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Budgetary participation in managerial performance: an analysis mediated by sharing and use of information

Participación presupuestaria en el desempeño gerencial: un análisis mediado por el compartir y uso de la información

Participação orçamentária no desempenho gerencial: uma análise mediada pelo compartilhamento e uso da informação

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Abstract

Purpose: This study analyzed the relationship between budgetary participation and managerial performance, investigating the roles of information sharing and use of managerial information as potential mediating variables.

Methodology: A quantitative approach was adopted, based on administering online questionnaires to 102 managers of companies associated with the Chamber of Commerce and

Industry of Timor-Leste (CCI-TL). Partial least squares structural equation modeling (PLS-SEM) was employed for data analysis.

Results: Budgetary participation positively influences managerial performance and is significantly related to information sharing and use of managerial information. While the use of managerial information had a mediating effect, there is no empirical evidence supporting the mediating role of information sharing in the relationship between budgetary participation and performance.

Contributions of the Study: This study demonstrates that budgetary participation enhances the use of managerial information, thereby contributing to better managerial performance. Therefore, organizations are encouraged to actively involve managers in the budgeting process and promote the strategic use of information. This research expands our understanding of the mechanisms linking budgetary participation to managerial performance, highlighting the importance of information as a critical resource for decision-making and organizational efficiency.

Keywords: Budgetary Participation. Managerial Performance. Information Sharing. Managerial Information Use.

Resumen

Objetivo: Este estudio analiza la relación entre la participación presupuestaria y el desempeño gerencial, investigando el papel del intercambio y el uso de la información gerencial como variables mediadoras.

Metodología: La investigación adopta un enfoque cuantitativo, basado en la aplicación de cuestionarios en línea a gerentes de empresas asociadas a la Cámara de Comercio e Industria de Timor-Leste (CCI-TL), con un total de 102 participantes. Para el análisis de datos, se optó por la modelización de ecuaciones estructurales mediante mínimos cuadrados parciales (PLS-SEM).

Resultados: Los hallazgos indican que la participación presupuestaria influye positivamente en el desempeño gerencial y mantiene una relación significativa con el intercambio y el uso de la información gerencial. Sin embargo, no hay evidencia empírica que respalde una relación directa entre el intercambio de información y el desempeño gerencial, ni su papel mediador en la relación entre la participación presupuestaria y el desempeño.

Contribuciones del Estudio: El estudio demuestra que la participación presupuestaria mejora el uso de la información gerencial, contribuyendo a un mejor desempeño de los gerentes. Por lo tanto, se recomienda que las organizaciones fomenten la participación activa de los gerentes en el proceso presupuestario y promuevan el uso estratégico de la información. La investigación amplía la comprensión de los mecanismos que vinculan la participación presupuestaria con el desempeño gerencial, destacando la importancia de la información como un recurso crítico para la toma de decisiones y la eficiencia organizacional.

Palabras clave: Participación Presupuestaria. Desempeño Gerencial. Intercambio de Información. Uso de la Información Gerencial.

Resumo

Objetivo: Este estudo analisa a relação entre participação orçamentária e desempenho gerencial, investigando o papel do compartilhamento e do uso da informação gerencial como variáveis mediadoras.

Metodologia: A pesquisa adota uma abordagem quantitativa, baseada na aplicação de questionários online a gestores de empresas vinculadas à Câmara de Comércio e Indústria de Timor-Leste (CCI-TL), totalizando uma amostra de 102 participantes. Para a análise dos dados, optou-se pela modelagem de equações estruturais utilizando mínimos quadrados parciais (PLS-SEM).

Resultados: Os achados indicam que a participação orçamentária influencia positivamente o desempenho gerencial e mantém uma relação significativa com o compartilhamento e o uso da informação gerencial. O uso da informação gerencial apresentou efeito mediador, mas não há evidências empíricas que sustentem o papel mediador do compartilhamento de informações na relação entre participação orçamentária e desempenho.

Contribuições do Estudo: O estudo demonstra que a participação orçamentária aprimora o uso da informação gerencial, contribuindo para um melhor desempenho dos gestores. Assim, recomenda-se que as organizações incentivem o envolvimento ativo dos gestores no processo orçamentário e promovam o uso estratégico das informações. A pesquisa amplia a compreensão sobre os mecanismos que ligam a participação orçamentária ao desempenho gerencial, ressaltando a importância da informação como um recurso essencial para a tomada de decisão e a eficiência organizacional.

Palavras-chave: Participação Orçamentária. Desempenho Gerencial. Compartilhamento da Informação. Uso da Informação Gerencial.

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1 Introduction

Budgetary participation is fundamental to managerial performance because it involves subordinates directly in the budgeting process, promoting effective communication, commitment, and alignment with organizational objectives. Research indicates that managerial engagement in the budgeting process can lead to substantial enhancements in organizational and managerial performance, allowing for more efficient and accurate management (Nouri & Parker, 1998; Lau & Lim, 2002; Parker & Kyj, 2006; Derfuss, 2016).

Furthermore, active employee involvement in budget planning tends to increase job satisfaction and commitment to the organization's goals (Milani, 1975; Subramaniam & Ashkanasy, 2001).

Studies have shown that the effects of budgetary participation on managerial performance can be mediated by factors such as leadership and organizational commitment (Riyadh et al. 2023; Nor Yahya et al. 2008). Intermediary variables, such as psychological resilience and procedural justice, also influence this relationship by amplifying the effectiveness of budgetary participation and promoting perceived equity and transparency in the budgetary process (Grodt et al., 2023; Zonatto et al., 2019). Organizations can optimize the impact of budgetary participation on managerial performance by integrating information-sharing mechanisms and promoting greater clarity in decision-making processes (Parker & Kyj, 2006; Pacauskas & Rajala, 2017; Zainuddin & Isa, 2019).

In recent years, budgetary participation has become a prominent topic in discussions about organizational effectiveness, particularly in developing contexts such as Timor-Leste. Involving managers and employees in the budgeting process not only democratizes decision-making but also aligns strategic objectives with day-to-day operations, resulting in superior managerial performance (Mia & Patiar, 2002). However, effective participation depends not only on stakeholder involvement but also on the effective sharing and appropriate use of managerial information throughout the process (Pacauskas & Rajala, 2017). This interrelationship suggests a complex dynamic that still requires further investigation, especially in emerging environments.

