

Personal and Environmental Antecedents of Budgetary Participation: A Literature Review within the Lens of Social Cognitive Theory

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ABSTRACT

This literature review investigates the personal and environmental drivers influencing budget participation. This is important because budgetary participation extends beyond a procedural task; it represents a cognitive and behavioral process influenced by individual capabilities and the context in which employees operate. A comprehensive understanding of these determinants enables organizations to develop budgeting systems that more effectively enhance employee motivation, minimize uncertainty, improve communication quality, and ultimately reinforce the overall effectiveness of decision-making. The current study considers two personal factors (self-efficacy and locus of control) and two environmental antecedents (task uncertainty and information technology for enhanced communication). Guided by Social Cognitive Theory, the review synthesizes how employees' cognitive beliefs interact with organizational conditions to influence their involvement in budgeting processes. Prior research shows that self-efficacy reinforces employees' confidence in contributing effectively to budget formulation, while locus of control affects their perceived autonomy and influence over budget outcomes. Environmentally, task uncertainty can stimulate greater participation when individuals seek clarity, yet may suppress involvement when ambiguity becomes excessive. Meanwhile, the adoption of information technology that enhances communication improves access to information, transparency, and collaborative decision-making, creating an environment that supports more active engagement. Therefore, this review provides a structured understanding of how personal and environmental factors, viewed through the lens of Social Cognitive Theory, shape employees' budgetary participation for both practitioners and researchers.

Keywords: Budget participation, Self-efficacy, Locus of control, Task uncertainty, Information technology for enhanced communication, Social Cognitive Theory

INTRODUCTION

In contemporary organizational settings, budgetary participation has become a central topic in management accounting research due to its critical role in shaping employee behavior, decision-making quality, and overall organizational performance. Rather than being merely a procedural step in budget formulation, budgetary participation reflects a complex cognitive and behavioral process influenced by individuals' characteristics and the environments in which they operate. Understanding the personal and environmental antecedents that drive employees' involvement in budgeting is vital for organizations seeking to design practical and motivational budgeting systems. At the behavioral level, participatory budgeting fosters knowledge sharing and cross-functional collaboration, which is essential for generating novel ideas and implementing innovative solutions. Employees actively involved in budget decisions are more likely to share insights and contribute diverse perspectives, creating collective intelligence that drives innovation (Guisado-González et al., 2021). Furthermore, initiative-taking and risk tolerance are directly linked to the supportive and transparent environment cultivated through participatory practices (Zhang et al., 2019). These behaviors ultimately influence

job outcomes, as measured by the generation and implementation of creative solutions, process improvements, and new product development (Crossan & Apaydin, 2010; Damanpour, 1991).

Research grounded in psychology emphasizes individual-level analysis, recognizing that the effects of budgetary processes differ across individuals (Covaleski et al., 2006). Social cognitive theory (Bandura, 1986) offers a robust framework for understanding how budgetary participation may influence innovation performance. The theory posits that the dynamic interplay of personal, environmental, and behavioral factors shapes human behavior. In the context of organizational innovation, participatory budgeting can be a key environmental factor shaping employee cognition and behavior. When actively involved in budget-setting, employees are likely to perceive greater psychological ownership, leading to enhanced intrinsic motivation and greater commitment to organizational goals (Bandura, 1997; Zhang et al., 2019). This involvement, in turn, fosters an environment conducive to creativity and innovation by encouraging risk-taking, knowledge-sharing, and collaborative problem-solving (Guisado-González et al., 2021).

The conceptual model underpinning this review draws from Social Cognitive Theory (SCT) to elucidate the mechanisms linking personal and environmental factors to budgetary participation. Personal factors, such as employees' self-efficacy and locus of control, influence participatory budgeting practices, providing individuals with a sense of agency and control over their work environment. This psychological empowerment encourages behaviors critical for innovation, such as creativity, collaboration, and proactive problem-solving (Amabile, 1988; Bandura, 1999). Environmental factors, including organizational culture, leadership style, and resource availability, further shape these behaviors by enabling or constraining employees' capacity to innovate (Birkinshaw et al., 2008; Hofstede, 2001).

