South African Journal of Business Management
ISSN: (Online) 2078-5976, (Print) 2078-5585

Deficiencies in the traditional budgeting process cause the negative behaviour of budgetary slacking

Authors:
Rishen Ramlall[1]
Schalk Grobbelaar[1]

Affiliations:
[1]Department of Engineering and Technology Management, Faculty of Engineering, Built Environment and IT, University of Pretoria, Pretoria, South Africa

Corresponding author:
Schalk Grobbelaar,
schalk.grobbelaar@up.ac.za

Dates:
Received: 02 Nov. 2023
Accepted: 26 Apr. 2024
Published: 17 June 2024

How to cite this article:
Ramlall, R., & Grobbelaar, S. (2024). Deficiencies in the traditional budgeting process cause the negative behaviour of budgetary slacking. *South African Journal of Business Management, 55*(1), a4348. https://doi.org/10.4102/sajbm.v55i1.4348

Purpose: This study delves into the inadequacies of the traditional budgeting process and their role in instigating budgetary slacking behaviour within organisations. It aims to unveil the underlying mechanisms behind this behaviour and provides practical insights for organisational enhancement.

Design/methodology/approach: Grounded in the theory of planned behaviour, this research scrutinises the impact of attitudes, subjective norms (SN) and perceived behavioural control (PBC) on intentions related to budgetary slacking. The study employs a mixed-method approach involving literature review, case studies and surveys across various individuals in different organisations.

Findings/results: Attitudes significantly mould budgetary slacking behaviour, underscoring the importance of positive perceptions concerning the strategic value of budgeting. Subjective norms assume a pivotal role, emphasising the need to align societal pressures with objectives related to value creation. Perceived behavioural control emerges as a critical factor, highlighting the significance of autonomy and authority in decision-making. This research reinforces the shift towards agile and responsive budgeting approaches as a countermeasure to budgetary slacking.

Practical Implications: Organisations can address the flaws inherent in traditional budgeting by cultivating positive attitudes, realigning SNs and endowing practitioners with greater perceived control. This cultural shift enhances financial stability, resource allocation and strategic decision-making.

Originality/Value: This study contributes to comprehending the behavioural aspects of budgetary slacking and its repercussions on organisational performance. It advocates for a transformative shift towards agile, adaptive and value-oriented budgeting, benefiting managers, policymakers and researchers aiming to refine budgeting processes.

Keywords: beyond budgeting; budgeting; budgetary slack; traditional budgeting; theory of planned behaviour.

Introduction

Budgeting is a fundamental aspect of an organisation's management process. It serves as an accounting tool enabling planners to prepare for upcoming events (Hansen et al., 2003). Moreover, it plays a crucial role in supporting decision-making. Budgeting has evolved beyond a mere cost-control tool in today's interconnected global business environment. It now serves as a mechanism to safeguard and oversee how management responds to proposals while evaluating the associated costs and benefits (Isaac et al., 2015).

Achieving organisational goals heavily relies on using budgets and the budgetary process. To succeed, organisations must identify their strategic goals, allocate resources to these objectives and then execute a plan of action to attain them (Anwar, 2007; Robinson, 2007).

The budgetary process involves setting organisational goals and creating forecasts for various factors, such as costs, production, revenue and other influencing factors (Bierman, 2010; Bonner 2008). Budgeting encompasses two vital components: the technical facet, which focusses on mathematical models, and the behavioural facet, which deals with attitudes towards goal attainment (Bierman, 2010; Campbell, 1985; Miller et al., 2001).

Traditional budgeting

Traditional budgeting debuted in major industrial enterprises in the 1920s to manage expenditures and cash flows (Réka et al., 2014). Over time, budgets have become indispensable tools for

planning and managing business operations (Goode & Malik, 2011). Initially, a top-down approach, often referred to as the 'command and control' framework, prevailed in traditional budgeting (Ouda, 2013).

Traditional budgeting is commonly associated with traditional performance management models, affecting three principal dimensions:

- Competitive strategy section: Traditional budgeting may clash with corporate strategies, hampering the ability to adapt to changing market conditions or customer demands (Silva, 2015).
- Business process: The process is often time consuming, quickly rendering budgets obsolete and necessitating frequent revisions. Reward structures linked to target achievement can incentivise managers to negotiate goals, potentially undermining value creation (Campbell, 1985; Neely et al., 2003).
- Organisational capability: Budgeting can create barriers within organisations because of misalignment and limited communication, especially when budgets are viewed as rigid commitments (Campbell, 1985; Silva, 2015).

Budgeting behaviours: Participation

The effectiveness of budgetary participation varies according to job complexity. Imposed budgets are more readily accepted in less complex roles (Dugdale & Kennedy, 1999; Raghunandan et al., 2012). However, participation can yield positive behavioural outcomes when it aligns with organisational objectives (Bratton & Gold, 2007; Morris et al., 2006). The level of participation should correspond to the complexity of the task. Sharing organisational objectives can enhance the positive effects of participation, although these effects can be hindered by distrust (Foran & DeCoster, 1974; Hopwood, 1976). In some instances, participation in budgeting does not lead to optimal resource utilisation (Schiff & Lewin, 1970).

Becker and Green (1962) argue that involving employees in budgeting enhances group cohesion (Becker & Green, 1962). This notion, presented by Becker and Green (1962), correlates with incentives offered, which can lead to improved or diminished performance depending on the prevailing circumstances.

The rationale for the research

The budgeting process is vital for attaining an organisation's strategic goals. Thus, it is essential to identify and eliminate the deficiencies and negative behavioural aspects in this process. This research provides insight into the negative behavioural aspects associated with the budgeting process and analyses alternative budgeting techniques that may minimise or eliminate them. This was achieved by answering the following research questions:

- *Is the traditional budgeting process susceptible to budgetary slack creation?*
- *Which of the three considerations, in the theory of planned behaviour (TPB), is a statistically significant indicator to carry out the intent of budgetary slacking?*
- *What are the alternative budgeting techniques from the literature?*

Structural equation modelling (SEM) and confirmatory factor analysis (CFA) were used to answer the first two questions, while a literature review was used to answer the third question.

The 'Literature review or theoretical framework' section explores traditional budgeting's use in management for performance assessment and planning, citing diverse approaches and critiques. It discusses the evolution towards more flexible models such as better budgeting and beyond budgeting (BB), addressing technical and behavioural aspects to improve organisational performance and agility.

Literature review or theoretical framework

Traditional budgeting, defined by Campbell (1985) and Horngren (2009), serves as a quantitative tool employed by management to guide activities towards specific objectives, including individual performance assessments, strategic planning and governance, as noted by Sivabalan et al. (2009). Diverse budgeting approaches emerge because of the absence of standardised practices, with considerations such as management philosophy, operational type and complexity influencing the chosen method (Réka et al., 2014).

The conventional budgeting process, rooted in an incremental approach of Wildavsky (1981), typically unfolds as a collaborative endeavour between upper and middle management. Its execution is heavily influenced by management styles, organisational culture and attitudes towards employees (Wildavsky, 1981). Scott (2020) identifies two primary change-driving approaches to budgeting:

- The top-down approach, initiated by senior management, disseminates information from higher organisational echelons to lower levels. It entails top management setting the budget while middle to lower management executes directives, including overarching goals and guidelines (Scott, 2020).
- In contrast, the bottom-up approach involves lower-level units in budget creation, with their sub-budgets consolidated at upper levels (Scott, 2020).