While there is evidence supporting the benefits of budgetary participation, many studies fail to address how the sharing and use of managerial information mediate this relationship, particularly in Timor-Leste, where organizational culture and management practices are still developing. Thus, a significant gap in the literature is identified: the need to understand how information quality and communication practices impact the effectiveness of budgetary participation and, consequently, organizational performance.

This research becomes even more relevant when considering Timor-Leste's unique context. The country faces considerable challenges in its organizational structure and governance. Budgetary participation can foster a sense of belonging and responsibility among employees while increasing motivation and job satisfaction (Ngo, 2021; Zainuddin & Isa, 2019). Studies in Timor-Leste have demonstrated that budgetary participation improves managerial performance and establishes positive relationships with job satisfaction and engagement, which indirectly impact managerial performance (Guterres & Lavarda, 2024). Therefore, this study poses the following research question: **How does the sharing and use of managerial information mediate the relationship between budgetary participation and managerial performance?**

Given this scenario, the objective of this study was to analyze the relationship between budgetary participation and managerial performance by investigating the role of the sharing and use of managerial information as mediating variables.

The research was conducted in companies associated with the Chamber of Commerce and Industry of Timor-Leste (CCI-TL) that have received little academic attention to date. This study aimed to understand the sharing and use of information in the budgetary process, promoting transparency, strategic alignment, and informed decisions, and enhancing the effects of budgetary participation on managerial performance in the local business context.

This article draws on task-incentive motivation theory and goal-setting and task-performance theory (Locke, 1968; Locke & Latham, 1990) to investigate the relationship between budgetary participation and managerial performance in companies associated with the CCI-TL. Furthermore, it analyzes mediating factors, such as the sharing and effective use of information, and their simultaneous influence on this relationship.

The research aims to make significant theoretical, practical, and social contributions. Theoretically, it seeks to expand knowledge about the intersection of budgetary participation, information sharing, and managerial performance in emerging environments. Practically, the results can serve as a guide for managers and policymakers in Timor-Leste, helping to create more collaborative and transparent work environments. Societally, promoting budgetary participation can strengthen organizational governance, contributing to more sustainable and inclusive economic development.

Thus, the proposed analysis clarifies the relationship between budgetary participation and managerial performance and positions Timor-Leste as a relevant context for administration and management studies, providing valuable insights for managerial practice and promoting a more participatory and transparent organizational environment.

2 Literature Review

The literature review is organized into five sections. First, the relationship between budgetary participation and managerial performance is addressed. Next, the impact of budgetary participation on information sharing is discussed. The third section examines how budgetary participation influences the use of managerial information. The fourth section analyzes the interaction between the sharing and use of managerial information on managerial performance. The final section reviews empirical studies that have investigated the mediating role of the sharing and use of managerial information in the relationship between budgetary participation and managerial performance.

2.1 Budgetary Participation in Managerial Performance

The relationship between budgetary participation and managerial performance reveals a growing consensus that the active inclusion of managers in the budgeting process is associated with significant improvements in managerial performance. Recent studies, such as Eferakeya & Edgars (2024), suggest that this participation, combined with a strong organizational commitment, positively impacts small and medium-sized companies in Nigeria. Similarly, Alhasnawi et al. (2024) demonstrate that budgetary participation improves managerial performance in higher education institutions in Iraq and is mediated by commitment to budgetary targets. This suggests greater engagement and motivation on the part of managers. Riyadh et al. (2023) complement these findings by confirming the positive effect of budgetary participation and highlighting the crucial role of leadership style in managerial performance.

Other research corroborates this trend, including studies by Hussein et al. (2021) in manufacturing companies in Iraq and Zonatto et al. (2020) in Brazil, which explored the link between budgetary participation, managerial attitudes, and job satisfaction. These results suggest that a participatory budgeting approach strengthens managers' motivation and commitment, improving organizational effectiveness and creating a virtuous cycle of enhanced managerial performance. In addition, studies by Jermias & Yigit (2013) and Zonatto et al. (2019) show that including managers in the budgeting process fosters collaboration, resulting in better outcomes. Studies such as those by Riyadh et al. (2023) and Nor Yahya et al. (2008) confirm this direct relationship. Meanwhile, Grodt et al. (2023) examine the influence of mediating variables, such as psychological resilience, on this connection.

Several studies highlight that budgetary participation has a positive impact on managerial performance, mediated by factors such as perceived innovation and organizational commitment (Isgiyarta et al. 2019). Kahar et al. (2019) point out that although budgetary participation can reduce budgetary slack, factors such as ethical optimism and budgetary emphasis moderate its effect. Budgetary ethics also play a crucial role in the effectiveness of this participation (Kahar et al. 2018). Furthermore, budgetary participation is especially significant in contexts of low procedural justice, as it corrects perceived injustices and strengthens organizational commitment (Lau & Lim, 2002; Friedrich et al., 2023). The combination of budgetary participation with motivation and psychological capital has been shown to improve managerial performance (Oliveira et al. 2023a; Degenhart et al. 2022). A study conducted in Timor-Leste corroborates this relationship, demonstrating that budgetary participation increases not only managerial performance but also employee satisfaction and engagement (Guterres & Lavarda, 2024), as proposed in hypothesis H1.

H_1: There is a positive relationship between budgetary participation and managerial performance.

2.2 Budgetary Participation in Information Sharing

Budgetary participation is defined as the process through which managers influence budget preparation. Previous research has identified several factors that can affect subordinates' information sharing during this process. Budgetary participation refers to the extent to which an individual is involved in setting the budget for their area of responsibility (Brownell, 1982). As observed by Milani (1975) and Parker & Kyj (2006), in contexts of high participation, there is frequent interaction between superiors and subordinates in the budget process, which provides subordinates with greater opportunities to disclose private information.

Studies such as those by Parker & Kyj (2006) and Lunardi et al. (2020) suggest that budgetary participation facilitates the disclosure of confidential information by subordinates and strengthens organizational commitment. This dynamic creates a favorable environment in which subordinates feel valued for sharing information, thereby strengthening the positive relationship between budgetary participation and information sharing (Santos et al. 2024). The model proposed by Parker et al. (2014) shows that fairness in the budget process, including participation, positively impacts information sharing. Thus, when managers are actively involved in the budget process, they are more likely to share relevant information, contributing to more effective decision-making.

