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The effects of nonfinancial and financial measures on employee motivation to participate in target setting



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ABSTRACT

Recent interest in nonfinancial performance measures has raised questions on how such measures influence employee reactions and behaviour. Surprisingly, the question of *whether* and *how* nonfinancial measures motivate employees to participate in target setting has remained largely unexplored. Employees can be motivated intrinsically or extrinsically to participate in target setting. Intrinsic motivation to participate in target setting initiates from *within the employee* and is perceived as *an end in itself* with the employee as the main beneficiary. In contrast, controlled extrinsic motivation to participate in target setting is *controlled by the organization* and is perceived as *a means to an end* with the organization as the main beneficiary. This study investigates the relative importance of nonfinancial measures vis-à-vis financial measures in engendering employee intrinsic and controlled extrinsic motivation to participate and how these two forms of motivation to participate in target setting translate into improved employee job performance. Based on a sample of 149 employees, the Partial Least Squares results indicate that *both* financial measures and nonfinancial measures are associated with employee *intrinsic* motivation to participate in target setting. However, only nonfinancial measures are associated with *controlled extrinsic* motivation to participate in target setting and because this form of motivation to participate is *controlled by the organization as a means to achieve better performance*, it is only this form of motivation which has a significant impact on employee job performance. These results provide important insights into the intricacies by which performance measures influence employee motivation to participate in target setting and job performance.

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1. Introduction

Research on performance measurement systems is becoming increasingly focused on employee perspective as opposed to organisational perspective. The relationships between performance measurement systems and their behavioural outcomes have received considerable research attention in current period. Recent studies suggest that performance measurement systems affect employee behaviour through intervening variables such as role ambiguity (Burney & Widener, 2007; Hall, 2008), procedural fairness (Lau, Wong & Eggleton, 2008) and feedback (Hartmann & Slapničar, 2009).

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This study focuses on the roles of *employee motivation to participate in target setting* on the relationships between performance measures and employee job performance. While research on employee budgetary participation was pervasive in the 1980s, the importance of performance measures on the different aspects of employee participation has not received much research attention particularly in the context of nonfinancial vis-à-vis financial measures. Some researchers have suggested that issues pertaining to the various aspects of employee participation including employees' *intrinsic* and *extrinsic* motivation for participation may affect employee attitudes, behaviour and performance (e.g., Covaleski, Evans, Luft & Shields, 2003; Locke & Schweiger, 1979; Shields & Shields, 1998; Wong-On-Wing, Guo, & Lui, 2010). Yet, the roles of this aspect of employee participation, namely, *employee motivation to participate in target setting*, have largely been overlooked. To date, no studies have investigated the mediating roles of employee motivation to participate in target setting on the relationships between performance measures (financial vis-à-vis nonfinancial) and employee performance.

The importance of employee motivation (intrinsic and extrinsic) *to perform well in tasks* is widely recognized. However, the notion that employee motivation can manifest in different forms is sometimes overlooked in management accounting research. Motivation (both intrinsic and extrinsic) is related to an activity or activities. While performing tasks is an important activity, it is not the only activity at organizations. There are other activities in relation to employee motivation including employee motivation to engage in organizational citizenship behaviours, employee motivation to conform to social norms, and for our research, employee motivation to participate in target setting. The recognition that there are different forms of motivation is important as *different motivations are associated with different consequences*. Vallerand (1997, p. 327, 329) describes this as the "specificity hypothesis" and explains as follows: "Motivation is particularly important...in large part because it leads to important consequences. Such consequences can...take place at three levels of generality in line with the motivation that produces them.... Thus, outcomes experienced in one specific context should generally result from motivation in that particular context and not from another context. For instance satisfaction toward school should be a function of school motivation and not leisure or interpersonal motivation...contextual motivation in education was a better predictor of educational consequences than either global motivation or contextual motivation on interpersonal relationships."

Hence, while there is an abundance of empirical research evidence on *employee motivation to perform well in tasks* (Deci & Ryan, 2012; Sansone & Harackiewicz, 2000), research evidence on *employee motivation in other activities*, particularly *employee motivation to participate in target setting*, is very sparse (Wong-On-Wing et al., 2010). Distinguishing between the effects of *employee motivation to participate in target setting* from those of *employee motivation to perform well in tasks* is important as these two types of motivation are conceptually very different and hence may have very different behavioural consequences. Vallerand (1997) suggest that employees' motivation is different from organizational goals. Organizational goals may include improved employee job performance. In contrast, employee intrinsic and extrinsic motivation may or may not be related to employee job performance. Employee motivation exists when employees have some intrinsic or extrinsic needs to fulfil. For example, employees' intrinsic needs may include the needs for challenge, the needs to control, the needs to satisfy curiosity and even the needs to fulfil fantasy (Deci, Connell & Ryan, 1989; Malone & Lepper, 1987; Ryan & Deci, 2000a). These needs are not necessarily related to the organizational goal of improved employee job performance. It therefore remains unclear if the empirical evidence from research on *employee motivation to perform well in tasks* is generalizable to situations where the motivation is *employee motivation to participate in target setting*, particularly in the management accounting context.

The purpose of this research is to ascertain if nonfinancial measures as performance evaluation criteria affect (1) the extent of employee *intrinsic* motivation to participate in target setting, and (2) the extent of employee *controlled extrinsic* motivation to participate in target setting. It also examines the mechanisms by which nonfinancial measures affect employee job performance indirectly through (1) employee *intrinsic* motivation to participate in target setting, and (2) employee *controlled extrinsic* motivation to participate in target setting. An integrated model incorporating both nonfinancial measures and financial measures is also used to ascertain the *relative importance* of nonfinancial measures vis-à-vis financial measures in influencing employee motivation to participate in target setting and employee performance. Specifically, it compares the relative strengths of nonfinancial measures vis-à-vis financial measures in influencing the three employee outcomes (intrinsic motivation to participate, controlled extrinsic motivation to participate and job performance). This addresses the question of if and how nonfinancial measures vis-à-vis financial measures engender positive influences on employee motivation to participate in target setting, and ultimately, employee job performance.

A study of the above issues contributes to the performance measurement systems debate in the following manners. It provides valuable insights into the effects of *employee motivation to participate in target setting*, a form of employee motivation which differs conceptually from employee motivation to perform well in tasks, but is equally ubiquitous in organizational settings. Specifically, it ascertains the relative importance of the two forms of motivation to participate in target setting, namely, *intrinsic* motivation and *controlled extrinsic* motivation, in influencing the relationships between performance measures and employees' job performance. No prior studies have addressed the mediating roles and the relative importance of *intrinsic* motivation vis-à-vis *controlled extrinsic* motivation to participate in target setting in the performance measures and job performance relationships (Wong-On-Wing et al., 2010). Intrinsic motivation to participate in target setting refers to motivation to participate initiated from within employees to fulfil some intrinsic needs (Deci & Ryan, 1985; Malone & Lepper, 1987; Deci & Ryan, 2012; Vallerand, 1997; Wong-On-Wing et al., 2010). Employees participate willingly because they view their opportunities to have a say in target setting as an end in itself. In contrast, controlled extrinsic motivation to participate in target setting refers to motivation initiated by sources (usually the organization) other

than the employees and is intended to benefit the sources (usually the organization) (Eisenberger & Cameron, 1996; Kruglanski, 1975; Ryan & Deci, 2000a, 2000b; Vallerand, 1997; Wong-On-Wing et al., 2010). An understanding of how these two very contrasting forms of motivation to participate in target setting mediate the performance measures and job performance relationships may provide valuable insights into the intricacies by which performance measures affect employee job performance. A review of the literature indicates that while there is an abundance of research on participative decision-making (e.g., Brownell, 1982; Kren, 1992; Lau & Tan, 2006), there is hardly any empirical evidence from research which compares the effects of participation initiated by the employees with the effects of participation initiated by the organizations, particularly in the context of nonfinancial measures and employee job performance. In this regard, Shields and Shields (1998, pp. 66–67) note that “the organizational behaviour literature...identifies several dimensions of participation including voluntary or forced, formal or informal, direct or indirect, vertical vs horizontal...future research might try to decompose participative budgeting into such dimensions”.

Since the purpose of our study is to investigate the relationships between performance measures and employee job performance, there is a need to demonstrate the mechanisms by which performance measures (nonfinancial measures) affect job performance. Our study proposes that when organizations use nonfinancial measures to evaluate employee performance, there is a need for them to solicit their employees’ private information because of the high information asymmetry associated with nonfinancial measures (see Hypothesis development section below). Consequently, we argue that they will initiate and compel their employees to participate in target setting. In situations where organizations initiate and compel their employees to participate in target setting, the form of employee motivation engendered is likely to be controlled extrinsic motivation. For this reason, *controlled extrinsic motivation* is selected and systematically evaluated in our model. Ryan and Deci (2000b, p. 71) describe controlled extrinsic motivation as follows: “the extrinsically motivated behaviours that are least autonomous are referred to as *externally regulated*. Such behaviours are performed to satisfy an *external demand* or reward contingency...individuals typically experience *externally regulated* behaviours as *controlled*...and their actions have an *external perceived locus of causality*.” (Emphasis added). Based on the list of motivational, cognitive, and value attainment factors, Wong-On-Wing et al. (2010, p. 142) developed an instrument comprising two items to specifically measure controlled extrinsic motivation. The two items are “Because participation...is a means for me to provide information that is important for my job” and “Because participation...is a means through which my superior allows for better utilization of information on the job.” (Emphasis added). According to them, these two items encompass “implied external demands from the firm or the supervisor”. Accordingly, this instrument is used in our study to measure controlled extrinsic motivation.

