Degree of freedom (DF) 1.848; CFI 0.873; TLI 0.865; NFI 0.762; RMSEA 0.056. Path coefficients of the psychological capital dimensions: Self-efficacy 0.635; Hope 0.898; Optimism 0.621; Resilience 0.727.

It can be seen in Figure 1 that sharing information enhances psychological capital, resulting in better performance of people in activities under their responsibility. It appears that the positive state of psychological development is positively related to work involvement, managerial attitudes, and managerial performance. These results indicate that higher levels of psychological capital enhance work involvement and managerial attitudes, reflecting positively on their performance,

which denotes the enabling effects of the positive state of psychological development. Likewise, work involvement and managerial attitudes have a positive influence on managerial performance.

The dimensions of greatest influence of psychological capital are related to hope and resilience; results suggest that, in the analyzed sample, professionals who present the positive psychological capacity of hope are those who show greater determination and willpower to seek to solve problems faced in the workplace (Luthans et al., 2008; Nascimento, 2017), in the pursuit of achieving the desired organizational goals and results (Schlup et al., 2021). Likewise, these are the professionals who show greater resilience, which indicates that these controllers are more likely to mobilize positive psychological capacities that help them face adversity and stressful situations at work (Luthans et al., 2008; Nascimento et al., 2019; Schlup et al., 2021), factors that reflect positively on proactive managerial attitudes and better performance. According to Avey et al. (2011), psychological capital has a positive relationship with the attitudes, behaviors, and performance of managers.

ANALYSIS AND DISCUSSION OF RESULTS

The standardized coefficients and the significance of the relationships of the tested model are presented in Table 5.

Table 5

Standardized coefficients and significance of the relationships of the models tested

Structural paths	Estimates	Standard error	t-values	p-values	Standardized coefficients	R ²
PC ← IS	0.254	0.046	5.497	***	0.699	0.488
WI ← PC	0.895	0.213	4.195	***	0.445	0.198
MA ← PC	0.556	0.127	4.366	***	0.425	0.181
MP ← PC	0.928	0.199	4.661	***	0.545	0.567
MP ← WI	0.122	0.054	2.252	0.024	0.145	0.567
MP ← MA	0.307	0.082	3.738	***	0.236	0.567

Note. Survey data. PS. Psychological capital; IS. Information sharing; WI. Work involvement; MA. Managerial attitudes; MP. Managerial performance; *** Significance at the 1% level.

Based on Table 5, in the final purified model, it is observed that the only relationship that was non-significant at 0.01 is between work involvement and managerial performance, reaching significance at the level of 0.05. These results indicate a statistically significant relationship between the constructs. However, the relationship between work involvement and managerial attitudes was not statistically significant. As for the values of the coefficients, verifying the significant relationships, the lowest strength of the relationship was between work involvement and managerial performance (0.145) and the greatest relationship occurred in the influence of information sharing, as an antecedent, on psychological capital (0.699).

It is possible to verify that the path of the measurement model that investigates the direct effects of information sharing on psychological capital revealed a significant relationship between these

variables. Thus, it is possible to affirm that higher levels of information sharing positively influence the development of managers' psychological capital, which indicates that information sharing between superiors and subordinates develops psychological capacities related to beliefs of self-efficacy, hope, optimism, and resilience confirming the first research hypothesis (H1. The sharing of vertical information positively influences the psychological capital of controllers). This finding fills the gap in the literature, which deals with the effects of information sharing as an antecedent to the psychological capital of managers with budgetary responsibility.

Sharing information can make subordinates receive adequate budgetary support from their superiors to perform their tasks (Nouri & Parker, 1998), making it timely to motivate employees and coordinate their performance (Castanha et al., 2020). Budgets can facilitate decision-making by owners when subordinates share information about their local activities and tasks with superiors; however, organizations generally work with private information known only to employees (Covaleski et al., 2007), encouraging interactive dialogue between subordinates and superiors as a way of revealing this information (Parker & Kyj, 2006). In addition, the subordinate's commitment to the company can influence him to communicate his information (Parker & Kyj, 2006). It is possible to verify the importance of companies emphasizing communication in the work environment, which can reflect on the performance of both people and the organization.