Empirical evidence supports this positive relationship. Ngo's (2021) study showed that budgetary participation leads to greater autonomous motivation, which is linked to information sharing. While autonomous motivation did not directly correlate with managerial performance, shared information mediated the relationship between budgetary participation and performance. This indicates that information sharing is a crucial mechanism through which budgetary participation exerts its effects. Similarly, Zainuddin and Isa (2019) found that employees' perception of fairness in the workplace increases their willingness to share information when associated with budgetary participation, resulting in improved performance as proposed in hypothesis H2.

H_2: There is a positive relationship between budgetary participation and information sharing.

2.3 Budgetary Participation in the Use of Managerial Information

The active participation of managers in the budgeting process allows them to contribute their perspectives and knowledge and establishes a continuous flow of information that is essential for strategic decision-making. Studies, such as Eferakeya & Edgars (2024), demonstrate that including managers in the budgeting process significantly increases organizational commitment, enhancing the effective use of management information.

Integrating managerial information into budgetary decision-making processes is crucial for organizational competitiveness, as evidenced by Vandenbosch (1999), who identifies different categories of managerial information use that positively influence the perception of competitiveness, such as focusing attention and organizational learning. These findings suggest that more robust budgetary participation, with detailed analysis and strategic use of information, strengthens an organization's ability to identify and seize competitive opportunities. Furthermore, studies such as Mithas et al. (2011) emphasize that effective information management can positively influence organizational capabilities, leading to better performance. Finally, the research by Prajogo et al. (2018) highlights that good internal and external information management directly impacts operational performance. Thus, well-structured budgetary participation that effectively uses managerial information promotes more agile and responsive management, resulting in superior performance and greater organizational competitiveness, as proposed in hypothesis H3.

H_3: There is a positive relationship between budgetary participation and the use of managerial information.

2.4 Information Sharing and the Use of Managerial Information on Managerial Performance

Information sharing is essential for improving managerial performance. Organizations can reduce information asymmetry and enhance managerial effectiveness by creating an environment where information is easily accessible and subordinates feel encouraged to share (Lunardi et al., 2020). This practice is crucial because it establishes a space for effective information exchange between managers and subordinates. Research indicates that information sharing strengthens the psychological capital of managers, resulting in more proactive attitudes and greater work engagement (Machado et al., 2022). Pacauskas & Rajala (2017) demonstrate that knowledge-sharing behavior is positively correlated with individual performance.

Machado et al. (2022) reveal that vertical information sharing between superiors and subordinates promotes controllers' psychological capital, fostering proactive attitudes that enhance performance. Similarly, Ngo (2021) demonstrates that budgetary participation, mediated by information sharing, positively impacts managerial performance, highlighting the importance of autonomous motivation in this process. Furthermore, Rød et al. (2015) suggest that implementing a real-time information-sharing system between buyers and suppliers improves not only operational performance but also managerial performance by reducing risks and encouraging better results. Together, these findings underscore the importance of an effective flow of information between stakeholders. This flow is fundamental to optimizing management practices and achieving superior organizational performance, as proposed in hypothesis H4.

H_4: There is a positive relationship between information sharing and managerial performance

In contemporary organizations, the effective use of managerial information is a competitive advantage, as it improves managerial performance and contributes to companies' sustainability and long-term growth. Transforming data into actionable insights is crucial for meeting the dynamic challenges of today's business environment. In this context, information management is essential for understanding the relationship between information sharing and managerial performance. It acts as a mediator that converts shared data into actionable insights. This process enhances managers' ability to analyze and solve problems (Pacauskas & Rajala, 2017).

Stuart & Lindsay (1997) suggest that the organizational context directly impacts the use of this information, highlighting that the efficient use of managerial information is a crucial link between data sharing and managerial performance. Furthermore, Gupta et al. (2010) emphasize that access to consistent and secure information, provided by robust systems, enables better decision-making and contributes to superior organizational performance. Yahaya & Segbenya (2023) reinforce this connection by demonstrating that managerial competencies, such as interpersonal skills and customer value management, are enhanced by effective information sharing, mediated by the appropriate use of managerial information.

Ye et al. (2015) argue that providing managers with relevant information is essential for correcting organizational failures, which, in turn, facilitates effective management and successful competitive strategy (Soltani & Amanat, 2019). Using managerial information to target problem areas allows entrepreneurs to manage their companies more efficiently (Vandenbosch, 1999; Wee et al., 2014). Furthermore, internal and external information generate a constant flow of data that facilitates risk and opportunity management and identification (Wong et al., 2011). The combination of these data creates a management system that promotes interaction between organizational components, favoring informed decisions and necessary changes (Calôba & Klaes, 2016). Research that associates new technologies with improved organizational performance further emphasizes the importance of using managerial information. This research demonstrates that technological systems enhance the quality and quantity of available information, resulting in superior performance (Shahzad et al. 2020; Aben et al. 2021). Thus, the literature suggests that the effective use of managerial information facilitates digital transformation and is directly linked to increased managerial performance in organizations, as proposed in hypothesis H5.

H_5: There is a positive relationship between the use of managerial information and managerial performance.

2.5 Mediation of Information Sharing and Use of Managerial Information between Budgetary Participation and Managerial Performance

Budgetary participation plays a key role in information sharing and positively impacts managerial performance. When managers are encouraged to actively participate in the budgeting process, they not only have the opportunity to express their opinions and gain access to relevant and essential information for their roles (Baiman & Evans, 1983). This interaction fosters a more open communication environment, enabling subordinates to share confidential information that can be integrated into performance evaluations (Francis-Gladney et al., 2004). As Brownell (1982) suggested, this dynamic enhances employees' understanding of their responsibilities and can boost their morale and motivation, resulting in more effective work behaviors (Shields & Shields, 1998). Thus, in contexts where budgetary participation is strong, information sharing between managers and subordinates increases, which enhances managerial performance and corroborates the hypothesis that information sharing mediates the relationship between budgetary participation and managerial performance.