Despite the extensive body of research on budgetary participation, empirical findings regarding its determinants remain fragmented and, in many cases, inconclusive (Bartocci et al., 2023). Studies have shown that not all employees respond equally to opportunities for participation; some perceive budget involvement as empowering, while others view it as burdensome or symbolic, reflecting compliance rather than genuine engagement. These inconsistencies highlight a persistent gap in understanding why participation levels vary significantly across organizational contexts and among individuals who operate under the same budgeting system. Moreover, many organizations continue to struggle with implementing participatory budgeting effectively, as participation often becomes a formality rather than a meaningful process that reflects employees' cognitive, motivational, and contextual realities. This gap underscores the need for a more integrated theoretical lens that can explain how personal dispositions and environmental conditions jointly shape employees' willingness and ability to participate. SCT provides a robust framework for understanding how individual factors, such as self-efficacy and locus of control, interact with environmental influences, including organizational culture and leadership style, to shape participatory budgeting behaviors. However, the application of this theory in the budgeting literature remains limited and lacks a synthesis.

Therefore, this literature review aims to consolidate dispersed empirical evidence, identify theoretical inconsistencies, and offer a more coherent understanding of the personal and environmental antecedents of budgetary participation. By applying Social Cognitive Theory as the guiding lens, this study seeks to advance theoretical clarity and offer insights that can inform both future research and the design of more effective participatory budgeting practices in organizations.

LITERATURE REVIEW

Defining Budgetary Participation

The exploration of managerial involvement in decision-making has been a longstanding area of interest in management accounting literature, particularly within studies centered on budgeting. Harris & Durden (2012) highlighted that budgeting studies that include managerial participation constitute a significant category within current themes and concerns in management accounting. This emphasis may be more critical than other budgeting-related variables (Brownell, 1981). Argyris (1952) highlighted numerous advantages of enabling employee involvement in decision-making, particularly in the budgeting process. He asserted that the crux of

achieving effective performance lies in garnering acceptance of budgetary goals, with subordinates' active participation playing a pivotal role in this attainment.

Furthermore, budgetary participation, especially within participative management, presents numerous advantages for organizations, particularly concerning employees. According to Macinati & Rizzo (2014), budgetary participation is crucial in motivating employees to exhibit positive behaviors. In the context of budgetary participation, subordinates can combine their specialized knowledge and experience to make more informed budgetary decisions.

Budgetary participation refers to the involvement of individuals within an organization, typically employees at various levels, in creating, determining, or influencing the budgetary decisions of the organization. It encompasses a participative approach in which individuals contribute to formulating, negotiating, or approving budgets, offering insights, perspectives, and expertise on financial and resource allocation. This participation can take various forms, from direct involvement in setting specific budget targets or providing input on resource allocation to having a say in the overall budgeting process. It is not merely about creating budgets but also involves engaging employees in discussions, soliciting their ideas, and considering their input to make the budgeting process more inclusive and reflective of the diverse perspectives within the organization.

The concept of budgetary participation aims to empower individuals by giving them a role in budget decision-making. It is often associated with the belief that involving employees in setting budgetary goals and targets can lead to increased motivation, greater commitment to organizational objectives, a better understanding of financial constraints, and, ultimately, improved performance and goal attainment. Budgetary participation is of significant importance in organizational settings. One primary rationale for implementing budgetary participation systems within companies is to enhance individual motivation and improve performance. One perspective posits that "engaging in participation enhances a subordinate's trust, sense of control, and personal investment in the organization, leading collectively to reduced resistance to change and increased acceptance and dedication to budget decisions, consequently resulting in enhanced performance" (Shields & Shields, 1998). This viewpoint is supported by Chong & Chong (2002), who argue that involving subordinates in activities such as budget-setting or in budget-related decisions can establish a favorable organizational environment and enhance performance.