The sharing of vertical information develops a positive relationship between superior and subordinate, promoting loyalty and trust (Mia & Patiar, 2002), and consequently enhancing the psychological capital of people. The results imply that information sharing enhances self-efficacy beliefs, making people believe in their ability to perform tasks successfully; hope, developing the feeling of confidence that they will successfully achieve goals; optimism, creating expectations of positive results; and resilience, developing the capacity of people to deal with and overcome their problems. Knowing the antecedents of psychological capital helps the company develop ways to strengthen the psychological capabilities of subordinates (Newman et al., 2014), allowing future research to test the relationship of other variables as an antecedent to psychological capital.

Managers who have a positive state of psychological development are more motivated to develop their activities, which is reflected in their managerial performance (Avey et al., 2011). People put more energy and effort toward goals when they feel confident dealing with the conditions in which they find themselves in the work environment, which positively influences their performance (Schlup et al., 2021). The four dimensions of psychological capital are manageable and contribute to the generation of confidence in the capacities and abilities that people have to develop their tasks, in addition to generating hope in positive results and overcoming and dealing with obstacles (Luthans et al., 2007).

The results revealed a positive relationship between psychological capital and work involvement, managerial attitudes, and managerial performance. In this way, it can be concluded that psychological capital directly influences work involvement, managerial attitudes, and managerial performance, confirming the hypotheses H2 (Psychological capital positively influences the work involvement of controllers), H3 (Psychological capital positively influences the managerial attitudes of controllers), and H4 (Psychological capital positively influences the managerial

performance of controllers). Therefore, information sharing indirectly influences work involvement, managerial attitudes, and managerial performance, based on the enabling cognitive effects that they exert on the psychological capital of controllers.

The positive psychological development of people, which represents the person motivational capacity formed by positive psychological capacities of self-efficacy, optimism, resilience, and hope (Nigah, Davis, & Hurrell, 2012), can involve them in the activities and tasks they perform, increasing the level of attunement with their work and the company, and, according to Schlup et al. (2021), reducing the distress that the work environment generates. This result fills the gap in the literature regarding the effects of psychological capital on work engagement in a budgetary context. The greater the involvement at work, the more people will be flexible, innovative, and attentive to the company's success, seeking different ways of doing their tasks (Lunardi et al., 2019) and taking advantage of the various skills they have (Brown, 1996).

Regarding the influence of psychological capital on managerial attitudes, the results of this study corroborate the findings of Nascimento (2017), Degenhart et al. (2022), and Nascimento et al. (2019), as they also found a positive relationship between psychological capital and the managerial attitudes of controllers concerning the budget. The attitudes and behaviors of people are influenced by psychological capital, as those people who have a state of positive psychological development believe that their success depends on themselves (self-efficacy and hope), expect to obtain good results in their work (optimism), and are not affected by setbacks (resilience) (Avey et al., 2011). The evidence found in this research corroborates such effects. They revealed that professionals who show greater determination and willpower are also more resilient in the face of situations of adversity, tension, and stress experienced in the work environment, being more likely to work harder to achieve better results at work.

The findings also reveal that psychological capital directly and positively influences managerial performance. The results converge with the findings by Venkatesh and Blaskovich (2012), Saithong-In and Ussahawanitchakit (2016), Nascimento (2017), Alessandri, Consiglio, Luthans & Borgogni (2018), Nascimento et al. (2019), Schlup et al. (2021), and Degenhart et al. (2022), who found a positive relationship between psychological capital and managerial performance. Managers perform better when they have positive psychological capabilities manifested through cognition, motivation, and behavior (Luthans et al., 2007). According to Newman et al. (2014), the performance improvement is linked to the recognition of these psychological capabilities, whose cognition makes managers successfully develop their tasks (Degenhart et al., 2022). Those people with a high level of psychological capital are motivated to put more effort into their activities, making them more likely to improve their performance (Avey et al., 2011; Schlup et al., 2021).