Studies show that budgetary participation increases employee engagement and creates an environment conducive to information sharing between superiors and subordinates, which is essential for managerial effectiveness (Machado et al. 2022; Lunardi et al. 2020). Lunardi et al. (2019) found that budgetary participation directly influences job engagement, which positively affects managerial performance, mediated by managerial attitudes and willingness to share information. Furthermore, Ngo's (2021) study reinforces this relationship by demonstrating that, in public contexts, information sharing mediates the relationship between budgetary participation and managerial performance. Evidence suggests that managers are better able to make informed decisions and perform strongly in settings with greater information sharing. Thus, the research indicates that information sharing amplifies the positive effects of budgetary participation on managerial performance.

H_6: Information sharing mediates the relationship between budgetary participation and managerial performance.

The active participation of managers in the budgeting process allows them to contribute their perspectives and knowledge, and establishes a continuous flow of information that is essential for strategic decision-making. Studies such as Eferakeya & Edgars (2024) demonstrate that manager involvement in budgeting significantly increases organizational commitment and enhances the effective use of managerial information. This translates into a collaborative environment that fosters interaction between superiors and subordinates, as noted by Milani (1975) and Parker & Kyj (2006). Frequent interaction facilitates the sharing of valuable information and results in more informed decisions and improved organizational performance. Thus, managers' budgetary participation becomes a catalyst for their effectiveness, strengthening organizations' ability to identify and seize competitive opportunities, as Vandenbosch (1999) suggested when linking managerial information use to competitiveness perception.

Furthermore, effective information management is pivotal in mediating the relationship between budgetary participation and managerial performance. Studies such as Mithas et al. (2011) and Prajogo et al. (2018) show that well-structured internal and external information management directly impacts operational performance. Access to consistent and reliable information enables better decisions and contributes to superior organizational performance, as emphasized by Gupta et al. (2010). In this context, Stuart & Lindsay (1997) suggest that the organizational context influences information use, while Yahaya & Segbenya (2023) highlight that managerial competencies, such as interpersonal skills, are enhanced by effective information sharing. Therefore, the targeted use of managerial information facilitates management and control and acts as a mediator that converts shared data into actionable insights, as proposed in hypothesis H7.

H_7: The use of managerial information mediates the relationship between budgetary participation and managerial performance.

Based on the literature review and the hypotheses formulated, the conceptual model for the research was developed (Figure 1).

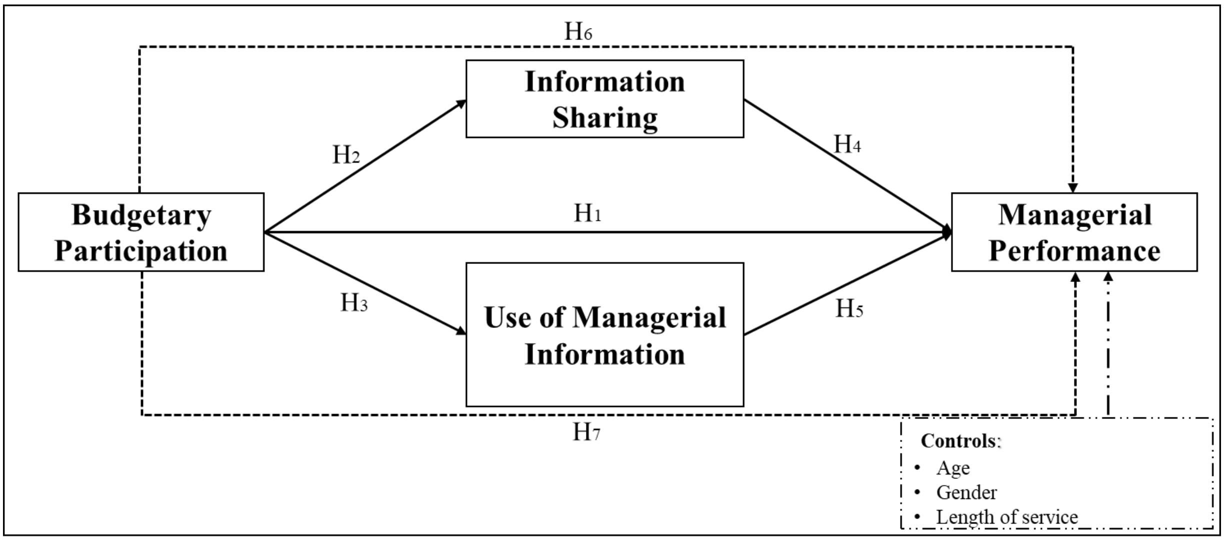

Figure 1 *Theoretical research model*
Source: *research data.*

The theoretical model incorporated control variables—age, gender, and length of service—to show how these factors can influence managerial performance. These control variables are widely recognized in the literature (Oliveira et al., 2023b; 2024).

3 Methodological Procedures

This study employs a descriptive, quantitative research approach, using a survey to collect and analyze numerical data and test the proposed hypotheses. Data were collected via online questionnaires on the Google Forms platform from November 6, 2024, to February 6, 2025. This methodology efficiently collects information for statistical analysis.

The research in Timor-Leste was motivated by its developing economic environment, in which business and management practices are being structured. This context provides a valuable opportunity to analyze the impact of budgetary participation on managerial performance, especially regarding the sharing and utilization of information. To ensure representativeness, data were collected from managers of formal companies registered with the Chamber of Commerce and Industry of Timor-Leste (CCI-TL) to ensure the inclusion of only legally registered organizations. These managers, responsible for budgetary decisions, provide practical, informed insights into the impact of budgetary participation on management.

3.2 Population or Sample

The target audience for this survey is business managers associated with the Chamber of Commerce and Industry of Timor-Leste (CCI-TL). Study participants are managers of companies that operate within the CCI-TL. The CCI-TL is recognized as the official representative of the private sector in Timor-Leste and is a reliable strategic partner of the government. Government Resolution 17/2017 officially establishes the CCI-TL as such. The CCI-TL aims to consolidate and expand networks across all 13 municipalities, provide training, and represent its members' interests. The CCI-TL also acts as a voice for the business community at all levels. Currently, 38 companies are honorary members of the CCI-TL (**www.cci.tl**). Each company listed in the CCI-TL was represented by a manager, supervisor, and coordinator who completed the questionnaire. A total of 114 questionnaires were distributed, resulting in 102 valid responses and a response rate of 89%

Table 1
Distribution of the Universe and Sample by Position

Position	Universe (Distributed)	Sample (Retrieved)	No. observations	Relative Frequency (%)
Manager	38	38	38	37.3%
Supervisor	38	30	30	29.4%
Coordinator	38	34	34	33.3%
Total	**114**	**102**	**102**	**100%**

Source: *research data.*

Table 1 lists the distribution of the research universe and sample by position. The research universe consisted of 114 questionnaires, equally distributed among managers, supervisors, and coordinators (38 in each category). The effective sample comprised 102 completed questionnaires, of which 38 were from managers (37.3%), 30 were from supervisors (29.4%), and 34 were from coordinators (33.3%). The number of observations represents the total number of valid responses analyzed, which is equivalent to the number of questionnaires retrieved in each category. Therefore, there was a slight predominance of managers and coordinators over supervisors in the final sample composition.