Fig. 1 presents the model used in this study. It proposes that nonfinancial measures and financial measures may influence both (1) employee intrinsic motivation to participate in target setting and (2) employee controlled extrinsic motivation to participate in target setting. The two motivation variables may, in turn, affect employee performance. Note that nonfinancial measures and financial measures are denoted as two separate constructs to evaluate their relative influence on employee motivation to participate in target setting and performance. This helps to determine if the effects of performance measurement systems on employee performance are caused by (1) nonfinancial measures or (2) financial measures or (3) from both nonfinancial and financial measures. More importantly, it also helps to ascertain if the effects on performance measures on employee job performance are through (1) intrinsic motivation to participate in target setting, or (2) controlled extrinsic motivation to participate in target setting or (3) both intrinsic motivation and controlled extrinsic motivation to participate in target setting.

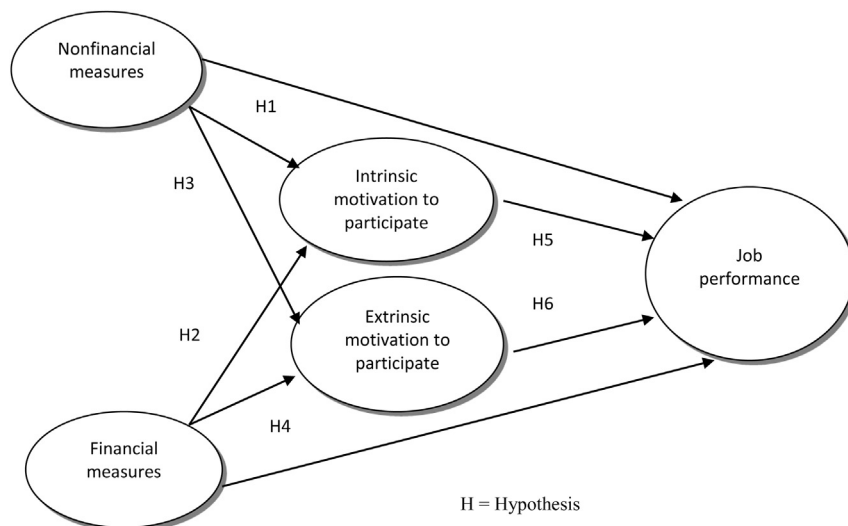


Fig. 1. Performance measures and performance: conceptual model.

2. Hypothesis development

2.1. Performance measures and intrinsic motivation to participate in target setting

Several theories exist to explain human motivation. These include the cognitive evaluation theory (Schunk & Usher, 2012), the terror management theory (Becker, 1975), the control theory (Carver & Scheier, 1981), the self-determination theory (Deci & Ryan, 1980a, 1980b, 1985), and the regulatory focus theory (Higgins, 1987). In general, these theories identify two distinct categories of motivation, namely, intrinsic motivation and extrinsic motivation. Ryan and Deci (2000b, p. 68) distinguish between intrinsic motivation and extrinsic motivation as follows: “people can be motivated because they value an activity or because there is strong external coercion. They can be urged into action by an abiding interest or by a bribe.” Vallerand (1997, p. 271) similarly state that: “researchers have come to identify two classes of motivated behaviour. The first deals with behaviour performed for itself in order to experience pleasure and satisfaction inherent in the activity and has been called intrinsic motivation. The second which involves performing behaviour in order to achieve some separable goals, such as receiving rewards or avoiding punishment has been termed extrinsic motivation.” Ryan and Deci (2000b, p. 69) reflect on the importance of this distinction as follows: “the issue of whether people stand behind a behaviour out of their interests and values, or do it for reason external to the self...represents a basic dimension by which people make sense of their own and others’ behaviour”. Following such prior research, our study distinguishes between *intrinsic* motivation to participate in target setting and *controlled extrinsic* motivation to participate in target setting based on two main attributes. The first is the *source* of the motivation. The second is the *purpose* of the motivation. Note that while the discussion suggests that there are two types of motivation, namely, intrinsic motivation to participate and controlled extrinsic motivation to participate, the two categories of motivation are not mutually exclusive. In other words, in some situations, an employee can be intrinsically motivated to participate as well as extrinsically motivated to participate. In contrast, in other situations, an employee can be not motivated intrinsically to participate and also not extrinsically motivated to participate.

This section deals with employee intrinsic motivation to participate in target setting. With intrinsic motivation to participate, the *source* of the motivation comes from the self (Deci & Ryan, 1980a, 1980b; Gagné & Deci, 2005). It is autonomous and self-determined, that is, individuals are not contrived by others to participate. They participate because they want to and not because they are compelled to. The *purpose* of the motivation is to participate is *for its own sake*. Hence, the purpose is to fulfil some *intrinsic* needs of the employees, not those of the organization. Employees are said to be *intrinsically* motivated to participate in target setting if they participate because they value participation in itself, for instance, experiencing a feeling of accomplishment or a sense of personal satisfaction when they engage in participation. Consequently, the main beneficiaries are the employees and not the organization.

What then motivate employees intrinsically to participate in target setting? Deci and Ryan (1985) suggest that humans have an *intrinsic* need for self-determination. It is this human need for self-determination that determines both the source and purpose of intrinsic motivation. Their self-determination theory suggests that the *source* of intrinsic motivation is *endogenous* because it is the need for self-determination that *intrinsically* drives humans to continuously seek to acquire a variety of skills. The *purpose* of intrinsic motivation is to *preserve self-determination* by seeking to be *competent* in a variety of skills to manage the environments and to prevent the environments from controlling the individual. Hence, factors that promote self-determination and competency are factors that engender intrinsic motivation. Consequently, both cognitive evaluation theory and self-determination theory suggest that intrinsic motivation can flourish (or be undermined) by social and environmental factors which promote competence and autonomy (Deci & Ryan, 1985; Fisher, 1978; Ryan, 1982; Ryan & Deci, 2000b; Vallerand, 1997). With respect to cognitive evaluation theory (CET), Ryan and Deci (2000b, p. 70) elaborate as follows: “The theory argues, first, that social-contextual events (e.g., *feedback, communications, rewards*) that conduce toward feelings of *competence* during action can enhance intrinsic motivation for that action. Accordingly, *optimal challenges, effectance-promoting feedback, and freedom from demeaning evaluations* were all found to facilitate intrinsic motivation... according to CET, people must not only experience competence or efficacy, they must also experience their behaviour as *self-determined* for intrinsic motivation to be in evidence.” (Emphasis added).

Motivation theories therefore suggest that for intrinsic motivation to occur there must be factors such as communications, feedback and rewards which engender (1) feelings of competence during action, and (2) feelings of autonomy among employees. Our research focuses on the use of financial measures and the use of nonfinancial measures as criteria for evaluating employee performance. Would the use of such performance measures (financial or nonfinancial) engender competence and autonomy and hence be associated with employees’ intrinsic motivation to participate in target setting? When an organization designs and uses identifiable financial measures or nonfinancial measures to evaluate its employees’ performance, the employees are likely to perceive that their performance is evaluated based on identifiable measures. The performance measures, *whether financial measures such as budgeted sales, or nonfinancial measures such as employee turnover rates*, enable employees to perceive that there are identifiable criteria on which their performance will be based. Such performance measures and the associated targets may hence serve as the means by which the organization *communicates* its expectations to its employees. They are also likely to serve as the means by which the organization provides *feedback* to its employees. For example, cost variances and sales variance enable employees to learn the extent to which they meet or exceed expectations. Finally, the reliance of such performance measures as criteria for performance evaluation may also enable the organization to use them as the basis on which employee *compensation and rewards* are based. In summary, when identifiable performance measures, *whether financial or nonfinancial measures*, are used as criteria for employee performance evaluation, they serve as

the means by which the organization communicates its expectations, provides feedback and relies upon as a basis for employee compensation and rewards. This is likely to enhance employees' feelings of competency and self-determination and, hence, their intrinsic motivation to participate in organizational affairs.

The use of identifiable performance measures, *whether financial or nonfinancial*, may also provide some degree of formality in the performance evaluation systems. Hartmann and Slapničar (2009, p. 724) argue that “regarding target setting, a high level of formality denotes the situation in which superiors *explicate performance targets in quantitative and written terms*. Informal target setting, instead, means having implicit, qualitative (do your best) targets that are communicated informally, and whose subsequent achievements cannot be measured objectively” (Emphasis added). Hence, identifiable performance measures (financial or nonfinancial) may assist to formalize the performance evaluation procedures. Employees in such situations are likely to experience a better sense of control and feeling of autonomy over their performance evaluation. They may also feel more confident and more competent to participate in setting their own performance targets than in situations when no identifiable or vague performance measures are used. Such conditions may therefore be more conducive for engendering higher intrinsic motivation to participate in target setting.

Goal setting theory also supports the proposition that the use of identifiable performance measures (financial or nonfinancial) may be associated with intrinsic motivation. Latham (2009) suggests that goal setting is among the most valid and practical theories of employee motivation. In general, goal theories suggest that *specificity in goals* enhances motivation. Specificity in goals refers to *the extent to which goal exists*. Schunk and Usher (2012, p. 13) argue that “goals that include specific performance standards are more likely to activate self-evaluation of progress than are general goals”. Latham (2009, p. 107) similarly suggests that “Goal specificity... facilitates *measurement of feedback* on progress toward goal attainment... for feedback to be used intelligently it must be interpreted in relation to specific goal.” According to Locke and Latham (1991, p. 4), goal theory suggests that individuals are motivated when they are provided with goals because “*compared with no goal at all* (e.g., do your best), the presence or existence of goals provides employees with a clearer picture of what they are to achieve. Goals single out for action those aspects of performance that are relevant to the goals.” As discussed previously, motivation theories suggest that communication and feedback are essential for the promotion of employee competence and autonomy which are the two key elements of intrinsic motivation (Ryan & Deci 2000b). For our research, the *extent to which performance measures* (financial or nonfinancial) are used as criteria evaluate employee performance denote the extent of specificity of goals. When performance measures are relied upon to a great extent as criteria for evaluating employee performance, specificity of goal is likely to be high as identifiable performance measures provide the means for the organization to *explicitly* communicate its expectations, set performance targets, measure employee performance and provide feedback to employees. Employees are hence likely to be intrinsically motivated. In contrast, when the extent to which performance measures (financial or nonfinancial) are used as criteria to evaluate employee performance is low (e.g., when employees are told to do their best), employee intrinsic motivation to participate in target setting is likely to be low.