Social Cognitive Theory

Social Cognitive Theory (SCT), developed by Albert Bandura, offers an extensive explanatory framework for understanding human behavior as the product of ongoing interactions among personal, environmental, and behavioral determinants. Building on principles from Social Learning Theory, Bandura advanced the notion that individuals are not passive recipients of external influences but are capable of intentional action, reflective thought, and anticipatory self-guidance (Bandura, 1986, 1999). This perspective positions individuals as adaptive agents who actively interpret and influence their surroundings.

Central to SCT is the principle of triadic reciprocal causation, which posits that cognition and affective states, environmental conditions, and behavioral responses continuously and mutually influence one another. Instead of assuming a unidirectional or static causal sequence, the theory highlights the dynamic and bidirectional interplay among these factors. Such an interactive framework is particularly relevant for complex organizational processes, including budgetary participation, where decisions emerge from the simultaneous influence of personal beliefs, contextual cues, and prior behavioral experiences. A distinctive contribution of SCT is its agentic view of human functioning, emphasizing individuals' capacity for self-regulation, deliberate goal setting, and evaluative judgment. Constructs such as self-efficacy, self-observation, and reflective appraisal elucidate how individuals assess their capabilities, monitor progress, and maintain effort in challenging contexts. These mechanisms are critical in organizational environments, where managerial decisions depend not only on structural controls or incentives but also on subjective interpretations of competence and control.

Within management accounting research, SCT has been instrumental in explaining how personal characteristics and contextual supports jointly shape managerial behavior. Wood and Bandura (1989) demonstrated the theory's value in clarifying how psychological processes mediate the relationship between organizational systems and

performance outcomes. For instance, a manager's belief in their capability to execute budgeting tasks influences their readiness to participate in planning activities, while environmental enablers, such as accessible information systems or reduced task ambiguity, reinforce confidence and support effective behavioral engagement.

RESEARCH METHOD

This study employs a qualitative literature review approach to synthesize existing knowledge on the personal and environmental determinants of budgetary participation, examined through the theoretical lens of Social Cognitive Theory (SCT). To fulfill this objective, the review systematically analyzes a wide range of scholarly sources, including peer-reviewed journal articles and reputable research reports. The analysis focuses on two major domains: (1) personal factors such as self-efficacy and locus of control, and (2) environmental factors including task uncertainty and information technology support. Each domain is reviewed with attention to how these constructs influence managerial engagement in budgeting activities, consistent with SCT's emphasis on reciprocal interactions between individuals and their work environment. The key insights from the reviewed literature are synthesized in the final section, providing a consolidated understanding of antecedents that shape budget participation behavior.

DISCUSSION

Personal Antecedents that Initiate Employees' Budgetary Participation

The inclusion of self-efficacy and locus of control as key personal determinants in this review is based on their centrality within Social Cognitive Theory (Bandura, 1999), which underscores the influence of cognitive appraisals on human action. Self-efficacy captures individuals' confidence in their capacity to perform tasks and manage obstacles. In contrast, locus of control reflects the extent to which individuals perceive outcomes as contingent upon their own actions or external circumstances. These constructs have been extensively employed in managerial and behavioral accounting scholarship to explain variations in motivation, initiative-taking, and decision behaviors (Ahmad et al., 2022; Paramaswary et al., 2024). In the budgetary context, managers who hold stronger beliefs in their capabilities and view themselves as agents capable of shaping outcomes tend to be more involved in budgeting activities. Both constructs are therefore consistent with SCT's focus on personal agency and self-regulatory processes as foundations for purposeful, goal-oriented behavior.

Self-Efficacy on Budgetary Participation

Self-efficacy has long been recognized as a central motivational construct within contemporary psychological theory, serving as a foundational element in frameworks such as Social Cognitive Theory (Bandura, 1999) and Goal-Setting Theory (Latham & Locke, 1991). Its prominence stems from early evidence demonstrating that individuals' beliefs in their capabilities strongly influence how they confront challenges and regulate their own behavior. Following Bandura's foundational work in the late 1970s, self-efficacy has been conceptualized as individuals' judgments regarding their ability to execute specific tasks effectively and to manage the situational demands associated with those tasks.