3.3 Variable Definition and Database

All constructs were measured using multi-item scales adapted from previous studies. Budgetary participation was measured using six items from Milani (1975). Information sharing during the budgeting process was measured using five items from Parker et al. (2014). Managerial information use was measured using ten items from Prajogo et al. (2018). Finally, ten items were adapted from Santos et al. (2021) to assess managerial performance. A 7-point Likert scale is commonly used in quantitative research to measure the intensity of participant responses. This scale allows participants to indicate their level of agreement or disagreement with specific statements.

Table 1 presents the variables used in the survey questionnaire, their references, and the number of statements.

Table 2
Constructs, Operationalization and Definition

Variables	Definition	Items/ Scale	Authors
Budgetary Participation (BP)	Assesses an individual's influence on the budgeting process.	6 Items 7-point Likert scale	Milani (1975)
Information Sharing during Budgeting (ISB)	Assesses managers' information sharing regarding budgetary matters.	5 Items 7-point Likert scale	Parker et. al. (2014)
Use of Managerial Information (UMI)	The use of managerial information plays an important role in the development of various organizational skills, such as customer relationships, process management, and performance management.	10 Items 7-point Likert scale	Prajogo et al. (2018).

Managerial Performance (MP)	Refers to the performance achieved in the activities carried out by managers.	10 Items 7-point Likert scale	Lau & Lim (2002); Santos et al. (2021)

Source: *research data.*

The control variables—gender, age, and length of service—were measured as follows: gender was categorized on a binary scale, with 0 representing female and 1 representing male. Age and length of service were considered continuous variables, expressed in years.

With the exception of the scales for budgetary participation, managerial performance, information sharing during budgeting, and use of managerial information, the instruments were translated into Portuguese and Indonesian and subjected to pre-testing. Initially, they were piloted with two management accounting researchers with expertise in budgetary participation. Then, they were piloted with two CCI-TL accounting employees in Timor-Leste.

Participants completed a questionnaire containing objective questions, with no right or wrong answers, lasting approximately 20 minutes. There were no physical or ethical risks, and participants' privacy was respected. There were no associated costs, and participants could withdraw their participation at any time. Although there was no financial reward, the data was treated confidentially, used exclusively for the research, and may be published.

To ensure the validity of the survey data, we analyzed nonresponse and common method biases. Harman's single-factor test, recommended by Podsakoff et al. (2003), was used to evaluate common method bias. Confirmatory factor analysis (CFA) revealed that the first factor accounted for less than 10% of the total variance, suggesting an absence of such bias. To investigate nonresponse bias, the first-last comparison criterion was used, as recommended by Mahama and Cheng (2013). The first and last 10% of respondents were compared using Welch's t-test for independent samples. At a 5% significance level, the results revealed no significant differences between the groups, suggesting the absence of nonresponse bias. Both analyses were conducted using R Studio® software, which reinforces the robustness and reliability of the study data.

3.4 Data Analysis Technique

For data analysis, Partial Least Squares Structural Equation Modeling (PLS-SEM) was used, employing the seminr and lavaan packages in R Studio software (Hair et al., 2019; Pereira, 2013). This statistical approach enabled us to evaluate the relationships between the defined constructs and test the established hypotheses.

4 Results and Analysis

The participants in this survey are composed of 48 men (47%) and 54 women (53%), showing a slight predominance of women. In terms of age, 12 individuals (12%) are under 30 years old, 41 individuals (40%) are between 31 and 40 years old, and 42 individuals (41%) are between 41 and 50 years old. Seven individuals (7%) are over 51 years old. Regarding educational level, most respondents (82, or 88%) have a college degree, while 15 (15%) have a graduate degree, reflecting a highly qualified academic profile. As for professional experience, all participants have more than 5 years of experience in their respective fields, demonstrating considerable accumulated expertise.

4.1 Descriptive statistics of variables

Table 2 presents the results of the descriptive statistical analysis performed for each research variable. This analysis includes the minimum and maximum values, mean, standard deviation, and coefficient of variation of the variables, providing a comprehensive view of the distribution and variability of the data. For a detailed view of all the assertions considered in the study, see Appendix 2, which supplements the information presented in the table.

Table 3
Descriptive statistics

Variable	Min	Max	Mean	Standard deviation	Coefficient of Variation (%)
Budgetary Participation	1	7	5.106	1.614	31.629
Information Sharing during Budgeting	1	7	5.561	1.550	27.908
Use of Managerial Information	1	7	5.562	1.445	26.083
Managerial Performance	1	7	5.386	1.493	27.735

Source: *research data.*

In general, all variables had means above 5, indicating predominantly positive perceptions. However, the greater variability observed in budgetary participation suggests contextual differences that may require further analysis. The high uniformity of responses regarding the use of managerial information reflects its consolidation and effectiveness among respondents. Results regarding information sharing during budgeting and managerial performance confirm well-established practices, though there is still room for improvement in managerial performance.

4.2 Measurement Model

The analysis of the structural equations began with an evaluation of the measurement model, following the guidelines proposed by Hair et al. (2019). Each construct was examined in relation to its indicators, adopting a minimum factor loading threshold of 0.70. However, factor loadings between 0.40 and 0.70 were considered acceptable, provided that excluding them would result in simultaneous improvements in the Average Variance Extracted (AVE) and Composite Reliability (CR) values, as recommended by Hair et al. (2019).

The indicators were treated as reflexive, assuming a causal relationship between the latent constructs and the observed items. The factor loadings presented in Appendix A corroborate this approach by demonstrating a strong association between the indicators and their respective latent constructs. All indicators exceeded the reference value of 0.70, which reinforces the robustness of the relationship between the measured variables and the theoretical concepts they represent, as recommended by Hair et al. (2019).