The above discussion therefore suggests that the presence of identifiable performance measures is desirable from the individual's perspective. Employees are therefore likely to be more motivated *intrinsically* to participate in target setting in situations *where identifiable performance measures are relied upon to a great extent* compared with in situations *where identifiable performance measures are relied upon to a low extent*. The type of goals, *whether financial or nonfinancial*, may be less important. In other words, employees whose performance are evaluated to a great extent based on *identifiable financial measures* are likely to be more motivated intrinsically to participate in target setting compared with those employees whose performance are evaluated to a great extent based on *little or no identifiable financial performance measures*. Similarly, employees whose performance are evaluated to a great extent based on *identifiable nonfinancial measures* are likely to be more motivated intrinsically to participate in target setting compared with those employees whose performance are evaluated to a great extent based on *little or no identifiable nonfinancial performance measures*. In summary, regardless of whether goals in the form of performance evaluation criteria are expressed as financial measures or nonfinancial measures, the presence of such identifiable performance measures and personal goals motivates employees intrinsically to participate in target setting more than when there are little or no identifiable performance measures and goals. Based on these expectations, we propose:

H1 The extent to which identifiable *nonfinancial measures* are used in employee performance evaluation is positively associated with employee intrinsic motivation to participate in target setting.

H2 The extent to which identifiable *financial measures* are used in employee performance evaluation is positively associated with employee intrinsic motivation to participate in target setting.

2.2. Performance measures and controlled extrinsic motivation to participate in target setting

Intrinsic motivation and controlled extrinsic motivation to participate in target setting represent two opposing forms of employee motivation. The discussion and hypotheses in the previous section suggest that the types of performance measures may not matter in the case of intrinsic motivation to participate in target setting. However, the use of different types of performance measures (whether nonfinancial or financial) are likely to affect the extent of employees' *controlled extrinsic* motivation to participate in target setting.

Controlled extrinsic motivation may be distinguished from intrinsic motivation by (1) the sources of the motivation, and (2) the purposes of the motivation. In contrast to intrinsic motivation which is endogenous, the source of controlled extrinsic motivation is *exogenous* (Eisenberger & Cameron, 1996; Kruglanski, 1975; Ryan & Deci, 2000b; Vallerand, 1997; Wong-On-Wing et al., 2010). Deci and Ryan (2012, p. 88) describe the source of controlled extrinsic motivation as follows: “the classic example of being extrinsically motivated is acting in the pursuit of rewards or the avoidance of punishments. With self-determination theory, we refer to this as *external regulation*. External regulation is a highly controlling form of motivations. Here the focus is on contingencies that are *controlled by external agents*.” (Emphasis added). Since controlled extrinsic motivation is initiated and controlled by external sources, it is likely that the *source* of employee controlled extrinsic motivation to participate in target setting is the *organization*. With respect to the *purpose* of controlled extrinsic motivation, since the source is exogenous, the purpose is also likely to be exogenous driven by something outside of engaging in the activities *per se* (Bloom and Colbert, 2011). Since the likely source of controlled extrinsic motivation is the organization, it follows that the *purpose* of such exogenous contrived motivation is likely to be related to the fulfilment of the *purposes of the organization* that initiates the motivation in the first place (Ryan & Deci, 2000a, 2000b, Vallerand, 1997, Wong-On-Wing et al., 2010).

Performance evaluation systems comprising nonfinancial measures are likely to engender a higher extent of *controlled extrinsic* motivation to participate in target setting than performance measurement systems comprising financial measures. This hypothesis is based on the premises that the *source* of employee controlled extrinsic motivation to participate in target setting is the *organization*; and the *purpose* is to fulfil *organizational* purpose. There is therefore a need to address the question of why do organizations initiate, compel and control employee participation in target setting.

The literature indicates that there are several reasons why *organizations* initiate employee participation. Information sharing is one of the main antecedents of employee participation initiated by organizations (Baiman & Evans, 1983; Kren & Liao 1988; Locke & Schweiger, 1979; Penno, 1984; Shields & Shields, 1998; Wong-On-Wing et al., 2010). Information transfer is necessary where top management requires information about achievable targets or in instances where there is a lot of interdependency across departmental functions, creating a need for participative target setting. In the case of uncertain work conditions, organizations may also propose participative target setting to allow for information dissemination across all levels of the organizations. In particular, organizations are keen to invite their employees to participate in target setting when information asymmetry exists (Covaleski et al., 2003; Locke & Schweiger, 1979; Shields & Shields, 1998; Wong-On-Wing et al., 2010). Based on the economics literature, Shields and Shields (1998) observe that participative budgeting is modelled as being used by the superior to gain information – reduce uncertainty – about the subordinate’s task and task environment. Locke and Schweiger (1979) suggest that organizations promote employee participation because it can engender productive efficiency through improved upward communication arising from employee participation. Covaleski et al. (2003, p. 15) argue that results from analytical research indicate that participative budgeting is observed in situations where employees have private information but not used in situations where employees do not have private information because “when the employee possesses no private information, participative budgeting has no value”.

There is therefore theoretical support for the contention that organizations initiate and control employee participation in target setting with the intention of reducing information asymmetry. The key question is whether the information asymmetry is with *financial* performance measures or with *nonfinancial* performance measures. We hypothesize that organizations are likely to initiate and control employee motivation to participate in decisions involving nonfinancial performance measures (rather than financial measures) for the following reasons.

Top management are likely to be more knowledgeable about financial measures than nonfinancial measures. Meyer (2002) suggests that financial performance and measures are of key interest to top management particularly at strategic business unit level because financial performance and measures, being common measures, facilitate comparisons of performance across different strategic business units. Traditionally, performance measurement systems are also based predominantly on financial measures because financial measures are customarily of interest to organizations and shareholders (Bhimani, 1994; Kaplan & Norton, 1996a, 1996b). Kaplan (1983, 1984) and Johnson and Kaplan (1991) attribute this to the dominance and even an obsession with financial accounting by both the accounting profession and the universities since the 1920s. These studies suggest that the excessive focus of top management on financial performance is one of the reasons for the many challenges facing management accounting practices to-day. Johnson and Kaplan (1991, pp. 195–196) observe that “the problems likely arise from an *excessive* focus on achieving short-term financial performance. Many articles and books have criticized...executives for...their overreliance on financial transactions to achieve immediate profitability objective”. Senior executives at top management level are also likely to be familiar with financial performance measures because of the excessive focus on financial measures for compensation in many contemporary organizations. In this regard, Kaplan (1984, p. 412) note that with “the widespread use of executive bonus plans based on accounting measures...accounting-based performance plans has become prevalent...Senior executives whose annual and deferred compensation are strongly influenced by reported annual income are surely able to communicate the importance they place on achieving annual profit goals to divisional managers.” He (1984, p. 410) further adds that “instead of attempting to generate earnings in the factory...executives have attempted to generate earnings by financial transactions...These actions are more available to senior managers than to division managers”.

Because of the importance of financial performance and measures to the organization, top management are generally not only very knowledgeable and familiar with financial performance measures, they are also likely to be the group that is actually responsible for designing such measures. In other words, financial targets and financial measures are likely to be developed by top management and subsequently communicated to operating level employees. Meyer (2002, p. 32) notes

that “Financial measures...cascade down from top to individual business units... and facilitate performance comparisons across business units.” Consequently, top management are *less* likely to *compel* operating level employees to participate in decision making for the purpose of soliciting private information from the employees since such employees are likely to be less familiar and have less information on financial performance and measures than top management.

In contrast, top management are likely to be less knowledgeable about nonfinancial measures (Bhimani, 1993, 1994; CIMA, 1993; Drury et al., 1993). According to Johnson and Kaplan (1991), one of main reasons for the excessive focus on financial performance measures is the ignorance and lack of understanding of the underlying business by top management. They argue as follows: “Earlier in the century, senior managers either were the founders of their organizations or at least had worked their way up through the operations of the organizations. In the 1980s, more corporate leadership comes from the professional managerial classes, MBAs and CPAs, many of whom are untrained in and unfamiliar with the technology of the firm’s products and processes.” Kaplan (1984, p. 412) similarly note that “in contrast to the situation 50 and more years ago, firms today are being run by managers who are untrained in, and unfamiliar with, the technology of the firm’s products and processes. As a consequence, they are less knowledgeable about how to create value through improved products and processes” Kaplan (1984, p. 414) also suggest that “the option to include nonfinancial measures in the firm’s planning and control system will be more unfamiliar, more uncertain, and consequently, less comfortable for managerial accountants...these measurements would need to be supplied by persons other than management accountants” As top management aided by the management accountants are less knowledgeable about nonfinancial measures, there is likely to be a greater incentive for them to initiate and control employee participation in the setting of nonfinancial performance targets than in financial performance targets. Lipe and Salterio (2000, p. 284) note that “judgmental difficulties in using unique measures may be compounded when managers (at top management level) who carries out a unit’s performance evaluation does not actively participate in developing that unit scorecard.”