Stajkovic and Luthans (1998) extend this view by defining self-efficacy as a conviction in one's capacity to mobilize motivation, cognitive resources, and action strategies required to accomplish particular goals. This belief system is critical because it shapes individuals' willingness to engage with strenuous activities, the intensity of effort they exert, and the persistence they demonstrate when encountering obstacles. In essence, self-efficacy reflects an internalized expectation about one's performance potential; individuals with strong efficacy beliefs are more inclined to approach demanding tasks with confidence and view challenges as opportunities to demonstrate competence rather than threats to be avoided. Consequently, high self-efficacy typically translates into stronger motivation, deeper task engagement, and more consistent performance (Wood & Bandura, 1989).

For more than three decades, self-efficacy has served as a core variable in organizational behavior research, often examined as an antecedent, mediator, or moderator in models of job performance and other work-related outcomes. Empirical studies consistently demonstrate that self-efficacy influences performance through mechanisms such as greater effort investment, elevated personal goal standards, perseverance under pressure,

and more effective problem-solving strategies (Bandura, 1986; Latham et al., 1994). Research across multiple sectors corroborates its predictive strength. Luthans and Peterson (2002), for example, show that managerial self-efficacy significantly enhances managerial effectiveness and strengthens the linkage between employee engagement and managerial outcomes. Similar results have been documented in various cultural and occupational contexts, including evidence that self-efficacy partially mediates the effects of leadership on job satisfaction (Liu et al., 2010) and that employees with higher efficacy beliefs consistently demonstrate superior performance (Etehad & Karatepe, 2019).

Within the budgeting domain, empirical work has begun to highlight the relevance of self-efficacy in shaping managers' involvement in the budgeting process. Macinati et al. (2016) provide evidence that self-efficacy contributes meaningfully to the relationship between budgetary participation and managerial performance. Participatory budgeting creates opportunities to exchange operational knowledge, clarify managerial responsibilities, and align organizational expectations. When viewed through the lens of self-efficacy, managers who strongly believe in their ability to meet budget targets and navigate budget-related tasks are more motivated to participate in budget discussions and contribute their insights. Participation becomes not merely a procedural activity but an expression of confidence in fulfilling the responsibilities embedded in budget execution. Further reinforcing this relationship, Latham et al. (1994) argue that participative decision-making is closely linked to self-efficacy and that this connection plays a critical role in enhancing performance. Managers with higher self-efficacy are more likely to interpret successes and failures in budgeting as within their sphere of control, thereby strengthening their willingness to engage in future budgeting cycles. Conversely, managers with weak efficacy beliefs tend to avoid budget-setting activities, perceiving them as arenas where their lack of capability might be exposed. Taken together, the literature suggests that self-efficacy functions as a pivotal personal antecedent of budgetary participation. It shapes how managers evaluate their capacity to contribute to budgeting, influences the extent of their involvement, and ultimately affects the quality of decisions and outcomes produced through the budgeting system.

Table 1: Synthesis of Prior Study on Self-Efficacy and Budgetary Participation

Author(s) & Years	Research Context/Method	Key concept of Self-Efficacy	Key Findings	Implication for Budgetary Participation
Bandura (1977, 1986, 1999)	Foundational psychological studies	Self-efficacy is defined as an individual's belief in their capability to execute tasks; a foundational construct in Social Cognitive Theory	High self-efficacy enhances persistence, effort, and task engagement	Provide a theoretical basis that individuals with higher confidence are more willing to engage in complex tasks, such as budgeting
Latham & Locke (1991); Latham et al. (1994)	Organizational psychology	Link between goal-setting, participation, and self-efficacy	Participation enhances self-efficacy, which in turn improves performance	Suggests that the participatory process in budgeting strengthens task-related confidence
Wood & Bandura (1989)	Experimental and field settings	Self-regulatory mechanisms	Self-efficacy influences the choice of activities, persistence, and performance strategies	Suggests that individuals confident in their abilities are more likely to initiate and sustain involvement in complex budgeting processes