A third approach, the negotiated budget, as suggested by Raghunandan et al. (2012), merges elements of top-down and bottom-up methodologies, sharing responsibility between the top and lower management levels (Raghunandan et al., 2012).

De Waal et al. (2011) identifies several advantages of traditional budgeting, including the facilitation of goal-setting, enhanced communication and coordination among

organisational levels, support for performance evaluations and motivation for employees to achieve objectives (De Waal et al., 2011).

However, criticism has mounted over the years, with traditional budgeting being labelled outdated and ill-suited for today's dynamic business landscape (Hänninen, 2013; Libby & Lindsay, 2007). Hansen et al. (2003), De Waal et al. (2011) and Pietrzak (2020) conducted extensive assessments, uncovering 12 notable weaknesses within traditional budgeting:

- Budgets are time consuming to compile.
- Budgets constrain responsiveness and are a barrier to change.
- Budgets are rarely strategically focussed.
- Budgets add little value, especially given the time required to prepare them.
- Budgets concentrate on cost reduction and not value creation.
- Budgets strengthen vertical command and control.
- Budgets do not reflect the emerging network structures that organisations are adopting.
- Budgets encourage gaming and perverse behaviours.
- Budgets are developed and updated too infrequently, usually annually.
- Budgets are based on unsupported assumptions and guesswork.
- Budgets reinforce departmental barriers rather than encourage knowledge sharing.
- Budgets make people feel undervalued.

Evolution of budgeting

The 'Literature review or theoretical framework' section highlights the challenges faced by budgeting facilitators, suggesting that the drawbacks of traditional budgeting might eventually lead to its abandonment within organisations (Wienhold, 2015). As the new century began, Ekholm and Wallin (2000) observed an evolution in traditional budgeting, with organisations seeking to enhance their flexibility (Ekholm & Wallin, 2000). This shift involved moving away from a top-down, centralised process towards a more participatory, bottom-up approach (Wienhold, 2015).

McNally (2002) introduces the concept of 'better budgeting' techniques as a potential means to improve the budgeting process (McNally, 2002). Additionally, Hope and Fraser (2003) put forth an entirely different budgeting paradigm called 'beyond budgeting', which will be discussed later as an alternative technique (Hope & Fraser, 2003).

However, Raghunandan et al. (2012) propose that both technical and behavioural aspects should be considered to ensure the success of the budgeting process (Raghunandan et al., 2012). This suggests that an effective budgeting approach should address technical issues and account for the behavioural dynamics within an organisation.

Potential causes for negative behavioural facets in budgeting

Traditional budgets set performance goals for managers, often with positive or negative rewards based on goal achievement. Overemphasising negative consequences can lead to undesirable behaviour. Welsch (1971) highlights a tendency to focus on unfavourable outcomes. Recognising these aspects is crucial, as budgeting issues are often behavioural rather than financial (Welsch, 1971). Dysfunctional behaviour can generate distrust and harm an organisation's long-term prospects (Raghunandan et al., 2012). In essence, while budgets aim to achieve strategic goals, the way they link rewards and penalties can significantly impact employee behaviour and organisational outcomes.

Goal orientation

Aligning managerial and organisational goals is vital for motivation. Organisational goals typically revolve around profits, earnings, cash flow and social responsibilities, while manager goals are often tied to financial rewards and promotions (Kunnathuvalappil, 2019). Harmonising these goals is crucial for organisational success. Involving employees in the budgeting process can enhance goal acceptance (Kunnathuvalappil, 2019).

Attitudinal impacts

Upper-management attitudes can influence lower-level managers (Tiller, 1983). Participation in the budgeting process can mitigate this impact and improve communication. Line-staff conflicts can disrupt the budgeting process, causing issues such as authority overstepping and misconceptions about responsibilities (Welsch, 1971).

Pressure: A manifestation of goal attainment

Managers often work well under pressure, but excessive pressure can have negative effects. Budgets can exert significant pressure on individuals, leading to issues (Argyris, 2013). Using appropriate budgeting techniques can apply pressure effectively while allowing goal attainment.

Budgetary slack or padding the budget

Budgetary slack or padding the budget involves intentionally inflating forecasted budgets, a practice sometimes considered unethical (Welsch, 1971). This is done primarily for two reasons:

- Self-protection: Managers may pad budgets when they anticipate negative variances, which could reflect poorly on their performance. This action serves as a protective measure, attributing any shortfalls to factors beyond their control (Merchant, 1985).
- Future budget effects: Achieving the current budget may lead to even more challenging targets in the future. Managers may pad budgets to avoid overly ambitious goals and ensure they have room to achieve objectives realistically (Hopwood, 1972).

Budgetary slack can hinder the budgeting process by making it easier to meet budgets, distorting the assessment of managers' success and potentially leading to inefficiency and waste, ultimately undermining the purpose of budgeting (Hopwood, 1972; Yuen, 2004).

Better budgeting

Better budgeting emerged as a response to the limitations of traditional budgeting. Key areas of improvement identified include greater involvement of lower-level employees, technical enhancements and the tools used in the budgeting process (Hansen et al., 2003):

- Lower-level participation: Encouraging employees to participate in budget development is crucial. This approach involves assigning responsibilities to various parties involved in the process and spreading these responsibilities throughout the organisation (Carlson & Palaveev, 2004). This leads to increased acceptance of the budget and the incorporation of diverse input parameters.
- Technical facets: Several technical aspects are deemed important in better budgeting:
  - Control system: The budget serves as a management control tool, but it should allow for flexibility. There should be discretion in budget spending within defined limits (Carlson & Palaveev, 2004).
  - Performance monitoring: The budget should efficiently identify organisational inefficiencies, and forecasting tools should enable quick adjustments to a changing environment (Neely et al., 2003).

Better budgeting also involves the use of specific tools, each with its benefits and limitations, which are discussed here:

- Value-based management (VBM): Value-based management focusses on value creation, aligning employee goals with organisational objectives and emphasising accountability (Firk et al., 2016). It prioritises goals, ensures clear purposes, fosters performance improvement and enhances transparency (Ameels et al., 2002; Ittner & Larcker, 2001):
  - Advantages: Increased accountability, clear purpose, performance improvement and transparency.
  - Disadvantages: Requires a robust accounting system, potential for data manipulation.
- Activity-based budgeting (ABB): Activity-based budgeting delves into the cost of activities, concentrating on value and efficiency. It offers transparency, forward-thinking and detailed information (Réka et al., 2014):
  - Advantages: Transparency, forward-thinking and detailed information.
  - Disadvantages: Time-intensive, requires experienced personnel, may focus on short-term goals.
- Zero-based budgeting (ZBB): Zero-based budgeting involves building budgets from scratch, promoting accountability and cost scrutiny. It enhances transparency and forces process review (Tyer, 1977):
  - Advantages: Transparency and elimination of legacy expenses.
  - Disadvantages: Time-intensive, potential for data manipulation, may prioritise short-term objectives.
- Profit planning: Profit planning sets profit objectives and aligns them with strategic goals, allowing benchmarking and anticipation of financial planning (Simons, 1991):
  - Advantages: Benchmarking, anticipatory financial planning.
  - Disadvantages: Time intensive requires financial modelling and may lead to unrealistic revenue targets.
- Rolling budgets and forecasts: Rolling budgets update budgets based on past events, offering adaptability and transparency (Player, 2009):
  - Advantages: Reflects the dynamic business environment, allows quick responses and offers transparency.
  - Disadvantages: Time intensive may hide budgeting inefficiencies.

