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## **UNPACKING THE NOTION OF SUBJECTIVITY: PERFORMANCE EVALUATION AND SUPERVISOR DISCRETION**

### **Abstract**

This study puts forward the notion of subjectivity according to supervisor discretion and the organization's subjective performance evaluation rules. This is needed because most studies investigating subjectivity do not distinguish supervisor idiosyncrasies from features of the organization's management control systems. This study uses a survey to capture subjectivity and suggests that subjectivity entails two concepts. One concept is related to the amount of discretion that supervisors can exercise under the organization's current performance evaluation. The other concept concerns supervisor's idiosyncrasies when evaluating subordinates. This study provides evidence that subjectivity is multidimensional and may not represent a single concept. The results suggest that studies investigating subjectivity should treat supervisor discretion and subjective performance evaluation rules separately because of their different associations towards subordinate performance, psychological empowerment, and supervisor-subordinate conflict.

Keywords: Performance evaluation, discretion, subjectivity.

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## 1. Introduction

The management accounting literature is dedicating increased attention to the role of subjectivity in performance evaluation (e.g., Bol, Hecht, & Smith, 2015; Voußem, Kramer, & Schäffer, 2016). Subjectivity is related to judgement based on a supervisor's subjective impressions and opinions (Moers, 2005; Prendergast & Topel, 1993), which can be expressed through the use of subjective performance measures, *ex post* flexibility in the weighting of objective performance measures, or *ex post* discretionary adjustment, all of which are based on factors other than performance measures specified *ex ante* (Bol & Smith, 2011; Gibbs, Merchant, Van der Stede, & Vargus, 2004).

The literature has primarily focused on discretion as a single concept (e.g., Moers, 2005) and subjectivity as a unidimensional variable (e.g., Van Rinsum & Verbeeten, 2012), whereas less attention has been given to the analysis of subjectivity as a multidimensional variable (e.g., Bellavance, Landry, & Schiehl, 2013). As Bol (2008) argues, most studies refer to subjectivity in a very general sense, without acknowledging the different types of supervisor discretion. For example, Grabner (2014) provides a scale for subjectivity, with items such as loyalty, willingness to work on a team, knowledge sharing capability, and long-term orientation. Although Grabner (2014) calls the scale “subjective performance evaluation”, it mostly captures the use of subjective performance measures.

In contrast to previous studies that use a dichotomous variable for indicating subjectivity, Bellavance et al. (2013) provide a scale to capture *ex post* flexibility in the weighting of multiple performance measures. However, Bellavance et al. (2013) acknowledge in their study that they do not investigate all identified concepts of subjectivity. It is noteworthy that no contemporary accounting research study has been able to cover all identified concepts of subjectivity in performance evaluation. One possible explanation is that subjectivity in performance evaluation as a multidimensional variable is a recent research topic, whereas another possible explanation is that researchers were not able to report statistically significant outcomes for different concepts of subjectivity in performance evaluation.

This study investigates if part of subjectivity in performance evaluation can be associated with idiosyncrasies of a specific supervisor. The underlying reason for investigating different concepts of subjectivity is that different concepts of subjectivity have different incentive purposes and may consequently have different effects on subordinates' perceptions (Bellavance et al., 2013). Performance evaluation policies that entitle a supervisor to be subjective may not necessarily translate into a supervisor exerting discretion when evaluating subordinates, whereas an idiosyncratic supervisor may not be able to override an objective performance evaluation policy. Therefore, subjective performance evaluation rules are expected to be associated with enabling idiosyncratic supervisors to exert discretion.

The research question that motivates this study is whether there is an association among the two different concepts of subjectivity proposed in this study, namely, *rule-driven subjective performance evaluation* and *supervisor-driven subjective performance evaluation*. To address the research question, this study attempts to measure supervisors' idiosyncrasies (i.e., *supervisor-driven subjective performance evaluation*) and specific features of management control systems that are associated with subjective performance evaluation (i.e., *rule-driven subjective performance evaluation*). To validate the new measures of subjectivity in performance evaluation, plausible associations among subjective performance evaluation rules, supervisor discretion, and other variables are investigated.