Stajkovic & Luthans (1998)	Conceptual and empirical study	Self-efficacy is the belief in the ability to mobilize resources and actions	Strong predictor of job performance through motivation and persistence	Employees who are confident in their abilities are more inclined to participate in decision-making activities
Luthans & Peterson (2002)	Managers in Various Sectors UK	Managerial self-efficacy	Self-efficacy positively predicts managerial effectiveness	Higher self-efficacy may increase meaningful participation in budgeting activities
Lui et al. (2010)	Employees in multiple sectors in China	Self-efficacy as a mediator variable	Self-efficacy partially mediates the effect of transformational leadership on job satisfaction	Demonstrates the mediating nature of self-efficacy in organizational processes, including budgeting
Macinati et al. (2016)	Healthcare managers in Italy	Self-efficacy and job engagement	Self-efficacy mediates the relationship between budgetary participation and performance	Direct evidence that higher self-efficacy increases motivation to participate in budgeting due to a stronger belief in completing budget-related tasks
Etehadi & Karatepe (2019)	Hospitality sector employees	Performance-related self-efficacy	Higher self-efficacy enhances employee performance	The study implies that self-efficacy may strengthen engagement in performance-oriented tasks such as budgeting

Locus of Control on Budgetary Participation

A second key personal factor within Bandura's Social Cognitive Theory that helps explain variations in budgetary participation is locus of control. Within the triadic reciprocal framework, individual dispositions interact continuously with environmental conditions to shape behavioral outcomes. Locus of control is an essential socio-cognitive construct because it captures systematic differences in how individuals perceive their ability to influence events and outcomes around them (Domino et al., 2015). Originating from Rotter's (1966) social learning theory, it has become a foundational variable in understanding behavioral responses across diverse contexts, including organizational decision-making.

The concept refers to individuals' generalized beliefs about the extent to which life events are under their personal control. Individuals with an internal locus of control view outcomes as consequences of their own decisions and efforts; they perceive themselves as responsible for successes and failures. In contrast, individuals with an external locus of control attribute outcomes to factors beyond their control, such as chance, fate, or external authority (Gil et al., 2017). These differing beliefs help explain why some individuals actively confront challenging situations while others experience disengagement or helplessness. In organizational settings, locus of control has been used to explain variations in motivation, effort, and responses to managerial systems. It is

generally conceptualized as a belief system influencing whether employees perceive work-related rewards, such as pay, promotions, recognition, or performance evaluations, as contingent upon their behavior or determined by external forces (Rotter, 1966; Spector, 1988). These beliefs influence not only individual behavior but also managerial effectiveness and role engagement.

Research on participative budgeting has long recognized locus of control as a significant antecedent shaping budgeting behavior. In early work, Brownell (1981) demonstrated that locus of control moderates the relationship between budgetary participation and performance: managers with a stronger internal locus of control exhibited higher motivation and engagement in budgetary participation than those with an external locus of control. Subsequent cross-cultural research by Frucot and Shearon (1991) confirmed these findings among Mexican managers, showing that internality strengthens the participation–performance relationship, particularly among higher-level managers. More recent work continues to support the notion that locus of control positively influences managers' intentions to participate in budget-setting procedures (Mahlendorf et al., 2015).

A growing body of literature also underscores locus of control as a factor explaining inconsistent findings in participative budgeting research. Gil et al. (2017) argue that discrepancies between budgetary participation and performance may be partially attributed to managers with an external locus of control, who fail to see a connection between their behavior and organizational outcomes. Such individuals are less motivated to contribute to budgeting because they perceive little personal influence. Conversely, managers with an internal locus of control exhibit stronger motivation, greater involvement in decision-making, and improved performance, which, in turn, translate into higher job satisfaction and organizational commitment (Chhabra, 2019). Together, these findings highlight locus of control as a pivotal psychological mechanism through which individual differences shape participative budgeting behavior. As a personal antecedent, it determines not only the extent to which managers choose to engage in budget-setting but also how effectively they use participatory processes to enhance performance outcomes.