Beyond budgeting

Jeremy Hope and Robin Fraser introduced BB in response to dissatisfaction with traditional budgeting methods in 1997 (Hope & Fraser, 2003). Beyond budgeting is viewed as a more flexible and agile approach to managing organisational performance (Ross & Kovachev, 2009) and is seen as a replacement for traditional budgeting because of its rigidity (Hansen, 2011).

The Beyond Budget Round Table (BBRT) established 12 principles to create a generic BB model. The first six principles focus on organisational flexibility and delegating authority to employees. The remaining principles address adaptive management processes to support this flexible structure (De Waal et al., 2011; Hope & Fraser, 2003). Table 1 summarises the 12 principles of BB from De Waal (2005).

The core concept of BB is shifting from top-down control to bottom-up empowerment. It involves rolling forecasts and updated information for rapid responses to changes. Self-managing units become customer focussed and have decision-making freedom (De Waal, 2005). To maintain motivation, employee performance is evaluated against what could have been achieved, not preset targets (Goode & Malik, 2011).

The advantages of BB include decentralised decision-making and increased agility (Hope & Fraser, 2003; Réka et al., 2014). However, its implementation requires completely restructuring management models and budgeting mindsets, which can be time consuming. Beyond budgeting is a relatively new concept, and its applicability across industries has not been extensively examined (Hope & Fraser, 2003; Réka et al., 2014).

Table 2 was summarised from Hope and Fraser (2003) and (Player, 2003). It compares the traditional budgets to BB.

Table 3 compares the conventional centralised organisation to the proposed decentralised framework presented in BB. The information was summarised from Player (2003) and De Waal (2005).

The 'Proposed model or conceptual method' section examines how social norms may enable negative budgeting behaviour. The TPB is used to illustrate the interaction of attitudes, subjective norms (SN) and perceived behavioural control (PBC). Hypotheses are formulated based on these factors to illustrate the potential deficiencies in budgeting practices.

Proposed model or conceptual method

Researchers have found that social norms are shared belief systems that must be examined from the perspective of the individual's psychological and sociocultural systems in which that individual is embedded (Campbell, 1985;

TABLE 1: Summary of the 12 principles of beyond budgeting.

Principles	Description
1. A self-governance framework	The hierarchical structure of an organisation is subdivided into self-managing units, which decentralised the organisation's control system. The resulting structure is a lot more flexible as it is small and self-managed
2. Empowered managers	Sub-divisional leaders gain the authority to act at their own discretion, acting within the values of the organisation. Furthermore, the sub-divisional leaders are responsible for the achievement of the short-term and medium-term goals
3. Accountability of dynamic outcomes	Sub-divisional leaders are responsible for their own performance. Pre-set targets are not used as it is seen to demotivate employees or facilitate an attitude of just meeting the target (with minimum effort). Rather, a performance review is conducted after achieving a result, comparing the result and what could have been achieved
4. Network organisation	The sub-divisions are independent and concern themselves with delivering value to the customer. They adapt to the changing environment (opportunities or threats) in a timely fashion to address the customer's needs
5. Market coordinator	The sub-divisions should be able to decide whether the central organisation's support service should be used or if external services should be used. This ensures that the service received is cost-efficient and of high-quality
6. Supportive leadership	Senior leaders and mentors should encourage sub-divisional leaders to achieve stretching goals and coordinate the relationship between sub-divisional managers
7. Relative target	The organisation's target should be set in accordance with the strategic objectives (beating the competitor) and not beat last year's budget
8. Continuous strategy setting	The BB strategy setting is a continuous bottom-up process, not yearly top-down. The strategy is adapted to the changing business environment based on opportunities and threats
9. Anticipatory systems	Sub-divisional leaders should prepare rolling forecasts at least every quarter for up to 6 months. The forecast must be completed for both financial and non-financial critical factors
10.Resource on demand	Resource planning and allocation should be done by the sub-divisions for where it is needed the most
11.Fast-distributed information	Information is readily available containing both lagging and leading indicators. Senior management should evaluate the indicators to check whether the self-management process is working and if corrective action is needed
12.Relative team rewards	The rewards should be based on the results of the self-managing subdivisions and the organisation. Moreover, the reward structure should be based on the combination of individual and group rewards

Source: De Waal, A., Hermkens-Janssen, M., & Van De Ven, A. (2011). The evolutionary adoption framework: Explaining the budgeting paradox. *Journal of Accounting & Organizational Change, 7*(4), 316–336. https://doi.org/10.1108/18325911111182295

BB, beyond budgeting.

TABLE 2: Comparison of traditional budgets and beyond budgeting against key performance areas.

Performance management criteria	Practices based on annual budgets	Practices based on BB
Goals or targets	Based on an annual budget	Sub-divisional managers create goals based on rolling medium-term goals
Reward performance	Fixed performance contracts	Based on relative performance measure with 'hindsight'
Communication plans and/or market opportunities	Based on the annual budget and/or restrictive process	Based on continuous processes considering the market change
Resource demand	Made available based on the budget, decided in advance	Planned and allocated according to the discretion of the sub-divisional managers
Cross-company commitments	Agree to in advance and are linked to the budget	Actions are coordinated based on customer demand
Performance measurement	Based on periodic reviews, on targets set	Based on a review of what could have been achieved

Source: Hope, J., & Fraser, R. (2003). *Beyond budgeting: How managers can break free from the annual performance trap* (9th ed.). Harvard Business Press; Player, S. (2003). Why some organizations go 'beyond budgeting'. *Journal of Corporate Accounting & Finance, 14*(3), 3–9. https://doi.org/10.1002/jcaf.10146

BB, beyond budgeting.

TABLE 3: Central organisation versus decentralised organisations.

Driving force criteria	Centralised organisations	Decentralised organisation
Best-in-class performance	Creates a higher-performance environment based on targetsand budgets	Creates a higher-performance environment based on competitive success
Talent constraint –freedom, challenges and responsibility	Managers provide a framework based on the mission, plans and budget	Managers provide a framework based on clear principles and boundaries
Innovation	Empowers people to make decisions within plans and budgets	Empowers people to make decisions that are in line with the strategic goal
Competitiveness	Empower employees to act by giving decisions based on the line-management perception	Empower people to act by providing them with resources
Customer focus	Holds employees accountable for achieving sales targets and satisfying customers	Holds employees accountable for satisfied and profitable customers
Improved reporting – higher standards	Support closed restrictive information system – a 'need to know' basis	Open and transparent information system

Source: Player, S. (2003). Why some organizations go 'beyond budgeting'. *Journal of Corporate Accounting & Finance, 14*(3), 3–9. https://doi.org/10.1002/jcaf.10146; De Waal, A.A. (2005). Is your organisation ready for beyond budgeting? *Measuring Business Excellence, 9*(2), 56–67. https://doi.org/10.1108/13683040510602885

Pepitone, 1976; Sundar & Kim, 2005). Several frameworks (Bicchieri's Social Norm Activation Model, the Norm Activation Model and TPB) can be employed to assess the psychological aspects that affect negative behaviour. The model used in this study is the TPB (Ajzen, 1991). The illustration of the model can be seen in Figure 1.

Theory of planned behaviour

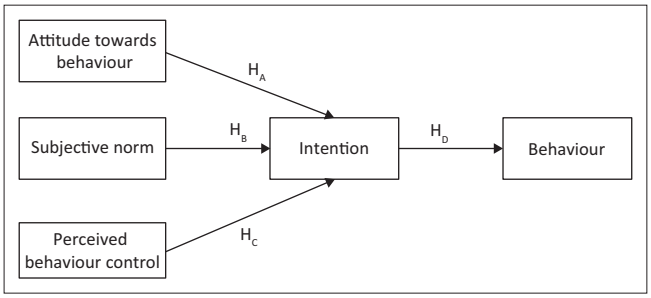
The TPB was initially used to predict a person's intention to engage in a specific behaviour in a specific environment (Ajzen, 1991). The TPB is a further development of the theory of planned action (Nigbur et al., 2010). The use of the TPB is to examine the determinates that influence a person's actions (Ajzen, 1991). Ajzen (1991) goes on to mention three fundamental considerations that determine the intention of an individual:

- Attitude towards a behaviour – The aspect of attitude towards behaviour is the evaluation of behaviour within an environment, which results in an attitude that is either positive, negative or some degree in between, which is contingent on the prevailing circumstance (Ajzen, 1991).
- Influence of SN – The SN is a person's perceived social pressure to engage or refrain from enacting the behaviour in question (Ajzen, 1991).
- Perceived behaviour control (PBC) – The PBC is the person's perception of the difficulty of enacting a behaviour when considering challenges, barriers and past experiences (Ajzen, 1991; Nigbur et al., 2010).

In other words, it can be described as the perceived difficulty one is faced with when conducting a task. Moreover, Nigbur et al. (2010) states that PBC accounts for both the perceived ability to control the behaviour (extrinsic motivation) and the efficiency of conducting the behaviour (intrinsic motivation) (Nigbur et al., 2010). Considering this, two hypotheses are proposed, with hypothesis two having four sub-hypotheses.

Primary hypothesis

Null: An individual's attitude towards budgetary slacking and the influence of SN and the PBC do not determine the intent to pad the budget.



Source: Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T
H, hypothesis.

FIGURE 1: Hypothesis construction for the proposed framework.

Alternative: An individual's attitude towards budgetary slacking, the influence of SN and the PBC determine intent to pad the budget.

Secondary hypotheses

The theoretical framework suggested by Ajzen (1991) was used to generate the hypotheses:

- $\mathbf{H_{0,A}}$: A positive attitude towards budgetary slacking does not influence the intention to pad the budget.
- $\mathbf{H_{1,A}}$: A positive attitude towards budgetary slacking influences the intention to pad the budget.
- $\mathbf{H_{0,B}}$: Social pressures (SN) towards budgetary slacking do not have a positive direct effect on people's intention to pad the budget.
- $\mathbf{H_{1,B}}$: Social pressures (SN) towards budgetary slacking have a positive direct effect on people's intention to pad the budget.
- $\mathbf{H_{0,C}}$: Perceived behavioural control does not have a positive and direct effect on the intention to pad the budget.
- $\mathbf{H_{1,C}}$: Perceived behavioural control has a positive and direct effect on the intention to pad the budget.
- $\mathbf{H_{0,D}}$: Intention to pad the budget does not have a positive and direct effect on budgetary slacking behaviour.
- $\mathbf{H_{1,D}}$: Intention to pad the budget has a positive and direct effect on budgetary slacking behaviour.

The deficiencies were categorised by the explanations given in this section regarding the fundamental considerations of TPB (Table 4).

The 'Research method or approach' section explains the approach used to investigate the association between deficiencies in traditional budgeting and negative behaviours such as budgetary slack creation.

Methodology

An exploratory approach was selected because of the limited research on the association between the deficiencies of traditional budgeting and the negative behavioural aspect of budgetary slack creation. A quantitative research method was also incorporated into the study. It is recommended that a quantitative approach be adopted to provide tools for analysis of the corresponding complexities that were encountered in this investigation (Easterby-Smith et al., 2018).

The statistical packages used in analysing and fitting the data to the model were SPSS and AMOS, respectively.

Research instrument for data collection

To determine the links between the deficiencies of budgeting and the negative behaviour of budgetary slack creation, a questionnaire was created. A web-based survey was selected, as the method of delivery, as it is the quickest method to collect information and allows for some interaction with respondents (Easterby-Smith et al., 2018). The more

TABLE 4: Categorisation of budgeting deficiencies.

Deficiency	Category	Explanation
Budgets are time-consuming to compile	PBC	The amount of time an individual spends on a task is normally within their control
Budgets constrain responsiveness and are a barrier to change	Attitude	People tend to resist change as a result of an attitude towards the need to change
Budgets are rarely strategically focussed	SN	It is the general impression created by the community
Budgets add little value, especially given the time required to prepare them	Attitude	This deficiency is a result of negative Attitudes and perceptions towards Budgeting
Budgets concentrate on cost reduction and not value creation	SN	In many organisations, budgeting goes through several rounds which focus on budget reduction. This is why the greater community consider this a deficiency
Budgets strengthen vertical command and control	PBC	Budgets allow individuals to have a certain limit of control within the organisation because of cash flow
Budgets do not reflect the emerging network structures that organisations are adopting	Attitude	The negative attitude towards budgeting results in a conflict between individual goals and organisational goals
Budgets encourage gaming and perverse behaviours	Attitude	People tend to be competitive when budgeting so that they can lay claim to a larger budget portion
Budgets are developed and updated too infrequently usually annually	PBC	People have control over the time, which they can work over their budgets
Budgets are based on unsupported assumptions and guesswork	SN	Traditional budgeting usually follows a top-down approach as is based on the experience of the individual. Thus, giving rise to the consideration of this deficiency
Budgets reinforce departmental barriers rather than encourage knowledge sharing	PBC	Individuals control the amount or type of information they are willing to share
Budgets make people feel undervalued	SN	The resulting top-down approach and several amendments (aimed at cost reduction) to the budgets generate this perception in the community

PBC, perceived behaviour control; SN, subjective norms.

difficult-to-grasp portions of the questionnaire were clarified using pop-up instructions and drop-down boxes. A snowball sampling technique was used to identify managers and senior managers within different South African organisations with at least 3 years of experience in budgeting. Snowball sampling was used because the researchers could leverage existing connections within the target population, who possess valuable insights or characteristics relevant to the study. A total of 228 respondents completed the survey, and the distribution in terms of experience is illustrated in Table 5.

The survey was segmented into different parts. The first part of the questionnaire was the demographic section, which captured the participant's years of experience. The subsequent segments of the questionnaire contained information about the deficiencies of traditional budgeting. It focussed on understanding how attitude, SN and perceived behaviours give rise to the intent to pad the budget (checking the traditional budgetary process is susceptible to slack creation). Furthermore, it explained which traditional budgeting deficiencies are significant drivers for budgetary slack creation. The web-based survey was created using an online platform. A link to the survey was sent to participants through different media platforms as an invitation to participate.

The 'Results' section illustrates how SEM and CFA were used to test the association between deficiencies in traditional budgeting and negative behavioural aspects like budgetary slack creation.

Ethical considerations

Ethical approval to conduct this study was obtained from the University of Pretoria Faculty of Engineering, Built Environment and Information Technology Research Ethics Committee (reference no.: EBIT/89/2023).