This study suggests that, although the use of subjectivity could be associated with subordinate performance, subjectivity is also expected to be associated with supervisor-subordinate conflict and psychological empowerment. Performance measures that involve the supervisor's subjective impressions and opinions are expected to influence subordinates' individual behaviour (Prendergast & Topel, 1993), and this study suggests that the use of subjective performance evaluation may have positive associations with the psychological empowerment of subordinates. Empowerment refers to increased task motivation, as affected by both personality and environmental variables (Spreitzer, 1995; Thomas & Velthouse, 1990). Subjectivity enables supervisors to evaluate subordinates' performance based on their level of effort, commitment, obstinacy and creativity and on whether they are role models for fellow colleagues (Baiman & Rajan, 1995; Simons, 1995). It is also argued that subjectivity might be associated with conflict between a supervisor and a subordinate (Gibbs et al., 2004; Ittner, Larcker, & Meyer, 2003).

Two main findings emerge from this study. First, there is evidence that subjective performance evaluation is a multi-dimensional construct. *Supervisor-driven subjective performance evaluation* is represented by two dimensions related to supervisors' behaviours associated with discretion in performance evaluation. *Rule-driven subjective performance evaluation* is represented by one dimension relating to features of the organization's management control systems that are associated with subjective performance evaluation. The second finding is that there are different associations among *supervisor-driven subjective performance evaluation* and *rule-driven subjective performance evaluation* with conflict, psychological empowerment, and subordinate performance.

This study contributes to the management accounting literature in two main ways. First, whereas previous research has focused mainly on the effects of subjectivity, this study presents subjectivity as two different concepts, supervisor discretion and subjective performance evaluation rules. The second contribution to the literature is that it provides additional empirical evidence about the association between subjectivity in performance evaluation and subordinate performance. In this way, this study contributes to the growing stream of empirical research on subjectivity in performance evaluation (e.g., Bellavance et al., 2013; Bol et al., 2015; Bol & Smith, 2011; Gibbs

et al., 2004; Höpfe & Moers, 2011; Moers, 2005). Although the use of subjective evaluation could be positively associated with subordinate performance, it may also foster both conflict and empowerment. Thus, the total outcome might be uncertain because psychological empowerment and supervisor-subordinate conflict are likely to have associations with subordinate performance.

The remainder of the paper is presented in four sections. The next section presents theory and hypotheses for this study. Then, a section describing the research method – including sample selection and variable measurement – is provided, followed by a section dedicated to the presentation and discussion of the results. The final section concludes the paper.

## **2. Theory and hypothesis formulation**

### *2.1 Subjective performance evaluation and supervisor discretion*

Most studies in the accounting literature investigating subjectivity do not make a distinction between supervisor discretion and subjective performance evaluation rules. One stream of research on subjective performance evaluation examines the impact of bonus payment systems that use both qualitative measures and a discretionary mix of quantitative measures (e.g., Gibbs et al., 2004; Voußem et al., 2016), and other studies present performance evaluation as related to supervisor discretion and consider how observed performance is translated into rewards (e.g., Bol, 2011; Höpfe & Moers, 2011). A third stream of research conceptualizes performance evaluation as a process distinct from reward payment (e.g., Bol & Smith, 2011; Van Rinsum & Verbeeten, 2012). This last conceptualization emphasizes the performance evaluation process itself instead of the financial rewards, which is important because performance evaluation can lead to both financial and non-financial rewards. Examples of non-financial rewards include positive feedback, recognition, acknowledgement, and personal compliments (Podsakoff, Todor, Grover, & Huber, 1984). This study follows this last stream of research and focuses on the performance evaluation process, more specifically, the amount of supervisor discretion and the level of subjectivity in performance evaluation rules.

The reason for investigating different forms of subjectivity is that different forms of subjectivity have different incentive purposes and may consequently have different effects on subordinates' perceptions (Bellavance et al. 2013). Developing a multidimensional scale for subjectivity contributes to the growing body of literature that examines subjectivity in performance evaluation and its effects. This segregation among supervisors' idiosyncrasies and specific features of the organization's management control systems is useful because subjective performance evaluation rules can be seen as a concept different from, but associated with, supervisor discretion. Situations where performance evaluation rules are mostly subjective are expected to have an association with supervisors exerting discretion. It is expected that supervisors will be able to exert discretion if entitled by the organization's performance evaluation. This leads to two distinct concepts: *rule-driven subjective performance evaluation* and *supervisor-driven subjective performance evaluation*.