As a construct still on the rise (Venkatesh & Blaskovich, 2012; Newman et al., 2014) and incipient in the accounting literature (Nascimento et al., 2019; Degenhart et al., 2022), the findings of this research denote the importance of studying the psychological capabilities of managers, since they have antecedents that can potentiate it and, thus, it is also possible to establish important contributions given its effects on work involvement, managerial attitudes, and managerial performance. In addition, as it is composed of psychological variables that are

mental states, subject to development and improvement (Luthans, Luthans, & Luthans, 2004; Luthans et al., 2007), they can be promoted by the adoption of management practices that act to enhance organizational support, information sharing, and the development of people at work. The development of psychological capital is crucial for the motivation and behavior of people in the work environment (Alessandri et al., 2018). Such conditions tend to reflect positively on their managerial attitudes, which will positively impact the achievement of established organizational goals and objectives, as well as their performance.

It is also observed that the model for measuring the direct effects of work involvement on managerial attitudes did not show statistical significance. The taste and satisfaction with their work did not influence, in the analyzed sample, people to have better and greater managerial attitudes concerning the budget, refuting hypothesis H5 (Involvement in work positively influences managerial attitudes about the budget of controllers). These findings diverge from the results found by Lunardi, Zonatto, & Nascimento (2019), in which work involvement is positively associated with managerial attitudes. A possible explanation for these results may be related to the predominant effects of information sharing and psychological capital on managerial attitudes toward the budget, which, in this case, improves the budgetary commitment of managers and their managerial attitudes related to the budget, reflecting positively in a better managerial performance in budgetary activities. Involvement at work transcends the managers' concern with budgetary activities, also encompassing the organization. Thus, it can be influenced by other variables, which determine its interactions with other factors present in the organizational environment.

Regarding the direct effects of work involvement and managerial attitudes on managerial performance, it was found that there is statistical significance for these relationships. Thus, it can be said that when the managers are more involved with their work and believe that the budget allows them to be better, more flexible, more innovative managers, attentive to the success of the organization, being able to identify better production methods, aiming problems solutions and production viability, they tend to have a better managerial performance. Such evidence allows us to confirm hypotheses H6 (Work involvement positively influences the managerial performance of controllers) and H7 (Managerial attitudes toward the budget positively influence the managerial performance of controllers).

A positive and significant relationship between work involvement and managerial performance was found by Lunardi et al. (2019) and Brown and Leigh (1996). However, these results differ from the study by Brown (1996), which found a non-significant relationship between work involvement and managerial performance. This evidence reinforces the importance of analyzing such relationships from a theoretical perspective of a broader analysis, also contemplating the identification of factors antecedent to these variables, so that one can better understand under what conditions such influences occur. In the case of this research, it appears that when there is information sharing and controllers present a high psychological development, they become more likely to have such influence (ET→DG), evidence that explains the conflicting results identified.

Regarding managerial attitudes and managerial performance, Lu (2011), Nascimento et al. (2019), Lunardi et al. (2019), Degenhart et al. (2022), and Zonatto, Nascimento, et al. (2020) identified a positive and significant relationship between managerial attitudes of controllers about the budget and the performance of these professionals in budgetary activities. Milani (1975) states that attitudes toward work, as an intervening factor, lead to better performance, which is why they need to be stimulated. For Merchant (2007), companies that use the budget as a strategy of administrative control achieve better attitudes and motivation of people. Thus, under conditions in which they promote the inclusion of managers in budget processes, they become more likely to have higher levels of information sharing, which will enhance positive managerial attitudes, which will act to improve managerial performance (Lunardi et al., 2020).

In short, from the analysis of the influence of the variables investigated in this research and their interactions, it can be concluded that the sharing of information is an antecedent that enhances the psychological capacities of self-efficacy, optimism, hope, and resilience, increasing involvement at work and managerial attitudes concerning the budget of the controllers improving their managerial performance. Additionally, it can be said that information sharing also exerts a positive influence on the managerial performance of people in the budgetary context, indirectly, mediated by the intervening effects of psychological capital and the managerial attitudes studied.