In contrast to top management, employees at *below* strategic business unit level (including employees with managerial responsibilities but who are not primarily involved in strategic issues and planning, e.g., sales supervisors, factory foremen) are likely to be less involved with financial performance and financial measures (Bhimani, 1993, 1994; CIMA, 1993; Drury et al., 1993). At such level, the nature of employee responsibilities and tasks and hence their performance are likely to be predominantly nonfinancial (Abdel-Maksoud et al., 2005; Meyer, 2002). As functions and activities of different work groups at below strategic business are likely to be very diverse and specific to each particular work group, the use of common financial measures (e.g. profit or return on investment) may be inappropriate. In contrast, because nonfinancial measures can be expressed in a wide variety of nonmonetary terms (such as employee satisfaction rates and number of innovations), they are much broader than financial measures. Consequently, at operating level, it is likely that a wide variety of nonfinancial measures may be used (Abdel-Maksoud et al., 2005; Banker, Potter, & Schroeder, 1993; Cobb, 1993; Maskell, 1992). Because of the uniqueness of different functional areas, such measures are likely to be designed, implemented and measured by *operating level employees* rather than top management. A study by CIMA (1993) found that frontline workers are generally the primary source of ideas for improving processes and performance for customers as they are closest to internal processes and customers. Both Maskell (1992) and Cobb (1993) argue organizations are becoming increasingly aware of the importance of more detailed reporting of shopfloor to keep track of resources utilization. In their study of manufacturing organizations in the UK, Abdel-Maksoud et al. (2005, p. 266) found that nonfinancial measures are being used extensively and considered important by employees at “shop-floor” level in more than 80% of the responding companies. They suggest that a common theme in new manufacturing environments is the empowerment of shop-floor workers by putting production under their control and encouraging them to solve problems, improvise, become more flexible and interactive. Meyer (2002) sums up as follows:

“Nonfinancial performance is ubiquitous because it is the functioning of the firm, everything the firm does...The consequence is a myriad of nonfinancial measures...Since functional units within firms tend to be specialized, most nonfinancial measures of functioning will not apply across units having different functions and cannot easily compared across functional units or combined into measures summarising the performance of these units... most nonfinancial measures cannot easily be rolled up from the bottom to the top or cascaded down from top to bottom. Generally the more specific the information about the firm’s functioning is contained in a nonfinancial measure, the more difficult it is to roll it up or cascade it down.”

(Meyer, 2002, p. 32).

It is therefore reasonable to conclude that top management are less knowledgeable about nonfinancial performance measures than operating level employees. Information asymmetry is likely to be high. As discussed previously, when information asymmetry is high, superiors are likely to rely on participative decision-making to solicit private information from their subordinates. Hence, top management are likely to initiate and compel their employees at operating level participate in target setting in order to solicit the private information of their employees on nonfinancial measures. This suggests that when *nonfinancial measures* are used in employee performance evaluation, employee controlled extrinsic motivation to participate in target setting is likely to be *high*. In contrast, when *financial measures* are used in employee performance evaluation, employee controlled extrinsic motivation to participate in target setting is *unlikely* to be affected. Accordingly, we propose:

H3. The extent to which *nonfinancial measures* are used as criteria for employee performance evaluation is significantly related to employee *controlled extrinsic motivation* to participate in target setting.

H4. The extent to which *financial measures* are used as criteria for employee performance evaluation is not significantly related to employee *controlled extrinsic motivation* to participate in target setting.

2.3. Effects of intrinsic motivation to participate in target setting on employee job performance

Our research focuses on employee motivation *to participate in target setting*. With employee job performance as the dependent variable, this section addresses the question of whether intrinsic motivation *to participate in target setting* is associated with improved employee job performance. Human motivation has been the topic of much prior research. Such research has generally focused on employee motivation (intrinsic and extrinsic) *to perform well in tasks*. The results generally suggest that intrinsic motivation *to perform well in tasks* is positively associated with *improved job performance* (Bloom & Colbert, 2011; Deci & Ryan, 2012) while those relating to extrinsic motivation to perform well in their tasks are equivocal (Eisenberger & Cameron, 1996). It is, however, unclear if research findings that focus on employee motivation *to perform well in tasks* are generalizable to employee motivation (intrinsic and extrinsic) *to participate in target setting*.

Motivation (both intrinsic and extrinsic) is related to an activity or activities. The referent for the term “intrinsic” is the activity and not the person (Bloom & Colbert, 2011). Hence, concepts of motivation (both intrinsic and extrinsic) are ambiguous unless they are related to an activity or activities. It is crucial that we know which activity is referred to. Apart from being motivated to perform well in tasks, employees can be motivated in other activities such as engaging in organizational citizenship behaviours (William & Anderson, 1991), engaging in organizational politics (Kacmar & Carlson, 1997), and for our study, participating in target setting. Employees who are motivated to participate in organizational politics are likely to participate and may perform well in organizational politics. Similarly, employees with high motivation to engage in organizational citizenship behaviours are likely to perform well in corporate citizenship activities. It is, however, unclear if employee motivation in such other activities is associated with employee *job performance*. In this regard, Vallerand (p. 309) argue that contextual motivation produces contextual consequences and that contextual consequences should be determined by relevant contextual motivations. He calls this the specificity hypothesis and explains as follows: “What primes the link between situational motivation toward a given activity and a given contextual motivation? One obvious answer... is the very content of the activity itself... in the condition where participants were presented the task as being relevant for *education*, contextual motivation toward *education* was the only significant determinant of situational motivation. On the other hand, when the activity was presented as a *leisure* activity, contextual *leisure* motivation was the only significant predictor of situational motivation.”

Our study hypothesizes that employee *intrinsic* motivation to participate setting may *not* be associated with improved employee job performance. This expectation is based on the premise that employee motivation is different from organizational goals. Organizational goals may include improved employee job performance. In contrast, employee intrinsic motivations occur when employees have some intrinsic needs to fulfil. Employees’ *intrinsic* needs may include the needs for challenge, the needs to control, the needs to satisfy curiosity and even the needs to fulfil fantasy (Ryan & Deci, 2000a). Sansone and Harackiewicz (2000) suggest that intrinsic motivation refers to activities undertaken for interest, enjoyment, satisfaction and joy of living. Deci and Ryan (2012) similarly note that intrinsic motivation may lead to better psychological wellness and well-being. These needs are not necessarily related to the organizational goal of improved job performance.

With respect to intrinsic motivation to participate, Vallerand (1997, p. 279) states that “the purpose of participation for *intrinsic* motivation lies *within the process itself*... individuals who are intrinsically motivated... they focus on the process, not on the outcomes.” (Emphasis added). In other words, with intrinsic motivation to participate, *participation per se* serves to fulfil the intrinsic needs of employees. Wong-On-Wing et al. (2010) argue that employees may be intrinsically motivated to participate in target setting in order to achieve feelings of accomplishment, personal satisfaction and belonging resulting from the mere act of participation. The items they used to measure intrinsic motivation to participate are (1) because participation in budgeting gives me a feeling of accomplishment; (2) because participation in budgeting gives me a great sense of personal satisfaction; and (3) because participation in budgeting gives me a feeling of belonging and increased identification with the organization. None of these items are directly related to employee job performance.

Locke and Schweiger (1979, p. 277) describe the fulfilment of employee intrinsic needs as “value attainment”. They explain as follows: “the simplest explanation is that allowing participation will increase the likelihood that the employee will get what he wants or satisfy his motives, i.e. that he will attain his values – value attainment being the direct cause of job satisfaction... If the employee wants simply to express his views, then PDM (participative decision making) will... virtually always bring it about; if the employee wants respect or dignity, PDM may attain it, providing the participative method used correspondent to his concept of dignity.” There is no suggestion that employee participation brought by intrinsic motivation to participate will necessary be associated with the organizational goal of improved employee job performance.

There is also a need to distinguish between factors that make an activity intrinsically interesting to employees and factors that drive employees to perform well in tasks. Employees with a predisposition to participate in group affairs are likely to be intrinsically motivated to participate in target setting. Such employees are also likely to be intrinsically motivated to participate in many other organizational activities. Because of the time and effort expended to participate in a wide variety of organizational affairs, these employees may spend less time and may even neglect the actual performing of their task responsibilities. They may be unconcerned with what happen after the act of participation. In this regard, Gagné and Deci

(2005) caution that intrinsic motivation can distract attention away from organizational goals or at the very least, is not necessarily aligned with them. Sansone and Harackiewicz (2000, p. 447) similarly suggest that “being intrinsically motivated could negatively affect performance...If the aspects of the activity that make it interesting come at the expense of attention toward some performance outcome.” On the extreme, Gagné and Deci (2005) observe that scholars have raised concerns that employees can be intrinsically motivated toward activities that are directly destructive or harmful, such as theft and sabotage. These arguments suggest that participation associated with intrinsic motivation to participate may not necessarily be associated with improved job performance. Accordingly, we propose:

H5. Intrinsic motivation for participation in target setting is not associated with employee job performance.

2.4. Effects of controlled extrinsic motivation to participate on employee job performance

This section addresses the relationship between controlled extrinsic motivation and employee job performance. As discussed previously, the source of employee controlled extrinsic motivation is likely to be the organization and the purpose is likely to be to fulfil the organization’s needs. Hence, the question to address is why would the organization initiate and control employee participation?