Table 2: Synthesis of Prior Study on Locus of Control and Budgetary Participation

Author(s) & Years	Research Context/Method	Key Concept of Locus of Control	Key Findings	Implication for Budgetary Participation
Rotter (1966)	Social Learning Theory	Locus of Control defines individuals' beliefs regarding the degree of control over life events	Identifies internal vs external locus of control as distinct psychological orientations	Individuals with an internal locus of control perceive stronger personal control, making them more likely to engage actively in decision processes such as budgeting
Spector (1988)	Organizational psychology	Locus of control influences behavioral expectations regarding work outcomes	Internal locus of control linked to higher motivation and belief in self-driven outcomes	Employees with an internal locus of control exhibit a greater willingness to influence work processes, including budgetary participation
Brownell (1981)	Laboratory experiment on U.S. Managers	Examines locus of control as a personality factor moderating behavioral responses	Internal locus of control strengthens the performance effects of budgetary participation, and externals respond less	Internals locus of control is more motivated to participate in budget- setting, perceiving participation as meaningful and controllable

Frucot & Shearon (1991)	Survey on Mexican Managers	Replicates Brownell's model in a different cultural setting	Confirms significant interaction between locus of control and budgetary participation in performance	Internal locus of control consistently predicts stronger engagement in participatory budgeting, even across cultural contexts
Mahlendorf et al. (2015)	Field Study	Investigates individual's locus of control differences in budgeting behavior	Locus of control predicts managerial intentions in budget-related tasks	Internal locus of control positively influences intentions to participate in budget-setting
Domino et al. (2015)	Socio-cognitive framework	Locus of control as an essential socio-cognitive trait within Social Cognitive Theory	Locus of control captures cognitive differences shaping behavioral expectations	Integration of locus of control into budgetary participation models strengthens Social Cognitive Theory-based explanations of budgeting behavior
Gil et al. (2017)	Organizational behavior study	Examines the mismatch between participation expectations and outcomes	An external locus of control leads to a weaker perceived linkage between behavior and outcomes	External locus of control shows lower motivation to participate, and internal locus of control finds participation more rewarding and efficacious
Chhabra (2019)	Employee attitude study	Focuses on locus of control and work-related attitudes	Internal locus of control is associated with higher job satisfaction and commitment	Internal locus of control may indirectly encourage active budget participation through enhanced commitment and proactive behavior

Environmental Antecedents that Initiate Employees' Budgetary Participation

From an environmental standpoint, this study incorporates task uncertainty and information technology (IT) support as key contextual conditions that shape the managerial decision environment. Within the framework of Social Cognitive Theory, environmental cues are understood to interact dynamically with personal cognitions, influencing behavioral choices through mechanisms such as situational feedback, modeled experiences, and expectations regarding potential outcomes (Bandura, 2001). Task uncertainty captures the extent to which work activities are characterized by ambiguity, unpredictability, and frequent change features that may either constrain or encourage managers' involvement in budgeting, depending on how these conditions are interpreted and addressed (Frederica & Augustine, 2020). In parallel, IT-enabled communication plays an increasingly vital role in fostering participatory budgeting by ensuring timely information sharing and supporting coordination, particularly when technological systems are accessible, dependable, and integrated into routine workflows (Jaiswal et al., 2022). These environmental factors are especially pertinent in manufacturing environments, where effective budgeting relies heavily on inter-unit collaboration and accurate, real-time information flows.

Task Uncertainty on Budgetary Participation

Task uncertainty has long been recognized as a central environmental variable in management accounting research, particularly in studies examining budgeting behavior and control systems (Brownell & Dunk, 1991; Chong, 1996; Chong & Johnson, 2007; Hartmann & Maas, 2011; Maiga, 2005; Williams & Seaman, 2002).