CONCLUSIONS

The results showed that information sharing is an important antecedent to leveraging the psychological capital of controllers, developing psychological capabilities related to self-efficacy, hope, optimism, and resilience beliefs, improving people's cognition, and leading to better managerial performance. This positive mental state of people strengthens managerial attitudes, which, in turn, provides better managerial performance in budgeting activities. This evidence expands the research developed in the behavioral area of accounting, as it alleviates the existing gap that consisted of analyzing the effects of information sharing as an antecedent to psychological capital and not identifying a record of the investigation of the effects of psychological capital on involvement in the work and managerial performance in the budgetary context.

These shreds of evidence reinforce the influence of management practices adopted as mechanisms that contribute to the promotion of information sharing in the organizational environment. They also reveal the enabling cognitive effects of vertical information sharing on psychological capital, managerial attitudes, and performance. Therefore, the study contributes to the literature that examines behavioral aspects related to managerial performance, by seeking to understand under what conditions psychological capital and managerial attitudes result in better performance in budgetary activities. Considering that a set of cognitive, personal, and behavioral factors can influence managerial performance, it is relevant to analyze the relationship and effects of these factors on people who have budgetary responsibility, from a broader and integrated analysis perspective, so that it is possible, in addition to evaluating their interactions, to understand under what conditions such influences occur, another relevant contribution of this research.

Sharing information enhances psychological capital, which has shown a direct and indirect influence on managerial performance, mediated by the managerial attitudes studied. Psychological capital influences managerial attitudes toward budgeting and work engagement. However, work involvement had no direct influence on managerial attitudes. Thus, the research contributes by providing evidence of the effects of information sharing by controllers of companies operating in Brazil on psychological capital, as well as the intervening effects of psychological capital on the relationship between information sharing and managerial performance, mediating the effects of information sharing in managerial attitudes and involvement at work, reflecting on managerial performance.

The results contribute to a better understanding on the part of controllers about the improvement of their performance at work, as well as that of the organization to which they belong, as it is expected that managers who are prone to share information have their psychological capital developed, positively affecting their managerial attitudes and their performance. The analysis of these factors, added to the variable 'managerial attitudes' concerning the budget and involvement in work, helps organizations choose the best budget management practices that can produce such results.

Through a better understanding of work engagement and budget-related managerial attitudes of managers with budgetary responsibilities, senior management can promote actions aimed at greater information sharing between superiors and subordinates and the development of psychological capabilities of psychological capital, so that they potentiate such attitudes and improve the performance of managers in budgetary activities. Such aspects need attention since organizations are constantly exposed to unexpected events, which require the capacities of self-efficacy, hope, optimism, and resilience of people in the work environment.

The research has some limitations, such as a non-probabilistic sample, intentionally selected, for accessibility, as it reflects a specific context observed in a certain period and contemplates the analysis of specific elements. The controller must have a LinkedIn® profile to be able to join the sample. Other variables were neglected and could have been used for the proposed analyses so that the predictors of better performance could be better understood. However, the methodological rigor supports the analyses proposed and the evidence produced in this research, which stimulates the realization of new studies.

Thus, the research provides evidence of variables that influence the social, cognitive, and behavioral factors of controllers, which encourages future research to address other variables that may influence such relationships, such as organizational commitment, commitment to budget objectives and targets, the motivation and satisfaction of these managers at work. The effects of antecedent variables can also be studied, such as the management control mechanisms used by organizations. It is also suggested to carry out research that analyzes contextual factors, such as those related to the COVID-19 pandemic and environmental uncertainty, which can contribute to the understanding of the predictors of such managerial attitudes and performance, thus contributing to the formation of consistent literature on these topics.