The literature generally suggests that organizations use employee participation as a means to achieve the organizational goal of improved task productivity through information sharing and cognitive mechanisms to reduce uncertainties and information asymmetry. Wong-On-Wing et al. (2010, p. 136) suggest that controlled extrinsic motivation reflects external demands from the firm or upper management to the employees to provide information for target setting and performance evaluation. They argue that “according to Self-determination theory...information reasons would reflect controlled extrinsic motivation if participative budgeting is used by management to induce subordinate to reveal information that they would otherwise would not.” The two items they used to measure control extrinsic motivation are “Because participation...is a means for me to provide information that is important *for my job*” and “Because participation...is a means through which my superior allows for better utilization of information *on the job*.” Both items reflect “implied external demands from the firm or the supervisor” and are directly related to the employees’ jobs.

Shields and Shields (1998, p. 58) observe that research from the economics literature, generally modelled participative budgeting “as being used by the superior to gain information – reduce uncertainty – about the subordinate’s task and task environment” as well as reducing “horizontal information asymmetries by enabling the superior to gain information about subordinates’ interdependent tasks and thus co-ordinate their budgets.” Kren and Liao (1988) identify three ways by which employee participation can improve employee job performance. They are (1) through the setting of higher budget goals, (2) by increasing employee commitment to budget goals, and (3) through the cognitive benefits derived from sharing information during participation. In other words, the disclosure of information by the employees through employee participation may lead to the setting of higher targets, may solicit higher goal commitment from the employees, and may act to clarify task and goal objectives. Locke and Schweiger (1979) note that apart from value attainment for the employees, the other major category of benefits of employee participation is *productive efficiency* which includes outcomes such as higher production, better decision quality, better production quality, and reduced costs. They explain as follows:

“With respect to the mechanisms causing increases in *productive efficiency*...they can be divided into...cognitive and motivational...A major *cognitive* factor is the increase in information, knowledge and creativity as the result of participative decision making...attributed to improved upward communication...A second cognitive factor involves...greater goal clarity, a fuller grasp of the methods to be used in accomplishing the work, or a more thorough understanding of the reasons for organizational changes, decisions and policies. The most widely discussed *motivational* mechanism of participative decision making is reduced resistance to change...which results from being consulted about proposed changes.”

(Locke and Schweiger, 1979, pp. 277–278).

The above discussion therefore suggests that employee extrinsic controlled motivation to participate in target setting is initiated by the organization with the purpose of increasing productive efficiency through both the cognitive and the motivation mechanisms of participative decision making. Participation arising from controlled extrinsic motivation is thus seen as a conduit of exchange through which employees and their superiors are able to provide and exchange information to better utilize the information purpose.

Some prior studies suggest that extrinsic motivation may be detrimental to employee job performance. However, such assertions have been vociferously challenged. In particular, Eisenberger and Cameron (1996, p. 1154) contend that “claimed negative effects of reward on task interest and creativity have attained the status of myth, taken for granted despite considerable evidence that the conditions producing these effects are limited and easily remedied.” Some prior research has also suggested that intrinsic motivation may have greater beneficial consequences than controlled extrinsic motivation (Deci & Ryan, 2012). However, it is important to note that our study is not concerned with the morality of motivation. Our concern is with employee job performance. While intrinsic motivation may be associated with the satisfaction of autonomy and relatedness and generally a person’s psychological health such as their happiness and quality of life, there are nevertheless many people who may be more interested in pursuing other life goals such as such as money, image and fame. It is therefore important not to confuse the benefits of intrinsic motivation with the benefits of controlled extrinsic motivation. Valleraud

(1997, p. 279) suggest that there is also a need not to confuse extrinsic motivation with amotivation. He explains as follows: “amotivation refers to the lack of intentionality and thus the relative absence of motivation...individual who are amotivated are relatively without purpose...and therefore have little motivation (intrinsic or extrinsic) to perform...In contrast, extrinsic motivation does not mean employee are not motivated...Thus extrinsically motivated individuals do not engage in the activity for the inherent pleasure they may experience while performing it, but rather in order to receive something positive or to avoid something...Workers who go to work simply in order to get the money they need to provide for their families represent one instance of extrinsically motivated individual.” Ryan and Deci (2000a, p. 15) similarly note that “rewards can, undeniably be an effective means of controlling behaviour, and perhaps that is why their use has become pervasive at every levels of society.” People may work very hard when they are extrinsically motivated. They may suffer poor psychological health. But this does not mean they will not work hard.

Finally, since controlled extrinsic motivation to participate in target setting is likely to be initiated and regulated by the organization, participation is likely to be more formalized and taken more seriously by the organization. In this regard, Ryan and Deci (2000a, p. 41) note that “of course when employers rely on pay for performance as a primary motivational strategy, they typically also use other controls such as surveillance, evaluation, and competition.” Employees may also take participation initiated by the organization far more seriously. Harackiewicz and Sansone (2000, p. 96) stress that “our theoretical analysis and our results highlight the potential of external interventions to make competence salient and lead individuals to become more involved in the pursuit of competence.” Wong-on-wing et al. (2010, p. 72) similarly suggest that “as the source of motivation is from the organization, employees are likely to perceive that noncompliance would not be in their best interests. As there are likely to be formalized procedures, employees are likely to receive more information as in feedback, communication etc...the offer of a performance contingent reward may cause individual to approach tasks differently with a greater emphasis on performing well and demonstrating competence. Employees are also likely to be more committed to performance targets initiated by the organization.” Based on the above discussion, it is therefore reasonable to conclude that controlled extrinsic motivation to participate in target setting is likely to be associated improved employee job performance. Accordingly, we propose:

H6. Controlled extrinsic motivation for participation in target setting is positively associated with employee job performance.

3. Research method

3.1. Sample selection and data collection

As discussed previously, our research is directed at employees at operating and shopfront level rather than at top management level. Hence our survey questionnaire should be answered by employees working at operating or shopfront level (as opposed to top management). For our study, “operating level” employees and “shopfloor” employees are employees engaging in sales, marketing and manufacturing activities at the factories and sales offices. Such employees include both employees *without* managerial responsibilities (e.g., machine operators, forklift drivers) as well as employees *with* some managerial responsibilities (e.g., foremen, factory supervisors, assistant factory managers, factory managers, purchasing officers, sales supervisor, sales managers). When we requested names for our sample from organizations to participate in the research, we requested the names of operating level employees *with some managerial responsibilities* as these employees are likely to be more knowledgeable with the operations of their organizations and hence in a better position to answer the questionnaire correctly. While our sample may comprise some employees who may have job titles such as factory managers or assistant factory managers, such people are nevertheless still (1) employees, and (2) work at ‘shopfront’/factory level performing supervisory functions at operating level. Hence, they are appropriate participants for a survey of employees at operating or shopfront level.

A mail questionnaire survey was sent out to operating level employees within Australian manufacturing organizations in August 2011. The selection criteria of a minimum of 100 employees and an annual turnover of more than \$10 million yielded 164 randomly selected organizations from the Kompass Australia 2010 database. The sampling frame was thus kept to a practicable size while maintaining adequate control for industry. Manufacturing organizations were chosen due to the likely mature and multidimensional performance target setting procedures in place. As per the Dillman Tailored Design Method, a three step data collection method was used with first, telephone calls made to companies for the names of the potential respondents, followed by a personalised questionnaire package with cover letter, questionnaire and reply-paid envelope, and finally a follow-up questionnaire package after two weeks (Dillman, Smyth & Christian, 2009). No more than 6 employees with some managerial responsibilities were selected from each company to avoid a company bias. The final sample for survey distribution purposes consisted of 582 employees belonging to 114 organisations. Responses were anonymous.

One hundred and forty nine useable responses were received, reflecting a 25.60% response rate. This response rate compares favourably with some management accounting studies (Baines & Langfield-Smith, 2003; Hall, 2008) involving surveys in Australian manufacturing organizations. The responses received were tested for non-response bias by way of a two-sample independent *t*-test for early versus late respondents for the variables under study as well as the demographics (Roberts, 1999). No significant divergences could be found in the mean comparison of the variables of interest and

demographic characteristics based on time of response, making the possibility of a non-response bias unlikely (Oppenheim, 2001).

The average participant in the sample had held his or her position for approximately 13 years, was responsible for an average of 39 employees and is on average, about 45 years of age. Most participants (72.48%) held tertiary educational qualifications.

3.2. Measurement of variables

3.2.1. Performance measures

Nonfinancial and financial measures were measured by a nine-item instrument developed and used by Lau & Moser (2008). The question asks: ‘When your superior is evaluating your performance, how much importance do you think he or she attaches to the following items?’ Participants responded to a 7-point Likert scale ranging from ‘1-never important’ to ‘7-always important’. The nonfinancial items are derived from the Learning and Growth perspective of the Balanced Scorecard, and are likely to be applicable generically to managers across departments in any organization. Atkinson (2006) notes the importance of the ‘learning and growth’ dimension of performance as the driving force behind the Balanced Scorecard. The five nonfinancial measures are: (1) employee satisfaction rate in my department, (2) number of employees trained in my department, (3) employee turnover rate in my department, (4) number of innovations developed by my department, and (5) adoption of new technology by my department. The financial measures items are: (1) My ability to meet my budget; (2) My ability to avoid unfavourable budget variances; (3) My ability to meet or better budgeted costs or sales; and (4) My ability to achieve budgeted cost reduction or budgeted sales growth”.