Prior findings consistently show that when managers operate under ambiguous or unpredictable task conditions, they tend to seek greater involvement in budgeting to reduce uncertainty and facilitate information exchange. For example, Brownell and Dunk (1991) observed that Australian manufacturing managers experiencing high levels of task uncertainty were more inclined to participate in budgeting because the process enabled the sharing of essential information, even in contexts where budget emphasis was minimal. Similarly, Maiga (2005) demonstrated that task-related uncertainty significantly influenced both communication and influence within the budgeting process among U.S. managers, underscoring its role as a meaningful antecedent of budgetary participation.

Within the framework of Social Cognitive Theory, this study conceptualizes task uncertainty as an environmental condition that shapes managers' motivation to engage in budget-setting activities. The existing literature suggests that when task environments are characterized by ambiguity or rapid change, managers rely more heavily on management accounting mechanisms to acquire, interpret, and integrate critical information (Chong, 1996). Budgetary participation, as a core component of such systems (Atkinson et al., 2012), provides a structured platform for managers and subordinates to exchange knowledge, clarify expectations, and make more informed decisions. Participatory budgeting, therefore, becomes particularly valuable in uncertain environments because it provides managers with a broader range of operational, financial, and strategic insights needed to develop accurate and achievable budgets.

In situations of high task uncertainty, the demand for timely, diverse information intensifies. Managers who actively participate in budget formulation are better positioned to collect relevant information, refine their understanding of task requirements, and adapt their decisions accordingly. This increased access to information enhances their ability to meet budget targets and perform effectively. Consequently, organizations operating in uncertain task environments are likely to stimulate higher levels of managerial participation in budgeting, as the process supports information acquisition, reduces ambiguity, and strengthens managerial capability in realizing budget objectives.

Table 3: Synthesis of Prior Study on Task Uncertainty and Budgetary Participation

Author(s) & Years	Research Context/Method	Key Concept of Task Uncertainty	Key Findings	Implication for Budgetary Participation
Brownell & Dunk (1991)	Australian manufacturing managers	Task uncertainty is characterized by ambiguous task requirements and frequent changes in operational conditions, which require continuous information exchange.	Managers facing high task uncertainty tend to rely more on participative budgeting because it serves as a mechanism for sharing critical information	High task uncertainty increases the need for open communication channels, motivating managers to participate actively in budgeting to reduce ambiguity and enhance coordination
Chong (1996)	Australian managers	Task uncertainty indicates the extent to which tasks lack structure and predictable outcomes, prompting a need for more information	Managers dealing with uncertain tasks depend on management accounting systems to obtain diverse and timely information	Participatory budgeting becomes more valuable because it functions as a key mechanism for acquiring the information needed to handle uncertainty effectively

Williams & Seaman	Cross-industry managers	Task uncertainty encompasses unpredictability in task conditions that requires managers to adjust their actions frequently	Task uncertainty intensify managers' reliance on participative mechanisms to align expectations and clarify responsibilities	Budget participation provides a structured platform to exchange expectations and mitigate the adverse effects of ambiguity
Maiga (2005)	U.S. managerial respondents	Task uncertainty refers to a lack of clarity regarding task outcomes, procedures, and required resources that affect decision-making accuracy	Environmental uncertainty significantly influences budget communication and budget influence, the two core dimensions of budgetary participation	Under uncertain conditions, managers utilize budgeting as an information-gathering tool, strengthening their involvement in both communicating and influencing budget decisions
Chong & Johnson (2007)	Financial services employees	Task uncertainty represents variability in task processes and outcomes that heightens information needs for accurate performance evaluation	The effectiveness of budgeting practices depends on the degree of uncertainty surrounding tasks and workflow complexity	When uncertainty rises, involvement in budgeting provides managers with essential opportunities to secure information and justify resource allocations
Hartmann & Maas (2011)	European managers	Task uncertainty reflects a gap between available information and the information required to perform tasks effectively	Managers in high-uncertainty environments benefit more from participatory controls that enable shared sense-making	Shared participation improves alignment and reduces uncertainty through collective interpretation of information

Information and Communication Technology on Budgetary Participation

As a core planning mechanism in management accounting, budgetary participation enables managers at all hierarchical levels and across functional units to share supplementary insights and exchange information necessary for developing more accurate and informed budget decisions. Consistent with the principle of timeliness, integrating information technology (IT) into communication processes enhances the speed and quality of information flows, thereby strengthening the effectiveness of participative budgeting. Winata and Mia (2005) argue that the use of IT-based communication tools improves the quality of managerial involvement in budget-setting by ensuring timely access to relevant information. Their empirical evidence demonstrates that hotel managers' reliance on IT for communication is positively associated with both their level of budgetary participation and their perceived performance.