REFERENCES

- Adler, P.S., & Borys, B. (1996). Two types of bureaucracy: Enabling and coercive. *Administrative Science Quarterly*, 41(1), 61-89. <https://doi.org/10.2307/2393986>
- Alessandri, G., Consiglio, C., Luthans, F., & Borgogni, L. (2018). Testing a dynamic model of the impact of psychological capital on work engagement and job performance. *Career Development International*, 23(1), 33-47. <https://doi.org/10.1108/CDI-11-2016-0210>
- Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, 22(2), 127-152. <https://doi.org/10.1002/hrdq.20070>
- Bagozzi, R. P., Phillips, Lynn W. (1982). Representing and testing organizational theories: A holistic construal. *Administrative Science Quarterly*, 27(3), 459-489. <https://doi.org/10.2307/2392322>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological review*, 84(2), 191-215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Bido, D., Mantovani, D. M. N., & Cohen, E. D. (2018). Destrução de escalas de mensuração por meio da análise factorial exploratória nas pesquisas da área de produção e operações. *Gestão & Produção*, 25(2), 384-397. <https://doi.org/10.1590/0104-530X3391-16>
- Brown, S. P. (1996). A meta-analysis and review of organizational research on job involvement. *Psychological bulletin*, 120(2), 235. <https://doi.org/10.1037/0033-2909.120.2.235>
- Brown, S. P., & Leigh, T. W. (1996). A new look at psychological climate and its relationship to job involvement, effort, and performance. *Journal of applied psychology*, 81(4), 358-368. <https://doi.org/10.1037/0021-9010.81.4.358>
- Castanha, E. T., Beuren, I. M., & Gasparetto, V. (2020). Influência da comunicação interna e do engajamento no desempenho de tarefas de servidores públicos. *Revista Internacional de Relaciones Públicas*, 10(20), 179-200. <http://dx.doi.org/10.5783/RIRP-20-2020-10-179-200>
- Cavalcante, M. M., Siqueira, M. M. M., & Kuniyoshi, M. S. (2014). Engajamento, bem-estar no trabalho e capital psicológico: Um estudo com profissionais da área de gestão de pessoas. *Pensamento & realidade*, 29(4), 23. Retrieved from <https://revistas.pucsp.br/pensamentorealidade/article/view/22391>
- Christensen, P. H., & Pedersen, T. (2018). The dual influences of proximity on knowledge sharing. *Journal of Knowledge Management*, 22(8), 1782-1802. <https://doi.org/10.1108/JKM-03-2018-0211>
- Clarkson, G., Jacobsen, T. E., & Batcheller, A. L. (2007). Information asymmetry and information sharing. *Government Information Quarterly*, 24(4), 827-839. <https://doi.org/10.1016/j.giq.2007.08.001>
- Covaleski, M., Evans III, J. H., Luft, J., & Shields, M. D. (2007). Budgeting research: Three theoretical perspectives and criteria for selective integration. *Management Accounting Research*, 15(1), 587-624. [https://doi.org/10.1016/S1751-3243\(06\)02006-2](https://doi.org/10.1016/S1751-3243(06)02006-2)
- Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel psychology*, 64(1), 89-136. <https://doi.org/10.1111/j.1744-6570.2010.01203.x>
- Dani, A. C., Zonatto, V. C. da S., & Diehl, C. A. (2017). Participação orçamentária e desempenho gerencial: uma meta-análise das relações encontradas em pesquisas desenvolvidas na área comportamental da contabilidade. *Advances in Scientific and Applied Accounting*, 10(1), 54-72. Retrieved from <https://asaa.anpcont.org.br/index.php/asaa/article/view/307>
- Degenhart, L., Zonatto, V. C. D. S., & Lavarda, C. E. F. (2022). Efeitos do capital psicológico e atitudes gerenciais na relação entre participação orçamentária e desempenho. *Revista Contabilidade & Finanças*, 33(89), 216-223. <https://doi.org/10.1590/1808-057x202113790>
- Derfuss, K. (2016). Reconsidering the participative budgeting-performance relation: A meta-analysis regarding the impact of level of analysis, sample selection, measurement, and industry influences. *The British Accounting Review*, 48(1), 17-37. <https://doi.org/10.1016/j.bar.2015.07.001>