3.2.2. Intrinsic motivation and controlled extrinsic motivation to participate in target

The two contrasting forms of employee motivation to participate in target setting were assessed using an instrument developed by Wong-On-Wing et al. (2010). The argument here is that the perceived reasons for engaging in an activity offer a valid measure of motivation and hence, a direct vehicle to assess the perceived autonomy underlying an individual’s behaviour. Contextually, perceived reasons for participation in target setting were assessed by way of five questions derived from the motivational, cognitive and value attainment factors coined by Locke and Schweiger (1979) and Locke et al. (1986). The three measures of intrinsic motivation associated with participation as an *end in itself* are: (1) Because participation gives me a feeling of accomplishment, (2) Because participation gives me a great sense of personal satisfaction, and (3) Because participation gives me a feeling of belonging and increased identification with my organization. Under controlled extrinsic motivation, participation occurs as a means for participants to provide information and for superiors to better utilise information. Two items were used to measure controlled extrinsic motivation for participation in terms of information sharing purposes. They are: (1) Because participation in target setting is a means for me to provide information that is important for my job, and (2) Because participation in target setting is a means through which my superior allows for better utilisation of information on the job. Responses are measured on a seven-point Likert scale ranging from 1, ‘strongly disagree,’ to 7, ‘strongly agree’.

3.2.3. Managerial performance

Employee performance was measured using Mahoney, Jerdee, & Carrol (1965)’s self-rating instrument. It is a widely accepted measure of performance (Brownell, 1982; Hall, 2008; Kren, 1992; Lau & Tan, 1998). This instrument is able to capture the multi-dimensional nature of performance while restricting excessive dimensionality (Brownell, 1982). Eight sub-dimensions indicative of performance are investigated: planning, investigating, coordinating, evaluating, supervising, staffing, negotiating and representing. The ninth item is an overall performance measure. Respondents self-rated the performance on a seven-point Likert scale with higher scores indicating higher performance. The eight subdimensions of performance as well as the overall performance item are used to measure employee performance. The descriptive statistics for all items of constructs are presented in Table 1. The reliability and validity of the scales are examined in the PLS measurement model.

4. Results

Gefen, Straub and Boudreau (2000) distinguish two families of structural equation modelling techniques: covariance-based techniques (CBSEM) (e.g. LISREL) and variance-based techniques (e.g. Partial Least Squares (PLS)). We use PLS to analyse the data. PLS is a widely accepted statistical technique for research in management accounting (e.g., Hall, 2008; Hartmann & Slapničar, 2009; Lau and Martin-Sardesai, 2012) and other disciplines. Henseler, Ringle, and Sinkovics (2009) found that as of March 2008, more than 30 articles on international marketing using PLS were published. They attribute the popularity of PLS to (1) PLS path modelling algorithm allows the unrestricted computation of cause–effect relationship models that employ both reflective and formative measurement models; (2) PLS can be used to estimate path models when sample sizes are small; (3) PLS path models can be very complex without leading to estimation problems; and (4) PLS path modelling can be used when distributions are highly skewed or the independence of observation is not assured. In terms of sample size, the literature is unclear with regard to the minimum sample size that is needed for CBSEM. Smith and Langfield-Smith (2004, p. 66) note as follows: “A suggested rule of thumb for SEM is a minimum sample size of 100. However, it has also been suggested that a sample size of 200 may be required to generate valid fit measures and to avoid drawing inaccurate

Table 1
Descriptive statistics.

	N	Minimum	Maximum	Mean	Std deviation
<i>Nonfinancial measures</i>					
NF1	149	1	7	4.95	1.488
NF2	149	1	7	4.34	1.497
NF3	149	1	7	4.44	1.578
NF4	149	1	7	4.66	1.528
NF5	149	1	7	4.55	1.596
<i>Financial measures</i>					
FIN1	149	1	7	4.95	1.444
FIN2	149	1	7	5.46	1.393
FIN3	149	1	7	5.63	1.387
FIN4	149	1	7	5.54	1.417
<i>Intrinsic motivation</i>					
IM1	149	1	7	5.15	1.465
IM2	149	1	7	5.11	1.462
IM3	149	1	7	5.14	1.380
<i>Controlled extrinsic motivation</i>					
CEM1	149	1	7	5.28	1.299
CEM2	149	1	7	4.91	1.289
<i>Performance</i>					
PERF1	149	3	7	5.67	0.842
PERF2	149	3	7	5.89	0.847
PERF3	149	1	7	5.23	1.116
PERF4	149	4	7	5.96	0.877
PERF5	149	1	7	5.31	1.120
PERF6	149	1	7	5.47	1.148
PERF7	149	2	7	5.62	1.087
PERF8	149	3	7	5.94	0.879
PERF9	149	4	7	5.92	0.621

Theoretical minimum = 1, theoretical maximum = 7.

NF = nonfinancial measures, FIN = financial measures, IM = intrinsic motivation to participate, CEM = controlled extrinsic motivation to participate, PERF = performance.

inferences." Other studies have also recommended a minimum sample size of 200 for CBSEM (e.g., James & James, 1989; Marsh, Balla, & McDonald, 1988; Nasser & Wisenbaker, 2003). Boomsma and Hoogland (2001) found that with CBSEM, there may be nonconvergence problems and improper solutions in samples of 200 or fewer cases. With respect to the choice between CBSEM and PLS, Henseler et al. (2009, p. 297) conclude as follows: "Although the CBSEM and PLS path modelling methodologies differ from a statistical point of view, PLS estimates may represent good proxies of the CBSEM results. If CBSEM premises are violated, such as distributional assumptions, minimum sample size, or maximum model complexity, and related methodological matters arise, an inability to converge to a solution, parameters that are outside reasonable limits, and large standard errors regarding parameter estimates, PLS path modelling may represent a reasonable methodological alternative for theory testing." Hypothesis testing for our research was therefore carried out by way of the Partial Least Squares (PLS) method.

4.1. Measurement model

PLS uses a measurement model and a structural model. The measurement model explains the links between observed items and latent variables. The structural model assesses relations between latent constructs. While both the measurement and structural models are estimated simultaneously in PLS, interpretation of the results is a two-step process. The measurement model is first assessed by analysing individual item reliability, construct reliability, and convergent and discriminant validity for all constructs. This ensures that the constructs' measures are reliable and valid before assessing the nature of the relationships among the constructs.

With the measurement model, adequate individual item reliability occurs when each item has a factor loading that is greater than 0.6 on its respective construct (Nunnally & Bernstein, 1994). Low item loadings add very little to the explanatory power of the model while potentially biasing the estimates of the parameters linking the constructs (Chin, 1998; Hulland, 1999). Second, sufficient convergent validity exists when the latent variables are able to explain half or more of their indicators' variances. For this to occur, the suggested rule of thumb of the average variance extracted (AVE) of each construct should be 0.5 or above (Fornell & Larcker, 1981; Vandenberg, 1996). Consequently, in analysing individual item reliability in our study, two items (PERF2 and PERF4) are dropped to improve each individual item factor loading to above 0.6 and to improve the AVE of each construct to 0.5 or above. The factor loadings of the remaining items are presented in Table 2. The results indicate that the factor loadings of the items are all above 0.6 thereby indicating satisfactory individual item reliability.

For construct reliability, the rule of Fornell and Larcker (1981) is used to assess the reliability of each latent variable using the measure of composite reliability and Cronbach's alpha. Ideally, the composite reliability score should exceed 0.7 (Vandenberg, 1996) and the Cronbach's alpha score should exceed 0.8 (Nunnally, 1978) for each latent variable. The results in

Table 2
Estimation of the measurement model parameters ($n = 149$).

Constructs	Loadings	Cronbach's alphas	Composite reliability	AVE
NF				
NF1	0.7772	0.8487	0.8898	0.6183
NF2	0.8216			
NF3	0.8477			
NF4	0.7485			
NF5	0.7301			
FIN				
FIN1	0.9216	0.9273	0.9483	0.8210
FIN2	0.8896			
FIN3	0.9134			
FIN4	0.8988			
IM				
IM1	0.9314	0.9209	0.9501	0.8639
IM2	0.9571			
IM3	0.8988			
CEM				
CEM1	0.9162	0.8267	0.9201	0.8521
CEM2	0.9298			
PERF				
PERF1	0.6469	0.8335	0.8751	0.5014
PERF3	0.7567			
PERF5	0.7615			
PERF6	0.7533			
PERF7	0.6718			
PERF8	0.6537			
PERF9	0.7014			

NF = nonfinancial measures, FIN = financial measures, IM = intrinsic motivation to participate, CEM = controlled extrinsic motivation to participate, PERF = performance.

Table 2 indicate that the composite reliability scores are all well above 0.7. The Cronbach's alpha scores are all in excess of 0.8. These results indicate acceptable construct reliability for the variables used in the model (Nunnally, 1978; Vandebosch, 1996).

In terms of validity, both convergent and discriminant validity for the constructs are assessed based on the AVE. The AVE represents the average variance shared between a construct and its indicators (Fornell & Larcker, 1981). The threshold of AVE for convergent validity is 0.5 (Fornell & Larcker, 1981; Vandebosch, 1996). Table 2 indicates that the AVE exceeds 0.5 in all cases; therefore convergent validity exists for all reflective constructs (Chin, 1998).

Discriminant validity of the construct is assessed next. When assessing discriminant validity, each indicator's cross-loadings onto other constructs should be negligible. Cross loadings are calculated based on correlating the component scores of each latent variable with all the other items (Chin, 1998). The results in Table 3 indicate that the loading of each item *within* its corresponding latent construct is higher than those of items from *other* latent constructs both horizontally and vertically. Finally, discriminant validity of constructs is also found to be adequate as shown by the square root of the AVE statistics (diagonal AVE values in Table 4) compared with the correlations among the latent variables. These results indicate that each construct shares more variance with its own indicators than with other constructs (Fornell & Larcker, 1981). Based on the results in Tables 2–4, it is possible to conclude that the PLS measurement model indicates satisfactory individual item reliability, construct reliability, convergent validity and discriminant validity for the variables of this study.