Tables 3 and 4 present the values for convergent and discriminant validity and the reliability of the constructs in the model. These results confirm that the measurement model adequately represents the relationships between the latent constructs and their observed indicators, ensuring the quality of inferences drawn from structural modeling.

Table 4
Reliability and Convergent Validity

Reliability and Convergent Validity of the Measurement Model				
	Cronbach's alpha	Rho_c	AVE	Rho_a
Hair et al. (2021)	≥ 0.70	≥ 0.70	≥ 0.50	≥ 0.70
Budgetary Participation	0.877	0.877	0.549	0.890
Information Sharing during Budgeting	0.919	0.921	0.702	0.932
Use of Managerial Information	0.906	0.887	0.562	0.919
Managerial Performance	0.952	0.952	0.665	0.955

Source: *research data.*

The results in Table 3 indicate that all analyzed constructs meet the reliability and validity thresholds recommended by Hair et al. (2019), with Cronbach's alpha and Composite Reliability (Rho_c) above 0.70, AVE above 0.50, and Rho_a significantly above 0.70. These results suggest internal consistency and convergent validity, indicating that the items effectively measure the proposed constructs and explain more than half of the variance of the corresponding items. Thus, the collected data and the investigated variables are adequate for the measurement model.

Discriminant validity analysis, based on the HTMT correlation ratio, revealed that all values obtained were below the recommended threshold of 0.90, as established by Hair et al. (2021). This indicates that the analyzed constructs are distinctly different from each other.

Table 5
Discriminant validity

Discriminant validity (*Heterotrait-Monotrait Correlation Ratio* - HTMT).				
Hair et al. (2021)	**HTMT < 0.90**			
	BP	ISB	UMI	MP
Budgetary Participation (BP)	-			
Information Sharing during Budgeting (ISB)	0.701	-		
Use of Managerial Information (UMI)	0.525	0.679	-	
Managerial Performance (MP)	0.578	0.524	0.686	-

Source: *research data.*

The analysis of the results presented in Table 5 provides significant insight into the relationships between the variables examined in the structural model. Hypotheses **H1**, **H2** and **H3**, which address the direct relationships between budgetary participation (BP) and managerial performance (MP), information sharing during budgeting (ISB), and the use of managerial information (UMI), were all supported. The *p*-values of less than 0.05 for **H1** (0.002), **H2** (0.000), and **H3** (0.000) indicate that these relationships are statistically significant, with beta coefficients of 0.309, 0.658, and 0.390, respectively. These results suggest that greater involvement in budgetary participation improves managerial performance and strengthens information sharing and utilization—critical factors for organizational effectiveness.

Table 6
Structural model results

Hypotheses	Relationship	Beta (β)	*t*-value	*p*-value	Decision
Panel A. Path analysis					
Direct Effects					
H1	BP → MP	0.309	3.156	0.002	Supported
H2	BP → ISB	0.658	8.025	0.000	Supported
H3	BP → UMI	0.390	5.306	0.000	Supported
H4	ISB → MP	-0.009	-0.109	0.913	Not supported
H5	UMI→ MP	0.573	6.005	0.000	Supported
Indirect Effects					
H6	BP → ISB → MP	-0.006	-0.106	0.910	Not supported
H7	BP → UMI → MP	0.223	3.976	0.000	Supported
Control					
Age → MP		0.021	0.089	0.464	
Gender → MP		0.226	0.889	0.187	
LS → MP		-0.136	0.414	0.339	
Panel B. Quality criteria					
	BP(VIF)	**ISB(VIF)**	**UMI(VIF)**	**R²**	**Adj R²**
MP	1.716	2.183	1.720	0.445	0.410

Budgetary Participation (BP); Information Sharing during Budgeting (ISB); Use of Managerial Information (UMI); Managerial Performance (MP); Length of Service (LS). Significant at $^{*}p<0.10$; $^{**}p<0.05$; $^{***}p<0.01$.
Source: *research data.*

Conversely, hypotheses **H4** and **H6** were not supported because their *p*-values were greater than 0.05. These results suggest that information sharing during the budgeting process (ISB) does not significantly impact managerial performance (MP) and that the indirect relationship between budgetary participation (BP) and MP, mediated by ISB, is not statistically significant.

On the other hand, hypothesis **H5**, which suggests a direct relationship between the use of managerial information (UMI) and managerial performance (MP), was supported. This highlights the importance of effective information use in improving MP. Finally, hypothesis **H7**, which examines the indirect relationship between budgetary participation (BP) and managerial performance (MP) mediated by the use of managerial information (UMI), was confirmed. This reinforces the relevance of information use in the context of budgetary participation.

Analysis of the results presented in Panel B, which assesses the model's quality criteria, reveals crucial information about the adequacy of the proposed structural model. The Variance Inflation Factor (VIF) values indicate no significant multicollinearity issues because they are all below the common threshold of 5 or 10, suggesting that the independent variables are adequately related and not excessively correlated with each other.

The model fit indices, represented by R^2 and adjusted R^2, are 0.445 and 0.410, respectively. The adjusted R^2, which considers the number of predictors unrelated to the model, is slightly lower, 0.410, reflecting a lack of fit of variables that do not contribute significantly to explaining the variability of managerial performance (MP). Taken together, these results suggest that the model has an acceptable fit and that the analyzed variables significantly impact managerial performance. However, there is room for improvement by including other factors that could contribute to a more robust explanation.

4.3 Discussion of Results

The discussion of the results is guided by testing the hypotheses formulated in the research's theoretical model. The obtained data support hypotheses H_1, H_2, H_3, H_5, and H_7, while hypotheses H_4 and H_6 are not supported by empirical evidence. Statistical analyses reveal significant relationships between budgetary participation, information sharing during the budgeting process, the use of managerial information, and managerial performance. These findings suggest that effective employee participation in budgetary decisions and the efficient use of available information are crucial to improving organizational performance.

Hypothesis $\mathbf{H_1}$, which establishes a direct relationship between budgetary participation (BP) and managerial performance (MP), suggests that the active inclusion of managers in the budgeting process improves managerial performance. Studies such as those by Eferakeya and Edgars (2024) demonstrate that budgetary participation promotes accountability and collaboration in small and medium-sized enterprises in Nigeria. Alhasnawi et al. (2024) also show that this participation increases managerial performance and engagement in higher education institutions in Iraq. Riyadh et al. (2023) emphasize that leaders who encourage participation in budgetary decisions achieve more effective performance.

Other contexts corroborate this trend. For example, Hussein et al. (2021) studied manufacturing companies in Iraq and found that budgetary participation strengthens managerial attitudes and job satisfaction, creating a virtuous cycle of improved performance. Similarly, Zonatto et al. (2020) studied companies in Brazil and reached the same conclusion. Moreover, studies by Jermias and Yigit (2013) and Zonatto et al. (2019) suggest that managerial involvement fosters collaborative environments and promotes better organizational outcomes. In Timor-Leste, Guterres and Lavarda (2024) demonstrate that budgetary participation improves managerial performance and increases employee satisfaction. This shows that a collaborative and participatory work environment is essential for organizational development and strengthening the internal climate within organizations.

Hypothesis $\mathbf{H_2}$ shows a positive and statistically significant relationship between budgetary participation (BP) and information sharing during budgeting (ISB). This result suggests that the active inclusion of managers in the budgeting process fosters a collaborative environment and facilitates the exchange of relevant information among team members. Previous research, such as Parker and Kyj (2006) and Lunardi et al. (2020), demonstrates that budgetary participation strengthens organizational commitment and encourages information disclosure. These findings highlight the importance of a participatory environment for effective information sharing and, consequently, organizational performance.

Similarly, Santos et al. (2024) found that managers who actively participate in the budgeting process create a culture that values and encourages information sharing. Budgetary participation acts as a motivating factor that increases managers' autonomous motivation, which, in turn, favors the sharing of information essential for decision-making and organizational performance, as demonstrated by Ngo (2021). Nevertheless, the findings of this study indicate that information sharing, though influenced by budgetary participation, does not directly affect managerial performance in Timor-Leste. This suggests that the impact of information sharing depends on its integration with the strategic use of information. This finding reinforces the observation of Zainuddin and Isa (2019) that the perception of fairness in the workplace increases employees' willingness to share information. When this information is effectively used, it results in better organizational results.

Hypothesis **H3** reveals a significant relationship between budgetary participation (BP) and the utilization of managerial information (UMI). This suggests that managers who actively participate in the budgeting process use managerial information more effectively in strategic decision-making. Studies, such as Eferakeya and Edgars (2024), show that this inclusion in the budget increases organizational commitment and enhances the strategic use of information. Furthermore, frequent interaction between superiors and subordinates creates a collaborative environment that encourages information sharing and results in more informed decisions, as observed by Milani (1975) and Parker and Kyj (2006).

Vandenbosch (1999) points out that integrating managerial information into decision-making processes is essential for organizational competitiveness, highlighting categories such as focus of attention and organizational learning that positively influence the perception of competitiveness. Furthermore, Mithas et al. (2011) emphasize that efficient information management strengthens organizational capabilities, promoting better results. Meanwhile, Prajogo et al. (2018) assert that effective internal and external information management directly impacts operational performance. Together, these studies suggest that well-structured budgetary participation combined with the strategic use of information contributes to more agile and responsive management, thereby increasing managerial performance and strengthening organizational competitiveness.

However, hypothesis **H4**, which investigated the direct relationship between information sharing during budgeting (ISB) and managerial performance (MP), was not supported. This indicates that information sharing alone does not directly impact managerial performance in Timor-Leste. This finding diverges from previous studies, such as those by Lunardi et al. (2020), which indicate a positive relationship between information sharing and managerial effectiveness. While information sharing is recognized as a key factor in reducing information asymmetry and promoting organizational effectiveness, the data suggest that its influence in emerging contexts depends on its integration with the strategic use of information.

Studies indicate that information sharing strengthens managers' psychological capital, encouraging more proactive attitudes and greater work engagement (Machado et al., 2022; Pacauskas & Rajala, 2017). Similarly, Ngo (2021) demonstrated that information sharing mediates the relationship between budgetary participation and performance, emphasizing that managers' autonomous motivation is a determining factor in converting this information into effective results. Furthermore, Rød et al. (2015) demonstrated that real-time information sharing systems can improve operational and managerial performance by reducing risks and facilitating more informed decisions. These findings reinforce the idea that information sharing alone does not guarantee increased performance. Rather, it must be combined with the strategic use of information to transform data into effective decisions.

Hypothesis **H5** shows a positive, significant relationship between the use of managerial information (UMI) and managerial performance (MP). This result emphasizes the importance of effectively using managerial information as a fundamental predictor of organizational performance. When managers have access to relevant information and use it efficiently, they can make better decisions, which positively impacts the organization's results. This finding aligns with previous studies, including Prajogo et al. (2018) and Gupta et al. (2010), which highlight the significance of strategic information management as a competitive advantage in modern organizations. Appropriate use of information transforms data into actionable insights, strengthening managers' ability to analyze problems and make assertive decisions (Pacauskas & Rajala, 2017).

Furthermore, Yahaya & Segbenya (2023) demonstrate that managerial competencies, such as interpersonal skills and customer value management, improve with the effective use of managerial information to mediate information sharing. Other studies reinforce the idea that providing relevant information allows for the correction of organizational failures, facilitating more efficient management and successful competitive strategies (Ye et al., 2015; Soltani & Amanat, 2019). The targeted use of information in critical areas provides greater control over processes and decisions (Vandenbosch, 1999; Wee et al., 2014), and a constant flow of internal and external data supports the identification of risks and opportunities, promoting informed decisions and strategic changes (Wong et al., 2011; Calôba & Klaes, 2016). Studies by Shahzad et al. (2020) and Aben et al. (2021) show that the integration of managerial information with new technologies improves decision quality, resulting in superior organizational performance. Thus, management information enhances managers' capabilities and is a crucial element for organizational success.