- Hair Jr., J. F.; Black, W. C.; Babin, B. J.; Anderson, R. E.; Tatham, R. L. (2009). *Análise multivariada de dados* (6th ed.). São Paulo: Bookman.
- Jiang, K., Lepak, D. P., Hu, J., & Baer, J. C. (2012). How does human resource management influence organizational outcomes? *Academy of Management Journal*, 55(6), 1264-1294. <https://doi.org/10.5465/amj.2011.0088>
- Lavarda, C. E. F., & Almeida, D. M. (2013). Participação orçamentária e assimetria informacional: Um estudo em uma empresa multinacional. *BBR-Brazilian Business Review*, 10(2), 74-96. Retrieved from <https://www.redalyc.org/articulo.oa?id=123027923004>
- Lu, C.-T. (2011). Relationships among budgeting control system, budgetary perceptions, and performance: a study of public hospitals. *African Journal of Business Management*, 5(15), 6261-6270. <https://doi.org/10.5897/AJBM10.270>
- Lunardi, M. A., Zonatto, V. C. S., & Nascimento, J. C. (2019). Efeitos do envolvimento no trabalho em atitudes gerenciais, compartilhamento de informação e no desempenho de *controllers* no contexto orçamentário. *Revista Brasileira de Gestão de Negócios*, 21(3), 540-562. <http://dx.doi.org/10.7819/rbgn.v21i3.4000>.
- Lunardi, M. A., Zonatto, V. C. S., & Nascimento, J. C. (2020). Efeitos cognitivos mediadores do compartilhamento de informação na relação entre participação orçamentária e desempenho gerencial. *Revista Contabilidade & Finanças*, 31(82), 14-32. <http://dx.doi.org/10.1590/1808-057x201908610>.
- Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. *Business Horizons*, 47(1), 45-50. <https://doi.org/10.1016/j.bushor.2003.11.007>.
- Luthans, F., Norman, S. M., Avolio, B. J., & Avey, J. B. (2008). The mediating role of psychological capital in the supportive organizational climate - Employee performance relationship. *Journal of Organizational Behavior*, 29(2), 219-238. <https://doi.org/10.1002/job.507>.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60(3), 541-572. <https://doi.org/10.1111/j.1744-6570.2007.00083.x>
- Luthans, F., & Youssef, C. M. (2004). Human, social, and now positive psychological capital management: Investing in people for competitive advantage. *Organizational Dynamics*, 33(2), 143-160. <https://doi.org/10.1016/j.orgdyn.2004.01.003>
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). *Psychological capital: Developing the human competitive edge*. Oxford: Oxford University Press.
- Merchant, K. A. (2007). O modelo do sistema de orçamento corporativo: Influências no comportamento e no desempenho gerencial. *Revista de Contabilidade e Organizações*, 1(1), 107. Retrieved from <https://www.redalyc.org/journal/2352/235217160009/>
- Mia, L., & Patiar, A. (2002). The interactive effect of superior subordinate relationship and budget participation on managerial performance in the hotel industry. *Journal of Hospitality & Tourism Research*, 26(3), 235-257. <https://doi.org/10.1177/1096348002026003003>
- Milani, K. (1975). The relationship of participation in budget-setting to industrial supervisor performance and attitudes: a field study. *The Accounting Review*, 50(2), 274-284. Retrieved from <http://www.jstor.org/stable/244709>.
- Moynihan, D. P., & Pandey, S. K. (2007). Finding workable levers over work motivation: Comparing job satisfaction, job involvement, and organizational commitment. *Administration & Society*, 39(7), 803-832. <https://doi.org/10.1177/0095399707305546>
- Nascimento, J. C. (2017). *Efeitos do capital psicológico de controllers em atitudes, comportamentos e no desempenho gerencial sob o contexto orçamentário* (Dissertação de Mestrado) Universidade Regional de Blumenau, Blumenau, Brasil.
- Nascimento, J. C., Zonatto, V. C. S., Degenhart, L., & Lunardi, M. A. (2019). Efeitos do capital psicológico em atitudes e no desempenho gerencial. *Anais do 13º Congresso Anpcont*, São Paulo, São Paulo, Brasil. Retrieved from http://anpcont.org.br/pdf/2019_CCG388.pdf
- Newman, A., Ucbasaran, D., Zhu, F., & Hirst, G. (2014). Psychological capital: A review and synthesis. *Journal of Organizational Behavior*, 35(S1), S120-S138. <https://doi.org/10.1002/job.1916>