The results in Table 4 include the *zero-order* standardized coefficients of the correlations among the variables of the model. These results indicate that both independent variables are significantly related to the dependent variable. Thus, nonfinancial measures are significantly related to job performance (est. = 0.4022, $p < 0.01$). Similarly, financial measures are also positively and significantly related to employee performance (est. = 0.4293, $p < 0.01$). The results in Table 4 also indicate that nonfinancial measures and financial measures are significantly related to both intrinsic motivation to participate and controlled extrinsic motivation to participate ($p < 0.01$). While these results provide some indications of support for the expectation that the use of performance measures is positively related to employee job performance, they do not demonstrate the mediating effects of intrinsic motivation and controlled extrinsic motivation on the relationships between performance measures and job performance. These mediating effects can only be ascertained based on the standardized *path* coefficients derived from the structural model of partial least square analysis (see Fig. 2 below). Consequently, we proceed to the structural model.

4.2. Structural model

The structural model results are presented and interpreted next. The structural model is evaluated by testing the strength and direction of the path coefficients as well as through the coefficient of determination (R^2) (Urbach & Ahlemann, 2010).

Table 3
Discriminant validity test – cross factor loadings.

	NF	FIN	IM	CEM	PERF
NF1	0.7772	0.1511	0.3705	0.4533	0.3489
NF2	0.8216	0.2463	0.2736	0.3805	0.3839
NF3	0.8477	0.1804	0.2559	0.4211	0.4206
NF4	0.7485	0.0313	0.3213	0.3478	0.1863
NF5	0.7301	−0.0260	0.2180	0.2412	0.1492
FIN1	0.0885	0.9219	0.2457	0.1251	0.3970
FIN2	0.1278	0.8896	0.3037	0.1965	0.3757
FIN3	0.1850	0.9134	0.2378	0.2133	0.3611
FIN4	0.2097	0.8988	0.2389	0.2370	0.4188
IM1	0.3076	0.2668	0.9314	0.4308	0.3021
IM2	0.3415	0.2880	0.9571	0.4298	0.3182
IM3	0.3855	0.2363	0.8988	0.4726	0.3074
CEM1	0.3952	0.2033	0.4067	0.9162	0.3973
CEM2	0.4961	0.1934	0.4743	0.9298	0.3687
PERF1	0.3000	0.3824	0.2202	0.2684	0.6469
PERF3	0.3307	0.3850	0.2935	0.2943	0.7567
PERF5	0.3659	0.2547	0.2254	0.4235	0.7615
PERF6	0.2596	0.2937	0.2424	0.3667	0.7533
PERF7	0.2598	0.3502	0.2484	0.2428	0.6718
PERF8	0.2268	0.2937	0.1484	0.1391	0.6357
PERF9	0.2223	0.2481	0.2588	0.2670	0.7014

NF = nonfinancial measures, FIN = financial measures, IM = intrinsic motivation to participate, CEM = controlled extrinsic motivation to participate, PERF = performance. Numbers in bold = factor loadings of items from the construct instrument.

Statistical significance of the parameter estimates is based on a bootstrap procedure with 1000 replacements (Efron & Tibshirani, 1993; Hartmann & Slapničar, 2009).

The R^2 , which is a prediction-oriented measure, calculates the relationship between a latent construct's explained variance and its total variance (Chin, 1998; Ringle & Hansmann, 2004). Hence, a higher R^2 depicts higher predictive power for the structural model. In this study, the R^2 for performance as explained by financial and non-financial measures, intrinsic and controlled extrinsic motivation is 33.70% (see Fig. 2). This indicates a moderately strong result (Cohen 1988; Ringle & Hansmann, 2004) and compares favourably with other management accounting studies of around 15% (e.g., Emsley, 2005; Kren, 1992; Mia & Chenhall, 1994). A higher R^2 is not expected because employee job performance is likely to be affected by many other variables apart from those included in our model. Fig. 2 shows that the R^2 is 18.9% for intrinsic motivation and 25.3% for controlled extrinsic motivation. These results indicate that the use of financial performance measures and the use of nonfinancial performance measures are able to explain 18.9% of the variation of intrinsic motivation and 25.3% of the variation of controlled extrinsic motivation, respectively.

Fig. 2 presents the path coefficients of the theoretical model. They indicate the following. First, with regard to intrinsic motivation to participate in target setting, the path between nonfinancial measures and intrinsic motivation is positive and highly significant (est. = 0.334, $p < 0.001$). These results provide strong support for hypothesis H1 which states that the extent to which identifiable *nonfinancial measures* are used in employee performance evaluation is positively associated with employee intrinsic motivation to participate in target setting.

Next, Fig. 2 indicates that the path between financial measures and intrinsic motivation to participate in target setting is also positive and significant (est. = 0.227, $p < 0.01$). Hypothesis H2, which states that the extent to which identifiable *financial measures* are used in employee performance evaluation is positively associated with employee intrinsic motivation to participate in target setting, is therefore also supported. With respect to controlled extrinsic motivation to participate in target setting, hypothesis H3 states that the extent to which *nonfinancial measures* are used as criteria for employee performance evaluation is significantly related to employee *controlled extrinsic motivation* to participate in target setting. The results in Fig. 2 indicate that the relationship between *nonfinancial measures* and extrinsic controlled motivation to participate in target setting is positive and *highly significant* (est. = 0.462; $p < 0.001$). Hypothesis H3 is therefore supported. With respect to hypothesis H4, which states that the extent to which *financial measures* are used as criteria for employee performance

Table 4
Discriminant validity coefficients and square root of AVE.

	NF	FIN	IM	CEM	PERF
NF	0.7863				
FIN	0.1700	0.9061			
IM	0.3722*	0.2838*	0.9295		
CEM	0.4805*	0.2146*	0.4787*	0.9230	
PERF	0.4022*	0.4293*	0.3331*	0.4142*	0.7081

NF = nonfinancial measures, FIN = financial measures, IM = intrinsic motivation to participate, CEM = controlled extrinsic motivation to participate, PERF = performance * $p < 0.01$. Numbers in bold = square roots of AVEs of constructs.

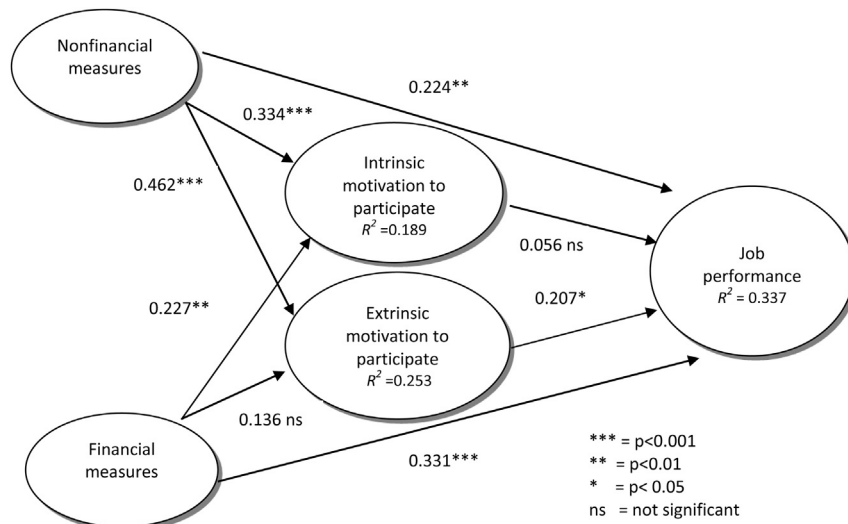


Fig. 2. Performance measures and performance: R^2 and path coefficients.

evaluation is not significantly related to employee *controlled extrinsic motivation* to participate in target setting, the result in Fig. 2 shows that the path between *financial measures* and *extrinsic controlled motivation* to participate in target setting is *not significant* (est. = 0.136; $p > 0.1$). Hypothesis H4 is therefore also supported.

For the relationships between motivation and job performance, hypothesis H5 states that *intrinsic motivation* for participation in target setting is *not* associated with employee job performance. In contrast, H6 states that *controlled extrinsic motivation* is positively associated with employee job performance. In order to ascertain if these two hypotheses are supported, the path coefficients between motivation and job performance are evaluated. For the relationship between *intrinsic motivation* and job performance, Fig. 2 indicates that the path coefficient is *not significant* (est. = 0.056, $p > 0.1$). These results are in accordance with the expectation that, while *intrinsic motivation* may be related to employee satisfaction, it may not necessarily lead to improved employee job performance. Hypothesis H5 is therefore supported. For the relationship between *controlled extrinsic motivation* and job performance, Fig. 2 indicates that the path coefficient is positive and *significant* (est. = 0.207, $p < 0.05$). Hypothesis H6 is therefore also supported.

Additional analyses are undertaken to ascertain if the two forms of motivation to participate in target setting mediate the relationship between performance measures and job performance. Based on the path coefficients in Fig. 2, the indirect effect of the relationships between nonfinancial performance measures and job performance through *controlled extrinsic motivation* to participate in target setting is computed as follows: Nonfinancial–Controlled extrinsic motivation–Performance = $0.462 \times 0.207 = 0.096$. The Sobel (1982) test indicates the indirect effect is significant with a p -value < 0.01 . The indirect effect is also meaningful as it exceeds the threshold of an absolute amount of 0.05 (Bartol, 1983; Pedhazur, 1982).