TABLE 5: Survey respondents.

Years of experience	Proportion (%)	Frequency
> 15	13.66	31
15–10	22.91	52
10–15	31.28	72
3–5	32.16	73
Total	**100.00**	**228**

Results

The survey respondents were individuals with experience in the budgeting process. Most respondents had an experience level of 3 years – 5 years. This accounted for 32.16% of the respondents. The experienced individuals accounted for 67.85% of the remaining three class intervals.

Model evaluation

During the analysis, two alternative methodologies were employed. These include SEM using maximum likelihood (ML) estimation and CFA. The sample size obtained was adequate to perform an SEM, according to Boomsma (1985), who suggested a minimum sample size of 200 (Boomsma, 1985). The data's multivariate normal distribution is an ML estimate assumption that is frequently false (Micceri, 1989). The assumption of multivariate normality was broken because several of the TPB variables in the current data set showed a negative skew in their unidimensional distributions. To account for this, bootstrapping was used in the CFA and SEM processes to lower the possibility of a Type I error when evaluating the models' statistical significance (Taris, 2002)

Before assessing the connections between TPB variables and budgetary slacking behaviour, a CFA was conducted to assess the fit of the measurement model to the data. The CFA showed that the measurement model seemed to fit badly because the chi-square value was statistically significant. However, Meyers et al. (2016) advised against solely using the chi-square value in the assessment of the fit of the model

(Meyers et al., 2016). This is because as sample size increases, it results in power increases, which leads to the detection of small discrepancies between the observed and predicted covariances (Meyers et al., 2016). Suntornsan et al. (2022) suggest the use of the goodness of fit index (GFI), root means square error of approximation RMSEA, comparative fit index (CFI) and the ratio of chi-square/degree $\left(\frac{x^2}{df}\right)$ of freedom be used to assess the overall model (Suntornsan et al., 2022). The GFI, RMSEA, CFI and $\left(\frac{x^2}{df}\right)$ for the proposed model were 0.84, 0.09, 0.892 and 2.87, respectively. Black et al. (2010) stipulated that a GFI and CFI of > 0.9 indicates a good fit (Black et al., 2010). Moreover, Suntornsan et al. (2022) also deem values < 0.08 for RMSEA and $\left(\frac{x^2}{df}\right)$ < 5 a good fit for the model (Suntornsan et al., 2022). However, Meyers et al. (2016) cite a criterion for the evaluation of the RMSEA, which is that RMSEA < 0.08 indicates a good fit, 0.08 < RMSEA < 0.1 indicates a satisfactory fit and RMSEA > 0.1 indicates a poor fit (Meyers et al., 2016).

Meyers et al. (2016) also suggest a further two indices to evaluate the proposed model, which are the normed fit index (NFI) and the Tucker–Lewis index (TLI). It was proposed by Meyer et al. that values of > 0.7 for these indices indicate a satisfactory fit, > 0.8 reveal a good fit and > 0.9 show a perfect fit. The values obtained for the NFI and TLI were 0.85 and 0.86, respectively (Meyers et al., 2016).

Given the information above and considering how close the model parameters (for a good fit) were to the limits, it was deemed that the proposed model was a satisfactory fit for the data.

Reliability of measures for data

After the initial completion of the CFA analysis, Cronbach's alpha was computed to assess the internal reliability of the measurements. The Cronbach's alpha coefficients varied from 0.76 to 0.86, all of which were above the limit of 0.7 as recommended by Heale and Twycross (2015). Furthermore, the composite reliability (CR) ranged from 0.71 to 0.86, which is greater than the limit of 0.7 as stipulated by Alarcón et al. (2015) for there to be enough internal reliability. Finally, the average variance extraction (AVE) ranged from 0.50 to 0.61, which is greater than the limit of 0.50 posed by Alarcón et al. (2015). Thus, indicating discriminant validity. A summary of the measures is seen in Table 6. In conclusion, this analysis demonstrated strong internal reliability with Cronbach's alpha coefficients, CR and AVE values exceeding recommended thresholds, confirming the reliability of the measurements.

The effect of the theory of planned behaviour on budgetary slacking behaviour

An SEM was employed to examine the impact of the TPB factors on budgetary slacking behaviours. The path coefficients between the variables were then considered to analyse the impacts of each variable on budgetary slacking behaviour. A squared multiple correlations score of 0.40 was the outcome (seen in Figure 2). This suggests that the linear combination of all TPB factors, which include attitude towards budgetary slacking behaviour, SN, PBC and behavioural intention, might explain around 40% of the variance in budgetary slacking behaviour.

Budgeting behaviour is a crucial aspect of organisational decision-making that impacts financial stability, resource allocation and strategic planning. The intricate nature of budgeting behaviour necessitates a comprehensive understanding of the underlying psychological factors that influence individuals' intentions and actions.

Hypotheses validation

Primary

The primary hypothesis was tested using the proposed model. Subsequently, to prove $H_{1, A}$, $H_{1, B}$ and $H_{1, C}$, the alternative primary hypothesis was accepted. The result from the analysis left the null hypotheses rejected, leaving the following:

An individual's PBC, SNs and attitudes towards budgetary slacking could determine their intention to pad the budget.

Secondary

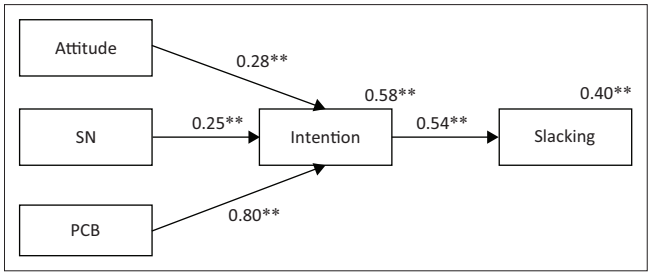
The proposed model tested the secondary hypotheses (see Figure 2). The result from the analysis was that all the null hypotheses were rejected, leaving the following:

$H_{1, A}$: A positive attitude towards budgetary slacking influences the intention to pad the budget and was proven to be valid by the model ($\beta = 0.28$, $p < 0.001$)

TABLE 6: Reliability measures.

Construct	Cronbach alpha	Composite reliability	AVE
Attitude	0.86	0.86	0.61
SN	0.83	0.81	0.52
PBC	0.76	0.71	0.50
Intention	0.86	0.82	0.53
Slacking	0.84	0.79	0.52

AVE, average variance extraction; PBC, perceived behaviour control; SN, subjective norms.



PBC, perceived behaviour control; SN, subjective norms.
**, $p < 0.001$.

FIGURE 2: The structural equation modelling.

$H_{1,B}$: Social pressures (SN) towards budgetary slacking have a positive direct effect on people's intention to pad the budget and was proven to be valid by the model ($\beta = 0.25$, $p < 0.001$)

$H_{1,C}$: Perceived behavioural control has a positive and direct effect on the intention to pad the budget and was proven to be valid by the model ($\beta = 0.80$, $p < 0.001$)

$H_{1,D}$: Intention to pad the budget has a positive and direct effect on budgetary slacking behaviour and was proven to be valid by the model slacking ($\beta = 0.54$, $p < 0.001$)

Research questions validation

The evaluations performed propose the following answers to the research questions:

- Is the traditional budgeting process susceptible to budgetary slack creation?
  The study finds that the deficiencies with the traditional budgeting process give rise to the intention to create slack with the budget. This intention evolves into slacking behaviour (as proven by $H_{1,D}$). Pobrić (2015) concurs with this statement by stating that businesses, specifically their upper management, purposefully create budgetary slack when they want to mitigate inadequacies of traditional budgeting, such as budget rigidity in uncertain circumstances, differentiation strategy implementation and when the focus is solely on achieving short-term financial goals (Pobrić, 2015).
- Which of the three considerations in the TPB is a statistically significant indicator to carry out the intent of budgetary slacking?
  From the three considerations, attitudes, SN and PBC, PBC has the greatest impact on the intention to create budgetary slack. Perceived behaviour control is the person's perception of the difficulty of enacting a behaviour when considering challenges, barriers and past experiences. The result of this question may have been skewed because of the more experienced practitioners answering the survey.
- What are alternative budgeting techniques from the literature?

In the literature review, the shortcomings of conventional budgeting were compared with the budget techniques to analyse which techniques might reduce or remove this undesirable behavioural aspect. The literature suggests that BB may be the best method for limiting the shortcomings in the behavioural components of budgeting that are mentioned in the literature mentioned by Hansen et al. (2003). However, Réka et al. (2014) state that transforming the budgetary mindset of practitioners and revamping an organisation's management paradigms are substantial challenges when implementing BB. This process may be time intensive, and given the relative novelty of BB, not all industry sectors have thoroughly scrutinised its applicability.

Aligning research findings with problem statement and objectives

The problem statement emphasised that deficiencies in the traditional budgeting process led to the negative behavioural aspect of budgetary slacking. The findings robustly support this assertion. It was established that traditional budgeting is susceptible to slack creation, which is influenced by attitudes, SN and PBC.

This alignment between the findings and the problem statement reinforces the significance of addressing these deficiencies in traditional budgeting. It underscores the need for organisations to recognise and rectify these deficiencies to mitigate the negative behavioural aspect of budgetary slacking. The research objectives that were explicitly met:

Objective 1: The quantification of the significance of the TPB factors, elucidating their roles in generating an intention for budgetary slack. Specifically, it was found that PBC substantially impacted the intention to pad the budget, reaffirming the critical role of control in this context.

Objective 2: Identifying and evaluating budgeting techniques from the literature that can effectively rectify the deficiencies associated with traditional budgeting and mitigate the negative behavioural aspects. While not the primary focus, alternative techniques in the literature indicate a pathway for organisations to improve their budgeting processes.

The influence of attitudes, subjective norms and perceived behavioural control

Attitudes

As defined in the TPB, attitudes refer to an individual's overall evaluation of a particular behaviour. In the context of budgeting behaviour, attitudes reflect how budgetary practitioners perceive the concept of budgetary slack creation – whether they view it positively or negatively. The study's results reveal a significant correlation between negative attitudes towards budgetary constraints and the intention to pad the budget. This finding echoes the seminal work of Ajzen (1991), who emphasised that attitudes play a pivotal role in shaping behavioural intentions. The alignment between the study's findings and Ajzen's theory underscores the importance of understanding and addressing budgeting behaviour's cognitive and affective aspects.

Subjective norms

Subjective norms, the TPB's second factor, represent the perceived social pressure to engage in a behaviour. In the realm of budgeting behaviour, SN manifests as practitioners' perceptions of the expectations and norms prevalent within their organisational context. The study underscores the strong association between SN related to cost reduction and the intention to pad the budget. This observation resonates with Wienhold's (2015) exploration of budgetary norms, suggesting that a predominant focus on cost reduction can

overshadow value creation objectives. This congruence between the study's results and Wienhold's perspective emphasises the significance of aligning organisational norms with strategic objectives to foster responsible budgeting behaviour.

Perceived behavioural control

Perceived behaviour control, the third TPB factor, refers to an individual's perception of ease or difficulty in performing a behaviour. In the context of budgeting behaviour, PBC captures practitioners' beliefs about their ability to engage in budgetary slack creation. The study establishes a strong connection between practitioners' perceptions of the difficulty of enacting budgetary slack creation and their intention to pad the budget. This finding resonates with Ajzen's (1991) assertion that perceived control significantly influences intention formation. Moreover, the study's alignment with Samuelson's (1999) argument regarding budgetary control's effectiveness in dynamic environments highlights organisations' practical challenges when budgetary processes lack flexibility (Samuelson, 1999). This underscores the importance of organisational adaptability in empowering practitioners to exercise control over the budgeting process.

Alignment with relevant literature

The study's findings harmonise with existing literature exploring budgeting behaviour and its underlying determinants. Pobrić's (2015) investigation into intentional budgetary slack creation as a strategic response to traditional budgeting systems aligns with the present study's insights. Pobrić's work underscores that budgetary slack creation can serve as a calculated response to the limitations of rigid budgeting processes, particularly when short-term financial goals take precedence over adaptive decision-making (Pobrić, 2015). The convergence between Pobrić's assertions and the study's findings accentuates the need for flexible and responsive budgeting approaches that accommodate the evolving demands of dynamic business environments.

Furthermore, the study's emphasis on PBC resonates with Samuelson's (1999) proposition that the effectiveness of budgetary control is contingent on contextual factors. The correlation between practitioners' perceived control and their budgeting behaviour aligns seamlessly with the imperative for organisations to empower budgetary practitioners with autonomy and adaptability. The study's findings lend support to the adoption of alternative budgeting techniques such as BB, which champions decentralised decision-making and dynamic resource allocation to navigate uncertain environments (Hope & Fraser, 2003).

Implications for practice

The insights derived from this study may be worth considering by organisations seeking to optimise their budgeting processes and mitigate budgetary slack creation. Firstly, the study underscores the pivotal role of cultivating positive attitudes towards budgeting processes that prioritise flexibility, adaptability and value creation. By fostering a mindset that views budgets as strategic tools rather than rigid constraints, organisations can establish an environment conducive to responsible and value-driven budgeting behaviour.

Secondly, the study's emphasis on SN underscores the importance of realigning budgetary norms with value-creation objectives. A cultural shift towards value-driven budgeting can mitigate the prevalence of budgetary slack and promote ethical and responsible budgeting behaviour. Organisational leadership assumes a central role in driving this cultural transformation, championing a budgeting ethos that aligns with broader organisational goals and values.

Thirdly, the study's central finding regarding PBC emphasises the need for organisations to empower budgetary practitioners. Enhancing perceived control over the budgeting process entails providing practitioners with the autonomy to make informed decisions based on dynamic business conditions. The study's findings lend credence to the adoption of alternative budgeting techniques, such as BB, which offer a framework for organisations to navigate uncertainty through adaptive and decentralised decision-making (Hope & Fraser, 2003).

Limitations and future research

While the study contributes valuable insights, certain limitations warrant consideration. The reliance on self-reported data from a specific sample of budgetary practitioners may introduce biases and restrict the generalisability of findings. Additionally, the study's cross-sectional nature limits causal inferences, and the focus on TPB factors alone may overlook other relevant variables that shape budgeting behaviour.

Future research endeavours could address these limitations through mixed-method approaches, longitudinal designs and broader organisational contexts. Exploring the interplay between budgeting behaviour, organisational culture, leadership styles and industry dynamics could yield a more comprehensive understanding of the multifaceted factors influencing budgeting behaviour.

Conclusion

In conclusion, the study investigated the relationship between the TPB factors and budgetary slacking behaviour. The findings from the analysis revealed that attitudes, SN and PBC all significantly influenced the intention to engage in budgetary slacking. Specifically, PBC strongly impacted the intention to pad the budget. The study also found that intention, in turn, had a positive and direct effect on budgetary slacking behaviour.

The research questions were addressed, indicating that the traditional budgeting process is indeed susceptible to

budgetary slack creation and PBC emerged as the most significant indicator for carrying out the intention of budgetary slacking.

In terms of alternative budgeting techniques from the literature, it was noted that BB may be a promising method for addressing the shortcomings of traditional budgeting although its implementation may require significant organisational and mindset changes.

The findings of this study provide a nuanced understanding of budgeting behaviour through the lens of the TPB. Attitudes, SN and PBC emerge as key determinants of budgetary slack creation, aligning with existing literature. The implications for practice underscore the importance of fostering positive attitudes, realigning norms with value creation and enhancing practitioners' perceived control over the budgeting process. As organisations strive for adaptive and value-driven budgeting practices, the insights from this study offer a valuable roadmap for transforming budgeting behaviour and enhancing organisational decision-making.

Acknowledgements

This article is partially based on the author's thesis entitled 'Deficiencies in the traditional budgeting process cause the negative behavioural aspect of budgetary slacking' towards the degree of Master of Engineering in the Department of Engineering and Technology Management, University of Pretoria, South Africa on 24 April 2024, with supervisor Schalk Grobbelaar. It is available here: http://dx.doi.org/10.13140/RG.2.2.35221.95207.

Competing interests

The authors declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Authors' contributions

R.R is responsible for the article and S.G. is the supervisor of this research article.

Funding information

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Data availability

The data that support the findings of this study are available from the corresponding author, R.R., upon reasonable request.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency or that of the publisher. The authors are responsible for this article's results, findings and content.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Alarcón, D., Sánchez, J.A., & De Olavide, U. (2015). Assessing convergent and discriminant validity in the ADHD-R IV rating scale: User-written commands for Average Variance Extracted (AVE), Composite Reliability (CR), and Heterotrait-Monotrait ratio of correlations (HTMT). In *Spanish STATA meeting, 02 October 2015* (Vol. 39, pp. 1–39). StataCorp LLC. Retrieved from https://www.stata.com/meeting/spain15/abstracts/materials/spain15_alarcon.pdf

Ameels, A., Bruggeman, W., & Scheipers, G. (2002). Value-based management control processes to create value through integration: A literature review. *Vlerick Leuven Gent Management School, Vlerick Leuven Gent Management School Working Paper* Series. Vlerick Leuven Gent Management School.

Anwar, S. (2007). *Participatory budgeting, the international bank for reconstruction and development*. Public Sector Governance and Accountability Series. The World Bank.

Argyris, C. (2013). The impact of budgets on people. In R. Ashton (Ed.), *The evolution of behavioral accounting research (RLE accounting)* (pp. 1–39). Routledge. Retrieved from https://www.routledge.com/The-Evolution-of-Behavioral-Accounting-Research-RLE-Accounting-An-Overview/Ashton/p/book/9781138989214

Becker, S., & Green, D. (1962). Budgeting and employee behavior. *The Journal of Business, 35*(4), 392–402. https://doi.org/10.1086/294534

Bierman, H., Jr. (2010). *Introduction to accounting and managerial finance, an: A merger of equals*. World Scientific.

Black, W.C., Babin, B.J., & Anderson, R.E. (2010). *Multivariate data analysis: A global perspective*. Pearson.

Bonner, S.E. (2008). *Judgment and decision making in accounting* (1st ed.). Pearson/Prentice Hall.

Boomsma, A. (1985). Nonconvergence, improper solutions, and starting values in LISREL maximum likelihood estimation. *Psychometrika, 50*, 229–242. https://doi.org/10.1007/BF02294248

Bratton, J., & Gold, J. (2007). *Strategic human resource management*. Palgrave Macmillan.

Campbell, I.J. (1985). Budgeting is it a technical or behavioural process? *Management Accounting, 63*(2), 66–70.

Carlson, B., & Palaveev, P. (2004). Budget brawn. *Journal of Financial Planning, 17*(3), 58–63.

De Waal, A., Hermkens-Janssen, M., & Van De Ven, A. (2011). The evolutionary adoption framework: Explaining the budgeting paradox. *Journal of Accounting & Organizational Change, 7*(4), 316–336. https://doi.org/10.1108/18325911111182295

De Waal, A.A. (2005). Is your organisation ready for beyond budgeting? *Measuring Business Excellence, 9*(2), 56–67. https://doi.org/10.1108/13683040510602885

Dugdale, D., & Kennedy, A. (1999). Getting the most from budgeting. *Management Accounting, 77*(2), 22–24.

Easterby-Smith, M., Thorpe, R., Jackson, Paul, R. & Jaspersen, L.J. (2018). *Management & business research*. Sage Publications.

Ekholm, B.-G., & Wallin, J. (2000). Is the annual budget really dead? *European Accounting Review, 9*(4), 519–539. https://doi.org/10.1080/09638180020024007

Firk, S., Schrapp, S., & Wolff, M. (2016). Drivers of value creation – The role of value-based management and underlying institutions. *Management Accounting Research, 33*, 42–60. https://doi.org/10.1016/j.mar.2016.04.002

Foran, M.F., & DeCoster, D.T. (1974). An experimental study of the effects of participation, authoritarianism, and feedback on cognitive dissonance in a standard setting situation. *The Accounting Review, 49*(4), 751–763.

Goode, M., & Malik, A. (2011). Beyond budgeting: The way forward? *Pakistan Journal of Social Sciences (PJSS), 31*(2), 207–214.

Hänninen, V. (2013). *Budgeting at a crossroads – The viability of traditional udgeting – A case study*. Department of Accounting, Aalto University, School of Business.

Hansen, S.C. (2011). A theoretical analysis of the impact of adopting rolling budgets, activity-based budgeting and beyond budgeting. *European Accounting Review, 20*(2), 289–319.

Hansen, S.C., Otley, D.T., & Van Der Stede, W.A. (2003). Practice developments in Budgeting: An overview and research perspective. *Journal of Management Accounting Research, 15*(1), 95–116. https://doi.org/10.2308/jmar.2003.15.1.95

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-Based Nursing, 18*(3), 66–67. https://doi.org/10.1136/eb-2015-102129

Hope, J., & Fraser, R. (2003). *Beyond budgeting: How managers can break free from the annual performance trap* (9th ed.). Harvard Business Press.

Hopwood, A.G. (1972). An empirical study of the role of accounting data in performance evaluation. *Journal of Accounting Research, 10*, 156–182. https://doi.org/10.2307/2489870

Hopwood, A.G. (1976). *Accounting and Human Behavior*. Prentice-Hall. Retrieved from https://books.google.co.za/books/about/Accounting_and_Human_Behaviour.html?id=fF6qAAAAIAAJ&redir_esc=y

Horngren, C.T. (2009). *Cost accounting: A managerial emphasis* (13th ed.). Pearson Education India.

Isaac, L., Lawal, M., & Okoli, T. (2015). A systematic review of budgeting and budgetary control in government owned organizations. *Research Journal of Finance and Accounting, 6*(6), 1–11.