- Nigah, N., Davis, A. J., & Hurrell, S. A. (2012). The impact of buddying on psychological capital and work engagement. *Thunderbird International Business Review*, 54(6), 891-905. <https://doi.org/10.1002/tie.21510>.
- Nouri, H., & Parker, R. J. (1998). The relationship between budget participation and job performance: The roles of budget adequacy and organizational commitment. *Accounting, Organizations Society*, 23(5-6), 467-483. [https://doi.org/10.1016/S0361-3682\(97\)00036-6](https://doi.org/10.1016/S0361-3682(97)00036-6)
- Oliveira, L. B. D., & Rocha, J. D. C. (2017). Work engagement: Individual and situational antecedents and its relationship with turnover intention. *Revista Brasileira de Gestão de Negócios*, 19(65), 415-431. <https://doi.org/10.7819/rbgn.v19i64.3373>
- Oesterreich, T. D., Teuteberg, F., Bensberg, F., & Buscher, G. (2019). The controlling profession in the digital age: Understanding the impact of digitisation on the controller's job roles, skills and competences. *International journal of accounting information systems*, 35, 100432. <https://doi.org/10.1016/j.accinf.2019.100432>
- Palomino, M. N., & Frezatti, F. (2016). Role conflict, role ambiguity and job satisfaction: Perceptions of the Brazilian controllers. *Revista de Administração*, 51(2), 165-181. <https://doi.org/10.5700/rausp1232>
- Parker, R. J., & Kyj, L. (2006). Vertical information sharing in the budgeting process. *Accounting, Organizations and Society*, 31(1), 27-45. <https://doi.org/10.1016/j.aos.2004.07.005>.
- Ribeiro, L. M. S., Lunkes, R. J., Schnorrenberger, D., & Gasparetto, V. (2008). Perfil do Controller em empresas de médio e grande porte da Grande Florianópolis. *Revista Catarinense da Ciência Contábil*, 7(20), 57-70. <http://dx.doi.org/10.16930/2237-7662/rccc.v7n20p57-70>
- Siqueira, M. M. M. (2008). Envolvimento com o trabalho. In M. M. M. Siqueira (Org.), *Medidas do comportamento organizacional: Ferramentas de diagnóstico e de gestão* (pp. 139-143). Artmed.
- Saithong-In, S.; Ussahawanitchakit, P. (2016). Psychological capital and job performance: An empirical research of certified public accountants (CPAs) in Thailand. *The Business & Management Review*, 7(5), 499-506. Retrieved from https://cberuk.com/cdn/conference_proceedings/conference_27802.pdf
- Schlup, D., Beck, F., & Zonatto, V. C. da S. (2021). Efeitos mediadores do capital psicológico e da síndrome de burnout na relação entre participação orçamentária e desempenho gerencial. *Advances in Scientific and Applied Accounting*, 14(1), 297-314. <https://doi.org/10.14392/asaa.2021140109>
- Venkatesh, R., & Blaskovich, J. (2012). The mediating effect of psychological capital on the budget participation-job performance relationship. *Journal of Management Accounting Research*, 24(1), 159-175. <https://doi.org/10.2308/jmar-50202>
- Zonatto, V. C. S. (2014). *Influência de fatores sociais cognitivos de capacidade, vontade e oportunidade sobre o desempenho gerencial nas atividades orçamentárias das maiores empresas exportadoras do Brasil* (Tese de Doutorado). Universidade Regional de Blumenau, Blumenau, Brasil.
- Zonatto, V. C. da S., Bauer, L., Degenhart, L., & Nascimento, J. C. (2020). Efeitos cognitivos, motivacionais e do valor de realização da participação orçamentária sobre o desempenho no trabalho. *Enfoque: Reflexão Contábil*, 39(3), 133-150. <https://doi.org/10.4025/enfoque.v39i3.46835>
- Zonatto, V. C. S., Nascimento, J. C., Lunardi, M. A., & Degenhart, L. (2020). Efeitos da Participação Orçamentária em Atitudes Gerenciais, Satisfação e Desempenho. *Revista Administração Contemporânea*, 24 (6), 532-549. <https://doi.org/10.1590/1982-7849rac2020200047>
- Zonatto, V. C. D. S., Weber, A., & Nascimento, J. C. (2019). Efeitos da participação orçamentária na assimetria informacional, estresse ocupacional e desempenho gerencial. *Revista de Administração Contemporânea*, 23(1), 67-91. <https://doi.org/10.1590/1982-7849rac2019170327>