The test suggested by Baron and Kenny is also used to ascertain if mediation has occurred and if the mediation is full or partial. This is a two steps approach. First, the test for mediation requires that the relationship between nonfinancial measures and job performance be examined without the presence of the mediating variables in the model to ascertain if it is significant. This test is undertaken by examining the *zero-order* correlation between nonfinancial measures and job performance. The results in Table 4 indicate that the zero-order correlation between nonfinancial measures and job performance is 0.4022 and is significant at $p < 0.001$. Second, for mediation to occur, the coefficient for the relationship between nonfinancial measures and job performance should decline in the presence of the mediator. The results in Fig. 2 indicate that the coefficient for the relationship between nonfinancial measures and job performance in the presence of the mediator is 0.224. As the coefficient for the relationship between nonfinancial measures and job performance *without* the mediator (0.4022, $p < 0.001$) declines to 0.224 ($p < 0.01$) when the mediator is present, a mediation has occurred. Baron and Kenny (1986, p. 1177) state that “perfect mediation holds if the independent variable has no effect when the mediator is controlled.” Since the path coefficient for the relationship between nonfinancial measures and job performance *remains significant* (est. = 0.224; $p < 0.01$) when the mediator is controlled, the mediation is *partial*. Overall, these results suggest that the effects of nonfinancial measures on employee job performance are *partially* indirect via *controlled extrinsic motivation* to participate in target setting. These results are consistent with (1) hypotheses H3 which suggests that nonfinancial measures are related to *controlled extrinsic motivation* to participate in target setting, and (2) hypothesis H6 which states that *controlled extrinsic motivation* to participate in target setting, in turn, is associated with job performance.

5. Conclusion

This study investigates the relationships between performance measures (nonfinancial measures and financial measures) and employee intrinsic and controlled extrinsic motivation to participate in target setting; and how these two contrasting forms of motivation, in turn, affect employee job performance. Survey responses from 149 middle level managers are used. SEM-PLS is used to analyse the data.

The results indicate that with respect to employee *intrinsic motivation* to participate in target setting, nonfinancial measures and financial measures are both positively and significantly related to intrinsic motivation to participate in target setting. In contrast, with *controlled extrinsic motivation to participate in target setting*, the results indicate that only nonfinancial measures are positively and significantly relate to controlled extrinsic motivation. Financial measures are not significantly related to this form of motivation. With regard to the effects of the two forms of motivation, the results show that only controlled extrinsic motivation to participate in target setting is positively and significantly related to job performance. Intrinsic motivation to participate in target setting is not significantly related to job performance. Finally, the results also demonstrate that the effects of nonfinancial measures on job performance are partially mediated by controlled extrinsic motivation to participate in target setting.

These results suggest the following conclusions. First, they suggest that employee intrinsic motivation to participate in target setting may be influenced to a significant extent when organizations rely on identifiable performance measures as criteria for evaluating their employee performance. Employees may be motivated to a significant extent to participate intrinsically if their performance evaluations are based on some specified performance criteria, regardless of whether the performance measures are financial or nonfinancial measures. The reliance on specified performance measures, regardless of whether they are financial or nonfinancial, as criteria for performance evaluation, may be more intrinsically appealing to employees than when performance measures are not specified. These conclusions are in accordance with motivation theory (Deci & Ryan, 1985; Fisher, 1978; Ryan, 1982; Ryan & Deci, 2000a, 2000b; Vallerand, 1997) and goal setting theory (Latham, 2009; Locke & Latham, 1991; Schunk & Usher, 2012) which both suggest that the presence or specificity of identifiable performance measures and goal is far more appealing to employees than when there are no identifiable measures or goals at all or ‘Do your best’ goal” because they promote communication, feedback and serve as a basis for performance evaluation and reward.

With controlled extrinsic motivation to participate, it appears that this form of motivation exists only when *nonfinancial* measures are used. Such findings are consistent with the expectation of this study. Since controlled extrinsic motivation to participate is initiated externally and not autonomous, it must serve the purposes of someone else and not the employees. In organizational settings, controlled extrinsic motivation to participate in target setting is likely to be initiated by top management for the benefit of top management. As top management may be unfamiliar with nonfinancial measures, information asymmetry may be high. Compelling employees to participate in target setting may serve as an effective means by which top management are able to reduce information asymmetry associated with nonfinancial measures. Finally, as compelled extrinsic motivation to participate is initiated by top management for the benefit of the organization, employee participation is likely to be far more job related, cognitive in nature, and taken far more seriously than other forms of participation. Consequently, it is not surprising that it is this form of motivation to participate which is associated with improved employee job performance.

This study’s findings may have important practical and theoretical implications. First, the results accentuate the importance of performance measures on employee motivation for participation in target setting. Organizations need to be aware that the development and use of specified performance measures are an essential means to improve employee motivation, both intrinsic motivation and controlled extrinsic motivation. Our study also highlights the importance of controlled extrinsic motivation to participate in target setting in engendering improved employee job performance. Such findings are important to employees and organisations and can also translate into sustainable competitive advantages. It is therefore important for organisations to be concerned about which measures to use for performance evaluation to promote favourable outcomes which reconcile the perspectives of the firm with those of employees.

From a theoretical perspective, this study contributes by informing the current debate on the performance measures and performance relationships. It is the first study to evaluate systematically the roles of employee motivation to participate in target setting in influencing the performance measures and job performance relationships. The study of employee motivation to participate in target setting is also important as it is conceptually very different from employee motivation to perform well in tasks. The consequences of such motivation may be very different from those arising from employee motivation to perform well in tasks. With respect to the current interest in the roles of performance measures in general and nonfinancial measures in particular, the incorporation of both nonfinancial measures and financial measures as well as two very contrasting forms of employee motivation to participate in target setting, our findings provide valuable insights into the intricacies by which performance measures motivate employees to participate and engender improved employees job performance. The relationships are complex. The empirical evidence supports a strong association between nonfinancial measures and employee controlled extrinsic motivation to participate. It also supports a strong relationship between controlled extrinsic motivation to participate and improved employee job performance. Such findings are of importance to future research.

There are limitations associated with the study. While utmost care was taken for a representative sample, bias and other limitations associated with the survey method may still be present. Moreover, as the sample was derived from relatively large manufacturing organizations, the results may not be generalizable to small organizations and nonmanufacturing sectors.

Another limitation relates to the inability of the survey methodology to infer causality. While the discussion and the hypotheses of our research may allude to causality of variables, the survey methodology we used for data collection and analysis does not allowed for statements about causality. The scope of our study is also limited to two independent and two mediating variables. It is likely that employee job performance may be affected by many other independent and mediating variables not included in our models. It might be worthwhile for future research to consider other mediating variables (e.g., information asymmetry and interpersonal trust) and other desirable employee outcomes from individual's perspective (e.g., job satisfaction and job involvement). In our study, we suggest that a higher *extent* of use of identifiable performance measures (whether financial or nonfinancial) for employee performance evaluation is likely to be positively associated with a higher *extent* of communication and feedback to employees and, hence, a higher *extent* of intrinsic motivation. Consequently, in this study, we only discussed and measured the *extent* of use of financial and nonfinancial measures as proxies for the *extent* of communication and feedback to employees. Other attributes of communication and feedback such as the tone and quality of communication and feedback may also affect the relationships. The inclusion of such variables in future research in this area may also be worthwhile. Nevertheless, despite the aforementioned limitations, our study contributes by informing the current debate on the roles and importance of performance measures on employee job performance with new and systematic empirical evidence based on highly relevant but previously unexplored variables.

Appendix

Questionnaire

Nonfinancial measures

When your superior (your immediate boss) is evaluating your performance, how much importance do you think he or she attaches to the following items? (1 = *Never important*; 7 = *Always important*)

- (NF1) Employee satisfaction rate in my department.
- (NF2) Number of employees trained in my department.
- (NF3) Employee turnover rate in my department.
- (NF4) Number of innovations developed by my department.
- (NF5) Rate of adoption of new technology by my department.

Financial measures

When your superior (your immediate boss) is evaluating your performance, how much importance do you think he or she attaches to the following items? (1 = *Never important*; 7 = *Always important*)

- (FIN1) My ability to meet my budget.
- (FIN2) My ability to avoid unfavourable budget variances.
- (FIN3) My ability to meet or better budgeted costs or sales.
- (FIN4) My ability to achieve budgeted cost reductions or budgeted sales growth.

Intrinsic motivation to participate

Please indicate your degree of disagreement or agreement with the following reasons for participating in setting performance targets. (1 = *Strongly disagree*; 7 = *Strongly agree*)

Definition: Target setting = setting of performance goals, financial and/or non-financial

- (IM1) Because participation in target setting gives me a feeling of accomplishment.
- (IM2) Because participation in target setting gives me a great sense of personal satisfaction.
- (IM3) Because participation in target setting gives me a feeling of belonging and increased identification with my organisation.

Controlled extrinsic motivation to participate

Please indicate your degree of disagreement or agreement with the following reasons for participating in setting performance targets. (1 = *Strongly disagree*; 7 = *Strongly agree*)

Definition: Target setting = setting of performance goals, financial and/or non-financial

- (CEM1) Because participation in target setting is a means for me to provide information that is important for my job.
 (CEM2) Because participation in target setting is a means through which my superior allows for better utilisation of information on the job.

Job performance

How would you rate YOUR performance on the following items? (1 = Very low; 7 = Very high)

- (PERF1) Planning for my area of responsibility.
 (PERF2) Coordinating my area's activities.
 (PERF3) Evaluating my subordinates' activities.
 (PERF4) Investigating issues in my area of responsibility.
 (PERF5) Supervising staff.
 (PERF6) Obtaining and maintaining suitable staff.
 (PERF7) Negotiating.
 (PERF8) Representing the interests of my area of responsibility.
 (PERF9) Overall performance.

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