Ittner, C.D., & Larcker, D.F. (2001). Assessing empirical research in managerial accounting: A value-based management perspective. *Journal of Accounting and Economics, 32*(1–3), 349–410. https://doi.org/10.1016/S0165-4101(01)00026-X

Kunnathuvalappil, H.N. (2019). Elements and success factors for an efficient budgeting. *International Journal of Emerging Technologies and Innovative Research, 6*(3), 752–759.

Libby, T., & Lindsay, R.M. (2007). Beyond budgeting or better budgeting? *Strategic Finance, 89*(2), 46.

McNally, R. (2002). The annual budgeting process. *Accountancy Ireland, 34*(1), 10–12.

Merchant, K.A. (1985). Budgeting and the propensity to create budgetary slack. *Accounting, Organizations and Society, 10*(2), 201–210. https://doi.org/10.1016/0361-3682(85)90016-9

Meyers, L.S., Gamst, G., & Guarino, A.J. (2016). *Applied multivariate research: Design and interpretation*. Sage Publications.

Micceri, T. (1989). The unicorn, the normal curve, and other improbable creatures. *Psychological Bulletin, 105*(1), 156. https://doi.org/10.1037/0033-2909.105.1.156

Miller, G.J., Hildeth, W., & Rabin, J. (2001). *Performance based budgeting; ASPA classics volume*. Westview Press.

Morris, D., Bakan, I., & Wood, G. (2006). Employee financial participation: Evidence from a major UK retailer. *Employee Relations, 28*(4), 326–341. https://doi.org/10.1108/01425450610673394

Neely, A., Bourne, M., & Adams, C. (2003). Better budgeting or beyond budgeting? *Measuring Business Excellence, 7*(3), 22–28. https://doi.org/10.1108/13683040310496471

Nigbur, D., Lyons, E., & Uzzell, D. (2010). Attitudes, norms, identity and environmental behaviour: Using an expanded theory of planned behaviour to predict participation in a kerbside recycling programme. *British Journal of Social Psychology, 49*(2), 259–284. https://doi.org/10.1348/014466609X449395

Ouda, H.A. (2013). *Beyond budgeting: Is it a substitute or complimentary to traditional budgeting? An empirical evidence from telecommunications companies in Egypt*. British Accounting and Finance Association (BAFA). Retrieved from https://www.researchgate.net/publication/309380161_Beyond_Budgeting_Is_It_a_Substitute_or_Complimentary_to_Traditional_Budgeting_An_Empirical_Evidence_from_telecommunications_Companies_in_Egypt

Pepitone, A. (1976). Toward a normative and comparative biocultural social psychology. *Journal of Personality and Social Psychology, 34*(4), 641. https://doi.org/10.1037/0022-3514.34.4.641

Pietrzak, Ż. (2020). *Determinants of operational budgeting success in manufacturing enterprises*. Wydawnictwo Uniwersytetu Łódzkiego.

Player, S. (2003). Why some organizations go 'beyond budgeting'. *Journal of Corporate Accounting & Finance, 14*(3), 3–9. https://doi.org/10.1002/jcaf.10146

Player, S. (2009). *Managing through change: The power of rolling forecasts* (pp. 1–23). IBM Cognos Innovation Center for Performance Management.

Pobrić, A. (2015). The influence of budgeting features on subordinate managers' propensity to create budgetary slack. In D. Stojkovic, M. Bozovic, & S. Randjelovic (Eds.), *Economic policy for smart, inclusive and sustainable growth* (p. 441). University of Belgrade, Faculty of Economics. Retrieved from http://www.ekof.bg.ac.rs/wp-content/uploads/2016/10/CONFERENCE-PROCEEDINGS.pdf#page=453

Raghunandan, M., Ramgulam, N., & Raghunandan-Mohammed, K. (2012). Examining the behavioural aspects of budgeting with particular emphasis on public sector/service budgets. *International Journal of Business and Social Science, 3*(14), 110–117.

Réka, C.I., Ştefan, P., & Daniel, C.V. (2014). Traditional budgeting versus beyond budgeting: A literature review. *Annals of Faculty of Economics, 1*(1), 573–581.

Robinson, M. (2007). *Performance budgeting: Linking funding and results*. Palgrave Macmillan.

Ross, L., & Kovachev, I. (2009). *Management accounting tools for today and tomorrow*. Chartered Institut of Management Accountants.

Samuelson, L.A. (1999). The effects of increasing turbulence on organizational controlsome reflections. *SSE/EFI Working Paper in Business Administration No 1998*, *5*. Stockholm School of Economics.

Schiff, M., & Lewin, A.Y. (1970). The impact of people on budgets. *The Accounting Review, 45*(2), 259–268.

Scott, G. (2020). *A Theory of constraints analysis of organisational budgeting processes: International research and New Zealand managers' perceptions*. Doctoral dissertation, Open Access Te Herenga Waka-Victoria University of Wellington.

Silva, A.P. (2015). *Nors case study: Traditional budgeting process transformation into beyond budgeting model*. Master. University of Porto.

Simons, R. (1991). Strategic orientation and top management attention to control systems. *Strategic Management Journal, 12*(1), 49–62. https://doi.org/10.1002/smj.4250120105

Sivabalan, P., Booth, P., Malmi, T., & Brown, D.A. (2009). An exploratory study of operational reasons to budget. *Accounting & Finance, 49*(4), 849–871. https://doi.org/10.1111/j.1467-629X.2009.00305.x

Sundar, S.S., & Kim, J. (2005). Interactivity and persuasion: Influencing attitudes with information and involvement. *Journal of Interactive Advertising, 5*(2), 5–18. https://doi.org/10.1080/15252019.2005.10722097

Suntornsan, S., Chudech, S., & Janmaimool, P. (2022). The role of the theory of planned behavior in explaining the energy-saving behaviors of high school students with physical impairments. *Behavioral Sciences, 12*(9), 334. https://doi.org/10.3390/bs12090334

Taris, T. (2002). BM Byrne, structural equation modeling with AMOS: Basic concepts, applications, and programming Mahwah NJ: Lawrence Erlbaum, 2001 0-8058-3322-6. *European Journal of Work and Organizational Psychology, 11*, 243–246.

Tiller, M.G. (1983). The dissonance model of participative Budgeting: An empirical exploration. *Journal of Accounting Research, 21*(1), 581–595. https://doi.org/10.2307/2490792

Tyer, C.B. (1977). Zero-base budgeting: A critical analysis. *Southern Review of Public Administration, 1*(1), 88–107.

Welsch, G.A. (1971). Some behavioral implications in profit planning and control. *Management Adviser, 8*(4), 3.

Wienhold, M. (2015). *Better budgeting methods: A comparative effect analysis on traditional budgeting problems*. Master's thesis, Universidade Catolica Portuguesa, Portugal.

Wildavsky, A. (1981). A budget for all seasons: Why the traditional budget lasts. In B. Geist (Ed.), *State audit: Developments in public accountability* (pp. 253–268). Palgrave Macmillan. Retrieved from https://econpapers.repec.org/bookchap/palpalchp/978-1-349-04666-9_5f14.htm

Yuen, D.C. (2004). Goal characteristics, communication and reward systems, and managerial propensity to create budgetary slack. *Managerial Auditing Journal, 19*(4), 517–532. https://doi.org/10.1108/02686900410530529