Funding

This study was financed in part by the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq); Fundação de Amparo à pesquisa do Estado do Rio Grande do Sul (Fapergs); and Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (Capes).

Authors' contributions

1st author: conceptualization (lead), data curation (lead), formal analysis (lead), investigation (lead), methodology (lead), supervision (supporting), validation (supporting), visualization (supporting), writing – original draft (lead).

2nd author: conceptualization (lead), data curation (supporting), formal analysis (lead), funding acquisition (lead), investigation (lead), methodology (lead), project administration (lead), resources (lead), software (lead), supervision (lead), validation (lead), writing – review & editing (equal).


3rd author: conceptualization (supporting), data curation (supporting), formal analysis (supporting), funding acquisition (supporting), investigation (supporting), methodology (supporting), supervision (supporting), validation (supporting), visualization (supporting), writing – review & editing (equal).

4th author: conceptualization (supporting), data curation (supporting), formal analysis (supporting), investigation (supporting), methodology (supporting), writing – original draft (supporting).

5th author: funding acquisition (supporting), investigation (supporting), methodology (supporting), project administration (supporting), resources (supporting), supervision (supporting), writing – review & editing (supporting).

Authors

Fernanda Souto Machado

Universidade Federal de Santa Maria
Av. Roraima, 1000 CCSH 74C Sala 4331, 97105-900, Santa Maria, RS, Brazil
fersoutomachado@gmail.com
 <https://orcid.org/0000-0003-1895-1157>


Vinicius Costa da Silva Zonato *

Universidade Federal de Santa Maria
Av. Roraima, 1000 CCSH 74C Sala 4331, 97105-900, Santa Maria, RS, Brazil
viniciuszonatto@gmail.com
 <https://orcid.org/0000-0003-0823-6774>


Larissa Degenhart

Universidade Federal de Santa Maria
Av. Roraima, 1000 CCSH 74C Sala 4331, 97105-900, Santa Maria, RS, Brazil
larissadegenhart@gmail.com
 <https://orcid.org/0000-0003-0651-8540>

Debora Londero Kieling

Universidade Federal de Santa Maria
Av. Roraima, 1000 CCSH 74C Sala 4331, 97105-900, Santa Maria, RS, Brazil
deborakieling@gmail.com
 <https://orcid.org/0000-0003-2104-8313>

Márcia Bianchi

Universidade Federal do Rio Grande do Sul
Av. João Pessoa, 52, Prédio da Faculdade de Economia, 90040-060, Porto Alegre, RS, Brazil
marcia.bianchi@ufrgs.br
 <https://orcid.org/0000-0002-7716-2767>

* Corresponding author

Peer review is responsible for acknowledging an article's potential contribution to the frontiers of scholarly knowledge on business or public administration. The authors are the ultimate responsible for the consistency of the theoretical references, the accurate report of empirical data, the personal perspectives, and the use of copyrighted material.

This content was evaluated using the double-blind peer review process. The disclosure of the reviewers' information on the first page is made only after concluding the evaluation process, and with the voluntary consent of the respective reviewers.