Hypothesis **H6** was not supported, as indicated by a *p*-value greater than 0.05, indicating that information sharing during budgeting (ISB) does not significantly mediate the relationship between budgetary participation (BP) and managerial performance (MP). This result suggests that, despite the importance of information sharing for managerial effectiveness, its presence alone is insufficient to boost managerial performance. Previous studies have shown that active participation in the budgeting process enables managers to express their views and access information that is crucial to their roles. This fosters an environment of open and collaborative communication (Baiman & Evans, 1983; Francis-Gladney et al., 2004). Brownell (1982) and Shields & Shields (1998) observe that this engagement enhances understanding of responsibilities, increases motivation, and encourages more effective work behaviors, strengthening managerial effectiveness. Furthermore, Lunardi et al. (2020) and Machado et al. (2022) emphasize that, even in contexts where budgetary participation is high, other factors, such as the active use of shared information and an organizational environment that favors the practical implementation of this data, are essential for improving managerial performance.

In other contexts, information sharing can facilitate the relationship between budgetary participation and performance, particularly when combined with proactive managerial attitudes and intrinsic motivation (Lunardi et al., 2019; Ngo, 2021). However, the findings of this study suggest that, in Timor-Leste, while information sharing is enhanced by budgetary participation, it does not have a direct mediating effect on managerial performance. This indicates that the mere exchange of information is not sufficient to impact organizational results; it must be integrated with the strategic use of information to effectively improve performance, reinforcing the importance of combining participation, sharing, and management analysis in administrative practice.

Hypothesis **H7** indicates that the use of managerial information (UMI) significantly mediates the relationship between budgetary participation (BP) and managerial performance (MP). This finding emphasizes the relevance of the effective use of managerial information, suggesting that the active participation of managers in the budgeting process strengthens organizational commitment and enhances managerial effectiveness by providing access to and encouraging the appropriate use of information. Research by Eferakeya and Edgars (2024) demonstrates that the inclusion of managers in budgeting creates an environment of collaboration that encourages interaction between superiors and subordinates, facilitating the sharing of valuable information. Furthermore, studies by Mithas et al. (2011) and Prajogo et al. (2018) emphasize that well-structured information management directly impacts operational performance. Thus, budgetary participation acts as a catalyst for managerial effectiveness, reinforcing organizations' ability to identify and seize competitive opportunities (Vandenbosch, 1999). In addition, according to Gupta et al. (2010), access to reliable and consistent information enables better decision-making and contributes to superior organizational performance. Stuart & Lindsay (1997) emphasize that the organizational context influences the use of information, while Yahaya & Segbenya (2023) show that managerial competencies, such as interpersonal skills, are enhanced by the effective use of information. Thus, the effective use of managerial information enables more informed decisions and is essential for organizational performance. This corroborates the importance of budgetary participation and effective information management in organizations.

None of the control variables—age, gender, and length of service—showed significance in relation to managerial performance. This result may be associated with the adopted methodology, which employed PLS-SEM. Although the participants perceived themselves as managers, most of them were concentrated in the 41–50 age range, which may not have been diverse enough for age to significantly influence performance. Similarly, gender did not demonstrate a significant impact. As for professional experience, while all participants had over five years of experience in their fields, the variation in this length of service may not have been significant enough to demonstrate a relationship with managerial performance in this context. These findings corroborate Oliveira et al. (2023a; 2024), who also found no significant influence of these control variables on managerial performance in similar analyses.

Table 7

Research Hypotheses and Empirical Results

Hypothesis (H)	**Result**	**Reach in relation to the objective**
H1 – Budgetary participation → Managerial performance	Supported	Confirms that active participation in the budget improves managerial performance, directly contributing to the objective.
H2 – Budgetary participation → Information sharing	Supported	Shows that participation encourages information sharing, highlighting a relevant mechanism for managerial performance.
H3 – Budgetary participation → Use of managerial information	Supported	Demonstrates that active participation also encourages the use of information, reinforcing strategic decisions and performance.
H4 – Information sharing → Managerial performance	Not supported	Indicates that information sharing does not impact performance, demonstrating the need for information use.
H5 – Use of managerial information → Managerial performance	Supported	Confirms that the use of managerial information increases performance, significantly contributing to the objective.
H6 – Information sharing mediates Participation → Performance	Not supported	Shows that information sharing does not mediate the relationship, reinforcing the importance of information use.
H7 – Use of managerial information mediates Participation → Performance	Supported	Demonstrates that information use is an effective mediator, consolidating the influence of budgetary participation on managerial performance.

Source: *research data.*

According to Table 7, the research indicates that budgetary participation positively influences managerial performance, both directly and through the use of managerial information. In contrast, information sharing had no significant effect.

5 Final Considerations

This study examined the relationship between budgetary participation and managerial performance, mediated by the sharing and use of managerial information, in companies associated with the Chamber of Commerce and Industry of Timor-Leste. The results showed that budgetary participation has a positive and significant impact on managerial performance, especially when mediated by the use of managerial information. While information sharing did not demonstrate a significant mediating effect, the data suggest that active employee participation and effective use of available information are essential for enhancing organizational performance.

Our findings offer several practical insights for managers and organizations. First, the findings emphasize the importance of creating a collaborative work environment in which managers are encouraged to actively participate in the budgeting process. This improves managerial performance and increases employee satisfaction and engagement. Second, organizations should invest in infrastructure and systems that ensure access to relevant managerial information because effective information management is a crucial predictor of organizational performance. This study also contributes to the existing literature by highlighting the relevance of local contexts, such as Timor-Leste, in research on budgetary participation and managerial performance, a field that still lacks academic attention.

Despite its significant contributions, this study has some limitations. The sample was limited to companies associated with the Chamber of Commerce and Industry of Timor-Leste, which may limit the generalizability of the results to other organizations or regional contexts. Additionally, since the research was conducted at a single point in time, we cannot assess changes in the relationships between variables over time. Other limitations include the possibility of bias in participant responses and the absence of contextual variables that may influence the studied relationships.

To improve our understanding of budgetary participation and managerial performance, future research should expand the sample to include different sectors and regions to allow for more comprehensive comparisons. In addition, longitudinal studies should be conducted to investigate how the relationships between variables evolve. Further research could also examine other potential mediators and moderators, such as organizational culture and information technology, which could impact the sharing and use of managerial information. It would also be relevant to explore control variables such as age, gender, and length of service in different organizational contexts to determine if these characteristics influence managerial performance. Finally, investigating employee perspectives on budgetary participation and its impact on team dynamics could provide valuable insights for managerial practice. Complementing the analyses with difference-of-means tests (e.g., Student's *t*-test or nonparametric alternatives) can deepen the understanding of individual effects.

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