Furthermore, Maiga et al. (2014) emphasize that IT serves as a critical enabler of information exchange between supervisors and subordinates during the budgeting process. Their findings indicate that, within manufacturing firms, IT-supported communication significantly reinforces the relationship between budgetary participation and managerial performance. Collectively, these studies suggest that IT-enhanced communication is an essential contextual factor that enhances the efficiency, accuracy, and utility of participative budgeting.

Table 4: Synthesis of Prior Study on Information & Communication Technology and Budgetary Participation

Author(s) & Years	Research Context/Method	Key Concept of ICT	Key Findings	Implication for Budgetary Participation
Winata & Mia (2005)	Empirical study in the hospitality industry (hotel managers)	IT support enhances the timeliness, accessibility, and quality of information used in managerial decision-making	Use of IT-based communication is positively associated with managers' budgetary participation and perceived performance	IT systems facilitate faster information exchange, enabling managers to participate more effectively in budget-setting and contribute higher-quality input
Maiga et al. (2014)	Empirical research in manufacturing firms	IT support serves as an integrative communication mechanism between organizational levels during budgeting	IT-enabled communication significantly influences the participation–performance relationship by improving the flow of information between superiors and subordinates	Strong IT communication systems strengthen the usefulness of participation by ensuring accurate, timely information for budget formulation

CONCLUSION

In conclusion, the accumulated evidence underscores the central role of personal and environmental conditions in shaping employees' engagement in budget participation. Over the years, research has increasingly emphasized that participation in budgeting is not solely an administrative requirement, but a cognitive–behavioral process influenced by individuals' beliefs, capabilities, and perceptions of their work environment. These studies collectively show that when organizational settings provide supportive structures, clear expectations, and constructive supervisory behaviors, employees exhibit stronger psychological readiness to participate meaningfully in budgeting activities. At the same time, personal characteristics, such as self-efficacy, locus of control, and professional commitment, enhance individuals' confidence and motivation to contribute to the budgeting process, ultimately strengthening organizational decision quality and performance.

The literature further reveals that many scholars have predominantly explored how leadership styles, interpersonal dynamics, and organizational culture shape employees' budgeting behavior. However, empirical findings directly linking emerging contemporary factors, such as digitalization, remote collaboration, or technology-enabled monitoring, to budget participation remain limited. Although related studies have examined these elements in the context of broader management practices, their specific influence on budgeting engagement has yet to be clearly established. This gap presents a promising direction for future investigations, particularly within the Social Cognitive Theory (SCT) framework, where technological and structural influences may interact with personal cognition and behavioral outcomes.

Overall, findings across the reviewed literature suggest that when supervisors demonstrate supportive, ethical, and participative leadership behaviors, employees are more inclined to internalize budgeting responsibilities and engage proactively in the process. Strong leader–subordinate relationships promote trust, psychological safety, and shared understanding, factors that, according to SCT, strengthen reciprocal interactions between personal cognition, environmental cues, and behavioral decisions. Consequently, effective leadership not only enhances the technical quality of budgets but also fosters a collaborative environment that supports continuous performance improvement.

This review contributes meaningful theoretical and practical insights into the antecedents and consequences of budget participation. The identified personal and environmental drivers can inform organizational policies to enhance participation-based control systems across both public and private institutions. Understanding these determinants enables organizations to refine their managerial practices, strengthen participative mechanisms, and design interventions that promote sustained employee involvement, thereby supporting more robust and adaptive budgeting processes.

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