It is worth noting that performance measures that involve the supervisor's subjective impressions and opinions are expected to influence subordinates' individual behaviour (Prendergast & Topel, 1993). Prendergast and Topel (1993) argue that supervisors are able to measure subordinate performance based on their own subjective impressions and opinions. It is understood that supervisors will respond to their own incentives and preferences when subjectively evaluating subordinate performance (Bol, 2011). Therefore, if performance evaluation rules entitle supervisors to exert discretion, there is the chance that idiosyncratic supervisors will exert discretion when evaluating the performance of subordinates. However, performance evaluation rules that entitle a supervisor to be subjective may not necessarily translate into a supervisor exerting discretion when evaluating subordinates.

Bellavance et al (2013) use a scale to measure the *ex-post* flexibility in the weighting of multiple performance measures and collect data regarding the use and weight of subjective performance measures. The two measures of Bellavance et al (2013) are correlated, and in a similar fashion, subjective performance evaluation rules are expected to be associated with enabling idiosyncratic supervisors to exert discretion. Based on the arguments presented above, the following hypothesis is proposed:

- **H1** – *Supervisor-driven subjective performance evaluation* is associated with *rule-driven subjective performance evaluation*.

## 2.2 Empowerment, conflict, and performance

To validate the new measures of performance evaluation rules and supervisor discretion, plausible associations among subjectivity in performance evaluation and other variables are investigated. It is proposed that subjectivity may have associations with psychological empowerment, supervisor-subordinate conflict, and subordinate performance. This study suggests that the use of subjective performance evaluation may have an association with psychological empowerment of subordinates. Empowerment refers to increased task motivation, as affected by both personality and environmental variables (Spreitzer, 1995; Thomas & Velthouse, 1990). Supervisor discretion enables supervisors to evaluate subordinates' performance based on their level of effort, commitment, obstinacy and creativity and on whether they are role models for fellow colleagues (Baiman & Rajan, 1995; Simons, 1995). It is also argued that subjectivity might be associated with conflict between a supervisor and a subordinate (Gibbs et al., 2004; Ittner et al., 2003).

The use of objective measures for performance evaluation is related to measureable outcomes such as accounting measures, which may be considered backward-looking (Otley, 2003). In contrast, subjective measures allow the consideration of a wider range of aspects. For instance, supervisors can evaluate a subordinate's performance based on his or her effort, commitment, obstinacy and creativity and on whether the subordinate is a role model for fellow colleagues (Baiman & Rajan, 1995; Simons, 1995). Therefore, subjective evaluation allows supervisors to encourage

subordinates' empowerment. Because initiatives such as commitment and creativity can be assessed by supervisors, subordinates are likely to perceive that their actions are important and worthwhile to the organization, which in turn increases their perceived meaningfulness (Simons, 1995). Discretion in performance evaluation is necessary because the performance of certain tasks, such as innovation, can only be assessed by supervisor judgement (Keeley, 1977). It is worth noting that some job characteristics (e.g., working with innovation) may lead to more-subjective performance evaluation. When subordinates are not constrained by formula-based evaluations, they may initiate, continue, or terminate actions and processes according to their belief that such actions are likely to improve their overall performance as evaluated by their supervisors.

Additionally, subjective measures can be used to motivate employees when objective performance targets have become unreasonably difficult to achieve, allowing supervisors to establish new challenges for employees for whom previous goals are no longer relevant (Gibbs et al., 2004). Hence, subjective performance evaluation can have a positive association with a subordinate's psychological empowerment and can be used by the supervisor to foster empowerment. Regarding the association between supervisor discretion and subordinate performance, behavioural theory predicts that bias in performance evaluation can have a positive association with subordinates' motivation and performance because it may enhance the perceived fairness of the incentive system (Bol, 2011). Bol (2008) suggests that the use of subjectivity in performance evaluation allows subordinates to adopt value-enhancing efforts that are not easily quantified.

However, the relationship between supervisor and subordinate may degenerate due to the supervisor's subjective impressions and opinions, which can lead to the compression of ratings, perceived favouritism, and disagreements between the supervisor and subordinate (Bol, 2008; Cosier & