



# Navigating frugality and creativity urgencies: the role of diagnostic use of budgets and goal clarity

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## Abstract

Organizations increasingly promote individual creativity as a strategy to manage their performance and financial strain. Drawing on self-regulation and goal-setting theories, this study examines whether the diagnostic use of budgets stifles or stimulates managers' creativity directly or indirectly through frugal spending behaviour and perceived goal clarity. Budgetary controls and frugal spending behaviour—with the focus on conserving resources and constraining spending—have traditionally been suggested as hindering individual creativity. However, by analysing survey data collected from middle-level managers in Indonesia, our findings show that the diagnostic use of budgets increases managers' frugal spending behaviour which, in turn, enhances their creativity. Furthermore, the diagnostic use of budgets increases managers' perceived goal clarity, with goal clarity and frugal spending behaviour fully mediating the relationship between the diagnostic use of budgets and creativity. The study contributes to the budgeting literature by showing that diagnostic use of budgets encourages managers' frugal spending behaviour to effectively manage organisational costs and stimulate their creativity.

**Keywords** Self-regulation theory · Diagnostic use of budgets · Goal-setting theory · Goal clarity · Frugal spending behaviour · Individual creativity

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## 1 Introduction

This study examines the effect of the diagnostic use of budgets on goal clarity, frugal spending behaviour and individual creativity. We also investigate whether the diagnostic use of budgets which focuses on cost control and resource conservation (Abernethy & Brownell, 1999; King et al., 2010; Simons, 1990) stimulates or hinders managers' creativity—the generation of novel and useful ideas for performance improvement (Amabile, 1983; Woodman et al., 1993)—directly or indirectly through their frugal spending behaviour and perceived goal clarity. Furthermore, we conceptualise frugal spending, at the individual level, as the extent to which managers' behaviour is related to the consistent and disciplined management of spending on organisational activities (Anderson & Lillis, 2011; Lastovicka et al., 1999; Michaelis et al., 2020).

In the face of intense competition in the marketplace today, prudent cost management, and the generation of creative ideas have become key drivers of business growth, stakeholder value creation, and competitive advantage. On the one hand, due to prevailing economic pressures characterised by labour shortages, supply chain constraints, high inflation, and rising interest rates, organisations are forced to down-scale their operating activities and minimise organisational costs (Gonçalves et al., 2018; Henri et al., 2016; Parker, 2020). On the other hand, creative ideas which lead to novel products, services, procedures, or processes (Amabile, 1983; Woodman et al., 1993) increase organisations' ability to respond to opportunities and threats and, thereby, their ability to adapt, survive and remain competitive in an increasingly dynamic and competitive global marketplace (Amabile, 1983; Floyd & Lane, 2000; Kauppila et al., 2018). Studies note that organisations that effectively manage organisational costs and promote individual creativity are in a better position to sustain and improve financial performance (Abernethy & Brownell, 1999; Amabile, 1983; Dunk, 2011; Otley, 1999; Woodman et al., 1993). According to Gonçalves et al., (2018, p. 378), “along with increasing pressure to hold costs down, customers require [novel] products that meet their needs in terms of quality, functionality, and price”. Parker (2020, p. 1943) also note that organisations have continued scientific management office cost reduction strategies under the guise of innovative office designs”. Thus, organisations are under pressure to place renewed emphasis on budgetary controls to stimulate employees' frugal spending behaviour and promote individual creativity to achieve their performance goals (e.g., Anderson & Lillis, 2011; Bedford et al., 2022; Bukh & Svanholt, 2022).

However, several studies note that the use of budgets as a control pattern to stimulate frugal spending behaviour has often been seen as a barrier to individual creativity (e.g., Amabile et al., 1996; Shalley et al., 2009; Zhou & George, 2003). The use of budgets sets formalised measures and constraints which limit employees' flexibility to make decisions and respond to uncertainties in their work which could lead to learning and generating creative ideas (Amabile et al., 1996; Shalley et al., 2009; Zhou & George, 2003). Frow et al., (2005, p. 271) note that budgetary controls promote “individualism, hierarchical dependence, risk aversion and instrumentality” behaviour which is the antithesis of individual creativity.

Nevertheless, irrespective of criticism, a stream of the accounting research that builds on a broader conceptualisation, acknowledges that controls such as budgets, promote employees' desirable action choices such as frugal spending behaviour and individual creativity (e.g., Appuhami, 2023; Boedker & Chong, 2022; Hall, 2008; Moulang, 2015; Speklé et al., 2017). These studies primarily draw from psychological attributes, such as motivation and empowerment, and suggest that the effect of controls on behavioural outcomes, for example, frugal spending behaviour and creativity, depend on how employees perceive the controls in an organisation. For example, Speklé et al., (2017, p. 74) note that “employee outcomes, such as intrinsic motivation and creativity, depend on whether control is viewed as communicating restrictions and limits or whether it is seen as communicating valuable information and making employees believe they have choices in their actions”.

The use of budgets to promote frugal spending behaviour and achieve cost goals may require employees to move beyond their ordinary organisational practices. In particular, budgetary constraints are likely to provide the impetus for employees with frugal spending behaviour to think outside the box and generate creative ideas for performance improvement (Acar et al., 2019; Jeong et al., 2023; Mehta & Zhu, 2016; Miron-Spektor et al., 2018). According to Mehta and Zhu (2016), constraining task-specific resources makes employees seek solutions from different perspectives and sparks creative ideas. Employees who engage in frugal spending behaviour are also likely to, for example, use organisational resources with a sense of responsibility and stewardship (Anderson & Lillis, 2011, p. 1349); conserve organisational resources; use an economic rationale when acquiring organisational resources (Michaelis et al., 2020, p. 2); and find creative ways to free up costs and capital for reinvestment in profitable growth opportunities (Peccei, 2004, p. 35). Following these studies, this study explores the frugal spending behaviour of managers as an alternative perspective to explain how diagnostic use of budgets affects individual creativity. An investigation of an alternative perspective is important as it makes this study distinctly different from prior studies that examine the direct association between controls and creativity (innovation) (e.g., Bisbe & Otley, 2004; Cools et al., 2017; Davila & Ditillo, 2017; Henri, 2006).

The aim of the study, therefore, is to examine the effect of the diagnostic use of budgets on managers' frugal spending behaviour and individual creativity. The study also predicts that the diagnostic use of budgets influences managers to adopt frugal spending behaviour which, in turn, increases their individual creativity. As budgets serve multiple purposes, this study also explicitly focuses on the diagnostic use of budgets, as described by Simons (1990), and hence avoids making aggregated claims about budgeting practices which often leads to ambiguous results (Becker et al., 2016). The “diagnostic use” of budgets refers to the traditional role of budgets of communicating goals, providing a benchmark for performance evaluation, translating goals into plans, coordinating organisational activities and attributing responsibilities (Abernethy & Brownell, 1999; King et al., 2010; Simons, 1990).

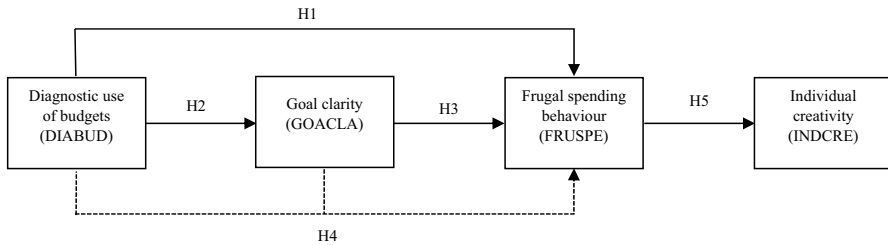
Furthermore, this study builds on goal-setting theory and hypothesises that the diagnostic use of budgets increases goal clarity which, in turn, influences managers to adopt frugal spending behaviour and increase their individual creativity. Goal-setting theory notes that clear goals as a determinant of human behaviour

(Locke & Latham, 1991) can drive managers to be frugal in using limited organisational resources and hence to avoid the unnecessary costs of undertaking irrelevant activities (Hassan, 2013). It is predicted that diagnostic use of budgets increases goal clarity by communicating organisations' goals (Anderson & Lillis, 2011; Hansen & Van der Stede, 2004; Horngren et al., 2003), thereby stimulating managers' frugal spending behaviour and increasing their creativity (see Dost et al., 2019; Niroumand et al., 2020; Vizcaíno et al., 2021).

In this study, a structural model is developed to test the hypotheses of the study. Using partial least squares structural equation modelling (PLS-SEM), we analyse postal survey data collected from 114 managers of organisations in the manufacturing and service sectors in Indonesia. The study provides empirical support for the application of self-regulation and goal-setting theories to describe the effect of the diagnostic use of budgets on frugal spending behaviour. The findings reveal that the diagnostic use of budgets positively influences managers' perceived goal clarity. We also find that managers tend to engage in more frugal spending behaviour when they perceive greater goal clarity. Furthermore, managers' frugal spending behaviour is positively associated with their individual creativity. Overall, these findings suggest that the diagnostic use of budgets indirectly stimulates managers' frugal spending behaviour through goal clarity and improves their individual creativity.

This study makes two primary contributions to the literature. Firstly, the study extends the budgeting literature by examining the effect of the diagnostic use of budgets on frugal spending behaviour of managers (Anderson & Lillis, 2011), role clarity (Chenhall & Brownell, 1988) and individual creativity (Amabile, 1983). While Anderson and Lillis (2011) note that there is a link between frugality and continuous improvement, which often requires ideation, their study does not empirically investigate the association between frugal spending behaviour and individual creativity. The associations between the diagnostic use of budgets and individual behaviour related to frugality, perceived role clarity and individual creativity, may help to understand how individuals self-regulate their behaviour in response to budgetary controls. This study especially adds to prior studies arguing that a single budget serves multiple purposes rather than needing to have separate budgets for each managerial objective (Arnold & Gillenkirch, 2015), by showing that the diagnostic use of budgets can serve multiple purposes such as enhancing frugal spending behaviour, clarifying goals and improving individual creativity. In essence, this study finds that organisations can stimulate the frugal spending behaviour of managers and improve their creativity through the diagnostic use of budgets to enhance goal clarity. Secondly, this study advances the literature on frugal spending behaviour by drawing on self-regulation theory. The study shows the extent to which the diagnostic use of budgets stimulates managers' self-regulated frugal behaviour. Thus, this study is unique as it offers important insights into "the nomological validity of corporate frugality" (Anderson & Lillis, 2011, p. 1382) by providing empirical evidence of the effect of managers' self-regulated frugal spending behaviour on individual creativity.

The remainder of the paper proceeds as follows. Section 2 provides the study's background and theoretical development, while Sect. 3 discusses the research



**Fig. 1** Hypothesised structural model. Notes: H=hypothesis; unbroken lines denote direct effects and dashed lines denote indirect effects of hypothesised associations

methods. Section 4 presents the analysis and results. Finally, Sect. 5 discusses the findings, contributions and limitations of the study.

## 2 Background and theoretical development

### 2.1 Self-regulation and goal-setting theories

This study draws on self-regulation and goal-setting theories to show theoretical links between frugal spending behaviour and other variables, namely, diagnostic use of budgets, goal clarity and individual creativity (see Fig. 1).

Self-regulation theory, as a cognitive framework, highlights why employees control or self-regulate their current behaviour and the ways in which this is done to attain and maintain desired states (Bandura, 1991; Williams et al., 2019). According to the theory, individual behavioural changes towards purposeful actions are driven by three principles (Bandura, 1991; Michaelis et al., 2020). Firstly, individuals monitor and recognise the cause or end results of their behaviour (Bandura, 1991; Harkin et al., 2016; Michaelis et al., 2020). Secondly, they evaluate their current/past behaviour against their personal standards (Bandura, 1991; Michaelis et al., 2020). Thirdly, they demonstrate self-reaction and make the necessary behavioural changes if they perceive that these changes will bring about positive results or serve their purposes (Bandura, 1991; Michaelis et al., 2020). In essence, self-regulation theory posits that continuous monitoring and evaluation of current/past behaviour drive individuals to self-regulate their behaviour to achieve their performance goals, such as individual creativity. Based on this theory, it can be assumed that individuals are likely to demonstrate frugal spending behaviour when they are given the opportunity to monitor and evaluate their behaviour and can see their progress towards performance goals, such as minimising product, service or operational costs.

In its hypotheses development, this study also draws on the goal-setting theory of Locke and Latham (1991) which posits that human behaviour is directed by clear and conscious goals and intentions. Extant accounting studies drawing on goal-setting theory primarily examine whether goal clarity (cause) contributes to employee job performance, such as creativity and organisational performance (effect) (e.g., Groen, 2018; Malmi & Granlund, 2009; Sholihin et al., 2011). Many of these studies find

a positive association between goal clarity and performance. For instance, researchers posit that setting specific goals results in superior performance by strengthening employee goal commitment (Groen, 2018; Malmi & Granlund, 2009; Sholihin et al., 2011).

## 2.2 Frugal spending behaviour

The word ‘frugal’ emerged from the Latin word *frugalis* in the sixteenth century (Niroumand et al., 2020). According to the Merriam-Webster Dictionary (n.d.), ‘frugal’ means “characterised by or reflecting economy in the use of resources”. Frugality involves the careful spending, use and management of resources, including money. At the individual level, frugal behaviour involves carefully managing resources through effective planning (Goldsmith & Flynn, 2015) and the prevention of unnecessary costs and waste (Niroumand et al., 2020).

The notion of frugality has also drawn the attention of organisations aiming to achieve performance goals subject to resource constraints (Anderson & Lillis, 2011; Bessant, 2017). Although accounting research on frugality is surfacing, very little progress is being made towards understanding the role of employees’ frugal behaviour in achieving organisational cost goals. Along this line of thought, Anderson and Lillis (2011) make a major contribution to the accounting literature on frugality by developing a theoretical framework to examine corporate frugality and providing a conceptual basis for understanding frugality as a corporate practice. Their framework identifies three attributes of corporate frugality, namely, disciplined spending, resourcefulness, and deferred gratification. However, Sandino (2011) notes several issues associated with using the construct developed by Anderson and Lillis (2011) as a collective approach to measuring corporate frugality. The primary issue with the framework is that the definition of corporate frugality does not capture the attribute related to resourcefulness. In addition, the survey items of Anderson and Lillis (2011) related to both resourcefulness and deferred gratification do not delineate the desired long-term goals of frugal companies (Sandino, 2011, p. 1392).<sup>1</sup> Overall, these studies suggest that each of the attributes of frugality suggested by Anderson and Lillis (2011) should be examined as a separate variable rather than as a collective construct. Consistent with non-accounting studies on frugality (Goldsmith & Flynn, 2015; Michaelis et al., 2020; Niroumand et al., 2020), a focus solely on spending behaviour, which is indirectly related to both resourcefulness and deferred gratification attributes, is likely to minimise the issues noted by Sandino (2011). For example, a recent study by Michaelis et al. (2020)<sup>2</sup> primarily focuses on frugal spending in examining resourceful entrepreneurial behaviour.

The current study extends the accounting literature on frugality by examining the frugal spending behaviour of managers. Frugal spending behaviour exhibits when employees are careful of and disciplined in using company resources (Anderson &

<sup>1</sup> Of the three attributes of corporate frugality developed by Anderson and Lillis (2011), 11 survey items yield two instead of three factors in their study.

<sup>2</sup> Michaelis et al. (2020) use seven items to measure frugality. All the survey items of their study are directly or indirectly related to frugal spending behaviour.

Lillis, 2011; Lee, 2016). Employees with frugal spending behaviour also plan carefully before spending, work hard to contain costs and try to get the most for the organisation's money (Anderson & Lillis, 2011; Lee, 2016). Prior studies note that managers with frugal spending behaviour use organisational resources with a sense of responsibility and perceive continuous improvement as central to organisational well-being (Anderson & Lillis, 2011; Katzenbach, 2005). Thus, drawing on previous studies, frugal spending behaviour is defined as the consistent and disciplined management of spending on organisational activities, including conserving and acquiring resources to achieve organisational cost goals (Anderson & Lillis, 2011; Lastovicka et al., 1999; Michaelis et al., 2020).

### 2.3 Effect of diagnostic use of budgets on frugal spending behaviour

Drawing on self-regulation theory (Bandura, 1991), we develop a hypothesis for the association between the diagnostic use of budgets and frugal spending behaviour. According to self-regulation theory, one's self-regulated behaviour is triggered by three principal subfunctions: (1) self-monitoring one's behaviour; (2) self-evaluating one's behaviour in relation to personal standards; and (3) self-reacting to correct one's behaviour (Bandura, 1991). Thus, we suggest that managers self-regulate their behaviour towards frugal spending behaviour with the help of diagnostic use of budgets to: (1) monitor their current behaviour related to cost/resource usage; (2) evaluate their current behaviour against the standards for cost/resource usage (Chong & Mahama, 2014); and (3) bring about the necessary changes in their behaviour related to cost/resource usage (Hofmann et al., 2012).

Prior studies note that diagnostic use of budgets acts as a monitoring device for employee behaviour (Abernethy & Brownell, 1997; Gomez-Conde et al., 2019). Monitoring work assignments, including tasks, activities, performance goals and performance gaps, through the diagnostic use of budgets can increase managers' work-related knowledge and stimulate their self-regulated frugal spending behaviour. This knowledge gained through monitoring can also promote managers' self-regulated behaviour to fine-tune their work strategies and processes, and trigger more cost-effective future outputs, such as minimised product/service costs (Gomez-Conde et al., 2019, p. 1328).

The diagnostic use of budgets has also been used to evaluate managers' performance based on the gaps between actual and budgeted outcomes, and reward them accordingly (Abernethy & Brownell, 1999). Positive deviations from the budgeted outcome (budgeted costs exceed actual costs), which result in personal rewards and recognition, are likely to increase managerial efforts towards frugal spending behaviour.<sup>3</sup> Managers can be driven to analyse procedures, tools, techniques and resources and to determine any necessary changes to their behaviour in order to meet budgeted cost goals and, thus, receive rewards associated with positive deviations from the budgeted outcome. In particular, the diagnostic use of budgets is likely to stimulate managers' self-regulatory behaviour, prompting them to, for example, prioritise

<sup>3</sup> A discussion on budgetary slack, which can result in dysfunctional behaviour, including inefficient use of resources, is beyond the scope of this paper (Daumosier et al., 2018).

work-related tasks and carefully use assigned resources to achieve organisational cost goals (Davila & Wouters, 2005).

Negative deviations from the budgeted outcome (actual costs exceed budgeted costs) can also motivate managers to self-regulate their behaviour as deviations in their behaviour do not result in rewards. Negative deviations from the budgeted outcome can also reveal if budget revisions are required to set realistic cost targets (Sponem & Lambert, 2016). Budget revisions, such as reducing targets, which can positively influence managers' performance, are likely to motivate the self-regulated behaviour of managers to bring their performance back in line with the stated targets to achieve budgeted cost targets.

Furthermore, evaluating performance against budgeted costs (i.e., cost standards) through diagnostic budgeting practices can provide "early warning identification" about unforeseen costs (Simons, 1995). Hence, this will be likely to provide self-regulated managers with sufficient time to revise plans and act frugally to minimise organisational costs. Overall, continuous performance monitoring and evaluation, via diagnostic use of budgets, can stimulate managers' frugal spending behaviour towards achieving their organisation's cost goals. Thus, based on the above discussion, we propose our first hypothesis (H1) on the relationship between the diagnostic use of budgets and managers' frugal spending behaviour, as follows:

**H1** There is a positive association between the diagnostic use of budgets and frugal spending behaviour.

## 2.4 Association between diagnostic use of budgets and goal clarity

According to goal-setting theory, goal clarity generally refers to the clarity of performance criteria (Locke & Latham, 1991). More specifically, it refers to "the extent to which the outcome goals and objectives of the job are clearly stated and well defined" (Sawyer, 1992, p. 134).

The diagnostic use of budgets is an important management practice for enhancing managers' perceived goal clarity. Studies note that the use of budgets increases employees' work-related knowledge, including their understanding of expected outcomes (Sawyer, 1992) and performance criteria, thus leading to enhanced goal clarity (Poon et al., 2001). Studies also note that the diagnostic use of budgets is traditionally used to communicate organisations' operational and strategic goals and to improve managers' goal clarity (Anderson & Lillis, 2011; Hansen & Van der Stede, 2004; Horngren et al., 2003). For instance, when the management of operating costs is a strategic priority, the diagnostic use of budgets helps organisations to effectively communicate their cost targets to managers, thereby increasing the clarity of cost goals (Abernethy & Brownell, 1999).

Furthermore, financial goals communicated through the diagnostic use of budgets are often used as benchmarks in evaluating managers' financial performance in the performance evaluation process (Abernethy & Brownell, 1999; Arnold & Gilenkirch, 2015; Langfield-Smith et al., 2018). Performance evaluation of managers based on the diagnostic use of budgets is likely to improve the clarity of goals



(Marginson et al., 2014). Studies also note that the diagnostic use of budgets is likely to enhance employees' goal clarity by educating them about the expectations of top-level managers (Baird & Baard, 2021; Deschamps, 2019; Knardal & Bjørnenak, 2020). Therefore, we hypothesise that the diagnostic use of budgets is positively associated with managers' perceived goal clarity:

**H2** There is a positive association between the diagnostic use of budgets and perceived goal clarity.

## 2.5 Association between goal clarity and frugal spending behaviour

Prior studies suggest that goal clarity leads to various positive behavioural outcomes for employees (Cuganesan & Free, 2021; Earley et al., 1987; Hall, 2008). For instance, drawing upon goal-setting theory, Verbeeten (2008) find a positive association between clear and measurable goals and managerial behaviour not only in terms of quantity performance (i.e., the amount of work produced) but also of quality performance (i.e., the quality or accuracy of the work produced). Similarly, van der Hoek et al. (2018) find that goal clarity has a positive impact on each member of a team as it leads to a common understanding of shared goals leading to team members' desirable behaviour. Furthermore, goal clarity is likely to facilitate employees' performance-driven behaviour, such as frugal spending, and minimises variance in their performance (see Locke & Latham, 1991). Following this line of thought, some studies note that superiors should clarify goals at all stages of their work to facilitate employees' behaviour to improve organisational performance (Aga, 2016; Raziq et al., 2018).

Goal clarity is likely to prompt individual managers to self-regulate their behaviour towards frugal spending (see Latham et al., 2017) and hence achieve organisational cost goals (Anderson & Lillis, 2011; Raziq et al., 2018). Managers with clear goals tend to self-regulate their behaviour towards frugal spending by avoiding unnecessary costs which can often result from undertaking irrelevant activities caused, for instance, by goal ambiguity (Hassan, 2013). Accordingly, we hypothesise that there is a positive association between managers' perceived goal clarity and their frugal spending behaviour as follows:

**H3** There is a positive association between goal clarity and frugal spending behaviour.

## 2.6 Goal clarity's mediating role in the association between diagnostic use of budgets and frugal spending behaviour

As discussed in Sect. 2.3, the current study draws upon self-regulation theory (Bandura, 1991), hypothesising that the diagnostic use of budgets encourages managers to self-regulate towards frugal spending behaviour (H1). Furthermore, as discussed in Sect. 2.4, the study also hypothesises a positive association between the diagnostic use of budgets and managers' goal clarity (H2). Lastly, drawing upon goal-setting

theory, as discussed in Sect. 2.5, we hypothesise that goal clarity increases managers' frugal spending behaviour and hence helps organisations achieve their cost goals (H3). Thus, drawing upon both self-regulation and goal-setting theories, and considering the positive impact of diagnostic use of budgets on goal clarity and the subsequent positive impact of goal clarity on frugal spending behaviour, it is hypothesised that diagnostic use of budgets facilitates frugal spending behaviour by increasing goal clarity as follows:

**H4** Goal clarity mediates the association between the diagnostic use of budgets and frugal spending behaviour.

## 2.7 Association between frugal spending behaviour and individual creativity

Employees' frugal spending behaviour, as an important behavioural characteristic (Ahmad & Agarwal, 2021; Brem & Wolfram, 2014; Soni & Krishnan, 2014), is likely to promote individual creativity. Employees with a frugal mindset are likely to self-regulate their behaviour to find and develop creative ways in which to minimise their organisations' consumption of resources. While frugality does not directly equate to constraint in the use of resources, employees who adopt frugal spending behaviour adhere to principles of disciplined spending. They prioritise the "eradication of waste" and "the conservation of resources to achieve costs goals", focusing their capital expenditure on efficiency-enhancing investments (Anderson & Lillis, 2011, pp. 1349–1350). Mazzini (1989) refers to the existence of "cost heroes", referring to employees who demonstrate frugal spending behaviour and take pride in generating creative ideas to eliminate waste and sloppiness in exchange for reward and incentives.

Furthermore, employees who adopt frugal spending behaviour are likely to find themselves in situations that require them to self-regulate their behaviour and generate creative ideas, leading to alternatives/decisions that achieve the most optimal outcome with the lowest level of resources. In other words, principles of frugal spending behaviour place managers at a nexus of constrained-utility maximisation whereby restrictions apply to their acquisition of resources yet they are resourceful in using economic resources to achieve their performance goals (see also, Lastovicka et al., 1999).<sup>4</sup> Resolving this dilemma effectively requires managers to be creative—through the "production of novel and useful ideas" (Amabile, 1988, p. 126)—to maximise the utility of the scarce resources at hand.

Along this line of thought, research on constraints in input resources (e.g., Finke, 1996; Kelly et al., 1990; Ward, 1994) draws on theories from psychology to suggest that the human mind is most creative when given fewer, rather than more, alternatives with which to solve an innovation problem (e.g., Gibbert & Scranton, 2009; Goldenberg et al., 2001; Moreau & Dahl, 2005). This suggests that employees with

<sup>4</sup> In their study on consumer behaviour, Lastovicka et al., (1999, p. 88) define frugality as a "unidimensional consumer lifestyle trait characterized by the degree to which consumers are both restrained in acquiring and resourceful in using economic goods and services to achieve longer-term goals".

frugal spending behaviour can be creative and generate new ideas to achieve their cost goals.

However, within the accounting literature, research on the potential positive impacts of frugal spending behaviour on individual creativity remains scarce. This is surprising given that the notion of frugality is well supported as a strategic priority by the accounting function. According to Anderson and Lillis (2011), there is a link between frugality and continuous improvement (which arguably requires ideation) in their assertion that frugality is an essential feature of a corporate way of life. However, their study does not empirically investigate the association between frugal spending behaviour and individual creativity. Based on the above discussion, we hypothesise that managers' frugal spending behaviour has a positive influence on their creativity:

**H5** There is a positive association between frugal spending behaviour and individual creativity.

### 3 Research method

#### 3.1 Sample selection and data collection

In this study, we used the mail survey approach to collect data from managers of organisations in the manufacturing and service sectors in Indonesia. We selected middle-level managers with finance and/or accounting job titles (e.g., financial accountant, finance manager, accounts manager, etc.) for this study as they were likely to be knowledgeable about management control systems and responsible for their organisations' budget-related activities.<sup>5</sup> In total, 537 managers (one manager per organisation) were identified for the target sample. Their contact details were collected from the Indonesia Stock Exchange database.<sup>6</sup>

We distributed the survey packs by mail to the targeted survey respondents, with each pack containing a cover letter, the survey questionnaire, a reply-paid envelope and a postcard.<sup>7</sup> Three weeks after the first mail-out, a follow-up reminder was sent via email, telephone or both email and telephone to each non-respondent (Dillman, 2000). In total, 116 survey questionnaires were returned by respondents, representing a response rate of 21.6%. Of these survey questionnaires, two were incomplete

<sup>5</sup> Respondents' job titles include, for example, financial accountant, finance manager and accounts manager which all relate to middle-level managers.

<sup>6</sup> The database is publicly available on the Indonesia Stock Exchange website. At the time of the study, 537 organisations were listed on the exchange.

<sup>7</sup> Respondents returned their completed survey questionnaires and postcards separately. Completed questionnaires did not include respondents' personal details or any identification number and, hence, could not be linked with their contact details. However, an identification number included on each received postcard could be linked with each respondent's contact details, with this needed to identify those who had responded so the follow-up reminder list could be prepared for those who had not responded.

**Table 1** Descriptive statistics for survey items

Variable	N	Min	Max	Theoretical range	Mean	Std. dev
Diagnostic use of budgets (DIABUD)	114	2.75	7	1–7	5.87	0.95
Frugal spending behaviour (FRUSPE)	114	4	7	1–7	6.34	0.74
Goal clarity (GOACLA)	114	4	7	1–7	5.99	0.71
Individual creativity (INDCRE)	114	2	7	1–7	5.49	0.94
Organisational size (SIZE)	114	40	50,000	N/a	4106.65	8413.31
Job tenure (TENURE)	114	1	33	N/a	6.49	6.24

and were removed, leaving 114 completed questionnaires for the analysis.<sup>8</sup> As shown in Table 1, respondents in the final sample had worked for their current organisation for an average of 6.5 years (total range stretched from 1 to 33 years). Respondents either had an undergraduate degree (67%) or a postgraduate qualification (32%). Of these respondents, 32% had a professional accounting qualification. On average, each respondent's organisation employed 4107 employees.

This study investigated non-response bias by comparing the earliest 30 returned questionnaires with the last 30 returned questionnaires based on the survey return date. The results of the independent sample *t*-tests, which compared the means of these two groups for demographic variables (organisational size and tenure) and key variables of the study, indicate no significant non-response bias (*p*-values ranged from 0.244 to 0.936 in two-tailed tests).

### 3.2 Measurement of variables

To measure the hypothesised variables, this study used and refined survey instruments developed in prior studies. Prior to posting the survey pack to managers, we pilot tested the questionnaire among several accounting academics to evaluate its content validity. The pilot survey helped to refine the study's survey instrument (i.e., the questionnaire), including minor revisions to its structure, wording and length. The survey questions for each survey construct are presented in Appendix A.

*Diagnostic use of budgets (DIABUD)*: The study measured the extent to which managers used budgets diagnostically to monitor and manage the performance of their subordinates by adapting the four-item scale developed by Henri (2006). This scale, which was originally used to measure the diagnostic use of performance measures, was also adapted by Chong and Mahama (2014) to measure the diagnostic use of budgets in teamwork settings. The four-item scale primarily focuses on the use of budgets to track progress, monitor results, compare actual results with expected results and review performance measures (Henri, 2006). The exploratory factor analysis (EFA) indicated that the four items loaded onto a single factor (loadings ranged from 0.769 to 0.801, with an eigenvalue exceeding 1), with a Cronbach's

<sup>8</sup> Each of the two questionnaires removed included one or more questions without a response from the respondent.

alpha coefficient value of 0.88.<sup>9</sup> The scale represented 69% of the explained variance.

*Frugal spending behaviour (FRUSPE)*: The study adapted the five-item scale developed by Anderson and Lillis (2011) to measure frugal spending behaviour. Anderson and Lillis (2011) identified three attributes of corporate frugality, namely, spending discipline, resourceful reuse and deferred gratification to measure corporate frugality. However, only the five-item scale of spending discipline was chosen in the current study as this attribute is most closely related to the generic attributes of frugal spending behaviour, such as carefully spending company money and resources and containing costs, which are not normally influenced by differences in respondents' level of management or responsibility area. The exploratory factor analysis (EFA) indicated that all five items loaded onto a single factor (loadings ranged from 0.731 to 0.921 with an eigenvalue exceeding 1), with a Cronbach's alpha coefficient value of 0.92. The scale represented 70% of the explained variance.

*Goal clarity (GOACLA)*: The study used the five-item scale drawn from Sawyer (1992) to measure goal clarity. The scale measures respondents' perceptions of the degree of clarity about work-related matters, such as duties, responsibilities, goals, objectives and expected results. All five items loaded onto a single factor (loadings ranged from 0.733 to 0.880 with an eigenvalue exceeding 1), with a Cronbach's alpha coefficient value of 0.92. The scale represented 69% of the explained variance.

*Individual creativity (INDCRE)*: The study measured individual creativity using the eight-item scale developed by Moulang (2015). Respondents were asked to indicate the extent to which they engaged in certain creative activities within their work role (see Appendix A). The exploratory factor analysis (EFA) indicated that all items loaded onto a single factor (loadings ranged from 0.783 to 0.872 with an eigenvalue exceeding 1) with a Cronbach's alpha coefficient value of 0.92. The scale represented 69% of the explained variance.

This study also controlled for organisational size (*SIZE*), measured based on the number of full-time employees in the respondent's organisation. As prior studies indicate, organisational size is a key factor in determining individual creativity and management control systems, including budgets (Appuhami, 2019; Chong & Mahama, 2014). Furthermore, the study controlled for job tenure (*TENURE*) which is likely to influence both goal clarity and individual creativity (Appuhami, 2019; Hall, 2008).

### 3.3 Common method bias

The study followed several ex-ante procedures to avoid common method bias (CMB)<sup>10</sup> and ensure the quality of the findings. Based on the recommendations of

<sup>9</sup> Following previous studies, we undertook exploratory factor analysis (EFA) to reveal relationships among the variables and to support the uni-dimensionality of constructs (e.g., Widener, 2007).

<sup>10</sup> Common method bias (CMB) "occurs when the estimates of the relationships between two or more constructs are biased because they are measured with the same method", such as self-reporting surveys (Jordan & Troth, 2020, p. 5), thus undermining the validity of the findings (Podsakoff et al., 2003, p. 879).

prior studies (Jordan & Troth, 2020; Podsakoff et al., 2003), we followed these procedures in designing and administering the survey questionnaire which included: (1) attaching a letter to the survey to provide respondents with information about the purpose of the research and clear instructions on how to answer the survey questions; (2) undertaking a pilot survey among several accounting academics to identify ambiguous scale items and improve the scale item clarity of the survey questionnaire; and (3) using different response formats and separate sections for each construct (see Appendix A). We also undertook two statistical tests to detect the possibility of CMB in the data. Firstly, we carried out Harman (1976)'s single factor test by entering all construct items into an unrotated exploratory factor. When this test loads all items onto a single factor and it accounts for most of the explained variance among constructs (Jordan & Troth, 2020; Podsakoff & Organ, 1986), CMB is viewed as problematic. However, CMB is not a prevalent issue in this study, as the results of the test revealed 19 factors, with the first factor explaining only 29% of the total variance.<sup>11</sup> Secondly, based on the recommendation of Kock (2015), we investigated variance inflation factor (VIF) values resulting from the partial least squares (PLS) technique. The VIF values for all variables indicated no evidence of CMB in the study as they were all well below the threshold value of 3.33 (Kock, 2015, p. 7).

## 4 Results

We used the partial least squares (PLS) regression technique to analyse the survey data. The PLS technique is a structural equation modelling (SEM) approach that incorporates multiple variables (latent and observed) and minimises measurement errors (Fornell, 1982). Based on the bootstrapping sampling method, the technique tests construct validity and reliability and measures the significance of hypothesised relationships in the structural model. The PLS technique was appropriate for this study as it could examine the data from a small sample without requiring the data's distributional assumptions (Chin, 1998; Wold, 1985). The minimum sample size required for PLS regression analysis is 10 times the number of paths (independent variables) of the largest regression in the structural model (Chin & Newsted, 1999; Chong & Mahama, 2014). Based on this rule, this study required at least 20 survey responses ( $2 \times 10$ ) for PLS analysis as the largest regression in the model has two paths.

### 4.1 Measurement model

The PLS regression technique produced a measurement model and a structural model. The statistics from the measurement model provided an assessment of the reliability (item and composite) and validity (convergent and discriminant) of

<sup>11</sup> Prior studies are not clear about the acceptable percentage of explained variance of a single-factor model (Jordan & Troth, 2020, p. 9). The percentage of total variance explained by the first factor of the current study was comparable to that of prior accounting studies (e.g., Bedford et al., 2019; Chong & Mahama, 2014).

**Table 2** Cross-loadings from the PLS measurement model

	DIABUD	FRUSPE	GOACLA	INDCRE
Diagnostic use of budgets (DIABUD)				
DIABUD1	<b>0.878</b>	0.307	0.507	0.184
DIABUD2	<b>0.842</b>	0.207	0.405	0.198
DIABUD3	<b>0.858</b>	0.249	0.422	0.246
DIABUD4	<b>0.857</b>	0.281	0.480	0.313
Frugal spending behaviour (FRUSPE)				
FRUSPE1	0.240	<b>0.882</b>	0.325	0.383
FRUSPE2	0.232	<b>0.808</b>	0.294	0.432
FRUSPE3	0.305	<b>0.915</b>	0.401	0.377
FRUSPE4	0.336	<b>0.809</b>	0.356	0.391
FRUSPE5	0.221	<b>0.924</b>	0.383	0.418
Goal clarity (GOACLA)				
GOACLA1	0.551	0.361	<b>0.904</b>	0.345
GOACLA2	0.420	0.320	<b>0.916</b>	0.339
GOACLA3	0.526	0.346	<b>0.890</b>	0.384
GOACLA4	0.383	0.426	<b>0.864</b>	0.386
GOACLA5	0.551	0.361	<b>0.904</b>	0.345
Individual creativity (INDCRE)				
INDCRE1	0.186	0.352	0.234	<b>0.758</b>
INDCRE2	0.213	0.258	0.221	<b>0.764</b>
INDCRE3	0.291	0.498	0.338	<b>0.800</b>
INDCRE4	0.218	0.406	0.410	<b>0.886</b>
INDCRE5	0.275	0.391	0.427	<b>0.884</b>
INDCRE6	0.210	0.352	0.373	<b>0.838</b>
INDCRE7	0.255	0.371	0.271	<b>0.779</b>
INDCRE8	0.094	0.282	0.334	<b>0.813</b>
INDCRE9	0.186	0.352	0.234	<b>0.758</b>

DIABUD=diagnostic use of budgets, FRUSPE=frugal spending behaviour, GOACLA=goal clarity, INDCRE=individual creativity. Bold values indicate the factor with the highest loading of the item

instruments used in the study. As presented in Table 2, cross-loadings for each variable indicated each individual item’s reliability. All items loaded higher than 0.5 on their respective variable, demonstrating adequate individual item reliability (Hul-land, 1999).

We assessed composite reliability based on both Cronbach’s (1951) alpha values and composite reliability scores produced by the PLS measurement model. As displayed in Table 3, Cronbach’s alpha values and composite reliability scores for each variable were higher than 0.70, suggesting acceptable composite reliability (Nunnally, 1978).

We assessed each variable’s convergent validity using the values for the average variance extracted (AVE). All AVE values were higher than the 0.5 minimum threshold (Chin, 1998), demonstrating an acceptable convergent validity for each

**Table 3** Composite reliability, Cronbach's alpha, average variance extracted (AVE), discriminant validity and correlations from the PLS model

Variable	Cronbach's alpha	Composite reliability	AVE	Correlations			
				DIABUD	FRUSPE	GOACLA	INDCRE
DIABUD	0.882	0.890	0.737	<b>0.859</b>			
FRUSPE	0.918	0.919	0.756	0.308	<b>0.869</b>		
GOACLA	0.916	0.921	0.798	0.532	0.406	<b>0.894</b>	
INDCRE	0.929	0.945	0.667	0.274	0.461	0.407	<b>0.817</b>

DIABUD=diagnostic use of budgets, FRUSPE=frugal spending behaviour, GOACLA=goal clarity, INDCRE=individual creativity, AVE=average variance extracted. Bold values denote the square root of the AVE value for each latent variable

variable (see Table 3). We established discriminant validity by comparing the square root of AVE for each variable to the correlation coefficients between the latent variables. As shown in Table 3, all the square roots of AVE for the latent variables were greater than the respective correlation coefficients between the variables, demonstrating an acceptable discriminant validity (Chin, 1998; Hair et al., 2014). The cross-loadings, as shown in Table 2, loaded higher on the respective variable than on any other variable, thus providing further evidence of acceptable discriminant validity.

## 4.2 Hypotheses testing

We assessed our study's hypotheses using the results of the PLS structural model. Following previous studies, this study included two control variables in the structural model, namely, organisational size (*SIZE*) and job tenure (*TENURE*), to control for the endogeneity concern (Appuhami, 2019; Chenhall & Moers, 2007; Hall, 2008). We assessed the stability of the structural model based on two prediction-orientated measures suggested by prior studies. Firstly, this study used the coefficient of determination ( $R^2$ ) for each endogenous latent variable to assess the stability of the structural model based on predictive accuracy: the higher the  $R^2$  coefficient for the latent variable, the greater the predictive power or the stability of the structural model. As shown in Table 4 and Fig. 2, the  $R^2$  coefficients for the variables (17.7% for *FRUSPE*; 28.8% for *GOACLA*; 22.9% for *INDCRE*) were similar to those of prior management accounting studies (Appuhami, 2019; Bedford et al., 2019; Chong & Mahama, 2014; Hartmann & Slapničar, 2012).

Secondly, this study used the Stone–Geisser  $Q^2$  test (cross-validated redundancy), developed by Stone (1974) and Geisser (1974), to measure the predictive relevance of all endogenous latent variables and thus assess the stability of the structural model. The study used the blindfolding technique of the PLS model to generate the  $Q^2$  statistics. As presented in Table 4, the  $Q^2$  statistics for all endogenous latent variables were above 0, indicating a sufficient predictive relevance and stability of the structural model (Geisser, 1974; Stone, 1974). Together, these reliability and



**Table 4** PLS structural model results

Panel A: Direct effects			
Independent variables	Dependent variables		
	FRUSPE	GOACLA	INDCRE
DIABUD	0.128 (1.036) (H1)	0.539 (6.808)*** (H2)	–
FRUSPE	–	–	0.444 (4.899)*** (H5)
GOACLA	0.338 (2.418)*** (H3)	–	–
INDCRE	–	–	–
SIZE	–	–	–0.1170.113 (1.07338)
TENURE	–	–0.069 (0.830)	–0.037 (0.383)
R <sup>2</sup>	17.7%	28.8%	22.9%
Q <sup>2</sup>	0.16	0.22	0.13

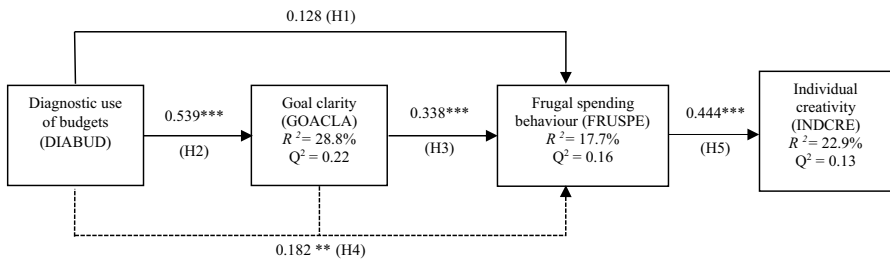
Panel B: Mediated (indirect effect)				
Independent variables	Mediator	Dependent variable—FRUSPE	Confidence interval (95%)	
			Lower	Higher
DIABUD	GOACLA	0.182 (2.152)** (H4)	0.055	0.337

Panel C: Total effects	
Independent variables	Dependent variable—FRUSPE
DIABUD	0.310 (2.548)***

DIABUD=diagnostic use of budgets, FRUSPE=frugal spending behaviour, GOACLA=goal clarity, INDCRE=individual creativity, SIZE=number of employees, TENURE=respondent’s tenure, H=hypothesis

Each cell indicates the coefficient (t-value) of each structural path tested

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$  (one-tailed for all hypothesised associations)



\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$  (one-tailed for all hypothesised associations); H = hypothesis; unbroken lines denote direct effects and dashed lines denote indirect effects of hypothesised associations.

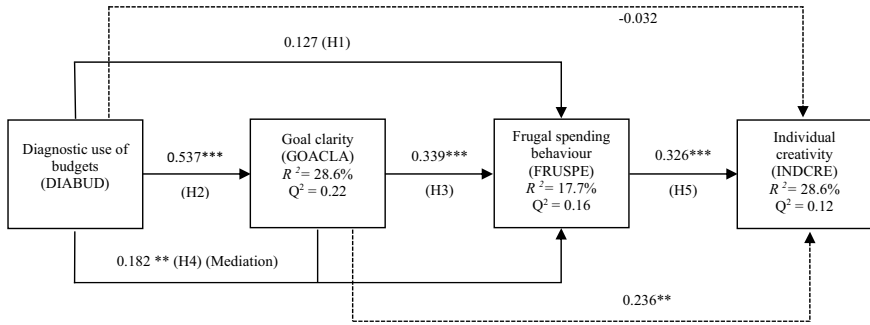
**Fig. 2** PLS Structural model. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$  (one-tailed for all hypothesised associations); H=hypothesis; unbroken lines denote direct effects and dashed lines denote indirect effects of hypothesised associations

validity measures provided sufficient evidence that the PLS structural model was a satisfactory fit for this study.

This study used a PLS software program based on the bootstrapping method (5000 subsamples) to test the statistical significance of the hypothesised relationships in the PLS structural model. The summarised results of the structural model are shown above in Fig. 2 and Table 4. The study's first hypothesis (H1) expected a direct positive relationship between the diagnostic use of budgets and managers' frugal spending behaviour. Surprisingly, the structural path coefficient between the diagnostic use of budgets and frugal spending behaviour was positive ( $\beta=0.128$ ) but was insignificant ( $p>0.1$ ). These results suggested that the diagnostic use of budgets in an organisation does not directly influence managers' frugal spending behaviour. Therefore, H1 was not supported by the results of the structural model. The study's second hypothesis (H2) predicted a direct positive association between the diagnostic use of budgets and goal clarity. As predicted, the results of the structural model showed a positive ( $\beta=0.539$ ) and significant ( $p<0.01$ ) association, suggesting that the diagnostic use of budgets directly affected managers' perceived goal clarity. The study's third hypothesis (H3) expected a direct positive association between goal clarity and frugal spending behaviour. The results demonstrated support for H3, indicating that the path coefficient leading from goal clarity to frugal spending behaviour was positive ( $\beta=0.338$ ) and significant ( $p<0.01$ ). This finding indicated that an improvement in goal clarity, as perceived by managers, directly increased their frugal spending behaviour.

The study's fourth hypothesis (H4) predicted that goal clarity played a mediating role in the relationship between the diagnostic use of budgets and frugal spending behaviour. To measure this mediating role, we calculated the 95% confidence interval (CI) for the direct structural path between the diagnostic use of budgets and managers' frugal spending behaviour at work (Bedford et al., 2019; Zhao et al., 2010). As presented in Table 4 (Panel B), the results of the confidence interval (CI) test indicated a distribution with a positive lower bound (0.055) and a positive upper bound (0.337), implying that the indirect effect was not zero (Chong & Mahama, 2014). Thus, these results suggested that the diagnostic use of budgets had a significant ( $p<0.05$ ) and positive indirect effect ( $\beta=0.182$ ) on frugal spending behaviour, through goal clarity. Given that H1 was insignificant, these results further suggested that goal clarity fully mediated the relationship between the diagnostic use of budgets and frugal spending behaviour (Baron & Kenny, 1986). Following the mediation test, we tested the structural model to assess the total effect of the diagnostic use of budgets on frugal spending behaviour. The structural results indicated the total effect of the diagnostic use of budgets on frugal spending behaviour was positive ( $\beta=0.310$ ) and highly significant ( $p<0.01$ ).

The study's fifth hypothesis (H5) predicted a direct positive association between frugal spending behaviour and individual creativity. This prediction was supported by the results of the structural model, which indicated a positive ( $\beta=0.444$ ) and significant ( $p<0.01$ ) association between frugal spending behaviour and individual creativity (see Table 4, Panel A).



\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$  (one-tailed for all hypothesised associations); H = hypothesis; unbroken lines denote direct effects and dashed lines denote non-hypothesised relationships.

**Fig. 3** Alternative PLS Structural model by adding two additional paths, diagnostic budgeting and goal clarity to managerial performance, to the base model. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$  (one-tailed for all hypothesised associations); H = hypothesis; unbroken lines denote direct effects and dashed lines denote non-hypothesised relationships

**Table 5** PLS structural model results

Independent variables	Dependent variables		
	FRUSPE	GOACLA	INDCRE
DIABUD	0.127 (1.035) (H1)	0.537 (6.600)*** (H2)	-0.059 (0.477)
FRUSPE	-	-	0.326 (2.373)*** (H5)
GOACLA	0.339 (2.429)*** (H3)	-	0.236 (1.817)**
INDCRE	-	-	-
SIZE	-	-	-0.114 (1.161)
TENURE	-	-0.069 (0.830)	-0.040 (0.423)
R <sup>2</sup>	17.7%	28.6%	28.6%
Q <sup>2</sup>	0.16	0.22	0.12

DIABUD=diagnostic use of budgets, FRUSPE=frugal spending behaviour, GOACLA=goal clarity, INDCRE=individual creativity, SIZE=number of employees, TENURE=respondent's tenure, H=hypothesis

Each cell indicates the coefficient (t-value) of each structural path tested

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$  (one-tailed for all hypothesised associations)

### 4.3 Additional validity tests

We undertook two additional validity tests to assess the robustness of the base structural model's results, previously presented in Fig. 2. Firstly, we built an alternative

model by adding two additional paths, linking diagnostic budgeting and goal clarity to individual creativity, to the base model (see Fig. 3).

The two new paths were consistent with prior studies, noting that both the diagnostic use of budgets (Imoisili, 1989; Wentzel, 2002) and goal clarity (Burney & Widener, 2007; Hall, 2008) were likely to influence individual creativity. As shown in Table 5, the two prediction-orientated measures, namely  $R^2$  and the Stone–Geisser  $Q^2$  of the alternative model, achieved results similar to those of the base model.

The results of the alternative model for our hypothesised associations were also consistent with those reported in Table 4. However, for the new two paths, the results of the alternative model indicated that the diagnostic use of budgets was not directly associated with individual creativity. In contrast, the path coefficient from goal clarity to individual creativity was positive ( $\beta=0.236$ ) and significant ( $p<0.05$ ).

The study also assessed the total indirect effects of both the diagnostic use of budgets and goal clarity on individual creativity. As presented in Table 6, the results of the alternative model indicated that the diagnostic use of budgets had a positive ( $\beta=0.228$ ) and highly significant ( $p<0.01$ ) indirect effect on individual creativity, through both goal clarity and frugal spending behaviour.

Similarly, the total indirect effect of goal clarity on individual creativity through frugal spending behaviour was positive ( $\beta=0.111$ ) and significant ( $p<0.1$ ). The results of confidence interval (CI) tests for the total indirect effects also indicated that the lower bound and upper bound were positive, implying that the indirect effects were not zero. These significant results of the alternative model further confirmed the importance of using the diagnostic use of budgets to promote frugal spending behaviour, through goal clarity as perceived by managers, to improve their creativity. Secondly, the study controlled for two additional control variables: respondents' academic and professional accounting qualifications, which could influence their frugal spending behaviour, and their performance (Li et al., 2010).<sup>12</sup> The results of the structural model with two new control variables again indicated that the path coefficients for the hypothesised relationships were not substantially affected.<sup>13</sup> Overall, the two validity tests confirmed the results of the base structural model.

## 5 Discussion and conclusion

The aim of this study was to understand whether the diagnostic use of budgets stifles or stimulates managers' creativity directly or indirectly through their frugal spending behaviour and perceived goal clarity. Drawing on self-regulation and goal-setting theories, associations between different variables, namely, diagnostic use of budgets, frugal spending behaviour, goal clarity and individual creativity

<sup>12</sup> A dummy variable equalled 1 if the respondent had both undergraduate and postgraduate qualifications and 0 otherwise. Similarly, the dummy variable equalled 1 if the respondent had professional accounting qualifications and 0 otherwise.

<sup>13</sup> The results are unreported.

**Table 6** Indirect effects, direct effects, total effects and path coefficients

Independent variables	Mediator (s)	Specific indirect effect	Dependent variable	Total indirect + effect	Direct effect =	Total effect
DIABUD	FRUSPE	0.042	INDCRE	0.228 (2.918)***	0.059 (0.417)	0.287 (2.273)**
	GOACLA	0.127				
GOACLA	GOACLA → FRUSPE	0.059		0.111 (1.793)*	0.236 (1.817)*	0.347 (3.001)***
	FRUSPE	0.111	INDCRE			
DIABUD	GOACLA	0.183	FRUSPE	0.183 (2.152)** (H4)	0.127 (1.035)	0.310 (2.544)***

DIABUD = diagnostic use of budgets, FRUSPE = frugal spending behaviour, GOACLA = goal clarity, INDCRE = individual creativity, SIZE = number of employees, TENURE = respondent's tenure, H = hypothesis

Each cell indicates the coefficient (t-value) of each structural path tested

\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$  (one-tailed for all hypothesised associations)

were tested. The hypotheses were tested by analysing data collected from managers in Indonesia.

The findings of this study make several important contributions to the literature and practice. Firstly, this study extends the analysis of corporate frugality by Anderson and Lillis (2011) by focusing exclusively on managers' spending behaviour. The study shows that diagnostic use of budgets is not directly associated with frugal spending behaviour, but rather, that it is indirectly associated through managers' perceived goal clarity. More specifically, the findings show that goal clarity fully mediates the association between the diagnostic use of budgets and managers' frugal spending behaviour. The findings suggest that the use of budgets in a diagnostic manner can enhance managers' understanding of work-related goals which, in turn, prompts them to self-regulate towards frugal spending behaviour at work.

These findings also extend previous research on frugal spending behaviour and self-regulation theory (Bandura, 1991; Hilary & Lennox, 2005; Michaelis et al., 2020; Sandino, 2011). We show that perceived goal clarity (Groen, 2018; Malmi & Granlund, 2009; Sholihin et al., 2011) encourages managers to self-regulate towards using and administering organisational resources effectively and efficiently. The findings of this study are in line with persistent themes in the accounting literature, specifically the idea that budgeting practices work as an antidote to goal ambiguity and offer managers a sense of goal clarity, especially when their role is complex or uncertain (Abernethy & Brownell, 1999; Bukh & Svanholt, 2022; King et al., 2010; Marginson & Ogden, 2005). Therefore, the study proposes a new avenue for promoting frugal spending behaviour, applying both the diagnostic use of budgets and goal clarity. As jobs have become more complex and autonomous, leading to higher behavioural risk, this avenue offers a useful way for organisations to minimise costs and increase performance. In essence, the findings imply that, in addition to selecting the right employees, managers can develop an effective work environment and foster frugal behaviour by practising the diagnostic use of budgets in their organisations.

Secondly, this study extends the literature on frugal behaviour (e.g., Ladeira et al., 2018; McDonald et al., 2006) by investigating the association between frugal spending behaviour and individual creativity. The findings of the study suggest that managers who behave in more frugal ways at work demonstrate higher individual creativity. In particular, the frugal spending behaviour of employees provides the impetus for them to think outside of the box and generate novel ideas. These findings are consistent with the extant literature which highlights the importance of corporate frugality in achieving various performance goals, including innovation and continuous improvement (Anderson & Lillis, 2011; Dost et al., 2019). Thus, the study suggests that, in practice, managers can consider frugal spending behaviour of employees in their organisations as an important resource that helps them generate creative ideas leading to innovations.

Finally, this study contributes to the budgeting literature by investigating the mediating roles of both goal clarity and managers' frugal spending behaviour in the relationship between the diagnostic use of budgets and individual creativity (Bedford et al., 2022; Bukh & Svanholt, 2022; Speklé et al., 2017). Our findings

indicate that goal clarity and frugal spending behaviour fully mediate the association between diagnostic use of budgets and individual creativity. The results suggest that the use of budgets in a diagnostic manner increases goal clarity, encourages managers' frugal behaviour and, thus, improves individual creativity. Additionally, we show that the diagnostic use of budgets in practice can serve as a context in which employees become critical actors who self-regulate their behaviour toward frugal spending, hence increasing their creativity. These findings are consistent with recent studies on management controls in a crisis period which suggest that control practices such as budgets can work as trigger mechanisms and facilitate organisational sensemaking processes leading to performance improvements such as creativity (e.g., Carr & Beck, 2023; Daumoser et al., 2018). Overall, the study shows that the diagnostic use of budgets can serve distinct purposes within an organisation, that is, increasing goal clarity and stimulating frugal spending behaviour which, in turn, improve individual creativity.

This study has some limitations. Firstly, it examines hypothesised associations based on questionnaire responses of the same respondents (managers) on both exogenous and endogenous variables. Consequently, common method bias (CMB) may have coloured the interpretation of the results. We undertook several ex-ante procedures, following the recommendation of prior studies (Jordan & Troth, 2020; Podsakoff et al., 2003; Speklé et al., 2017), and conducted post-ante tests such as Harman's single factor test and VIF values investigation to measure the influence of CMB on our findings. However, we cannot guarantee that the findings are completely free from CMB influence. Secondly, the study considers the responses of only one manager from each organisation in the sample: hence, the possibility exists that the responses do not represent most of the organisation's employees. Accordingly, to increase the generalisability of the study's findings, our hypothesised model could be reproduced based on the responses of multiple informants with an identical corporate identity from each organisation in the sample. Thirdly, this survey-based study is restricted to four variables tested based on subjective data collected from 114 managers, thus further limiting the generalisability of the findings.

Notwithstanding these limitations, this study has several implications for future research. Future research could examine the effects of both the interactive and diagnostic use of budgets on frugal spending behaviour. Such a study could reveal whether these two uses of budgets either together or separately would increase or decrease the frugal spending behaviour of employees. Another future research area could be the examination of whether the four control levers (diagnostic control, interactive control, boundary systems, and belief systems) either mitigate or exacerbate the relationship of frugal spending behaviour with individual creativity. Such a study could incorporate the three attributes of corporate frugality, namely, spending discipline, resourceful reuse and deferred gratification (Anderson & Lillis, 2011) which may help to understand how control levers influence these three attributes and employees' creativity.

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## **Appendix A: Survey instrument items**

### **Diagnostic use of budgets (DIABUD)**

*To what extent does senior management currently use the budget to:*

1. Track your progress towards goals.
2. Monitor your results.
3. Compare your outcomes to your expectations.
4. Review your key measures?

### **Corporate frugal spending behaviour (FRUSPE)**

*To what extent do you agree with the following statements?*

1. I am careful how I spend company money.
2. I try to get the most from company money.
3. I am disciplined in the use of company resources.
4. I work hard to contain costs.
5. I plan carefully before spending.

### **Goal clarity (GOACLA).V**

*Indicate the degree of clarity you feel about each of the following items.*

1. My duties and responsibilities.
2. The goals and objectives for my job.
3. How my work relates to the overall objectives of my work unit.
4. The expected results of my work.
5. What aspects of my work will lead to positive evaluations.

### **Individual creativity (INDCRE)**

Indicate the extent to which you are engaged in certain creative activities within your work role.

1. I regularly come up with creative ideas.
2. I regularly experiment with new concepts and ideas.
3. I regularly carry out tasks in ways that are resourceful.
4. I often engage in problem solving in clever, creative ways.
5. I often search for innovations and potential improvements within my business unit.
6. I often generate and evaluate multiple alternatives for novel problems within my business unit
7. I often generate fresh perspectives on old problems.



8. I often improvise methods of solving a problem when an answer is not apparent.

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**Data availability** Dataset is available and will be provided if required.

## Declarations

**Conflict of interest** We (the authors) declare that we do not have any conflict (financial or non-financial) of interest.

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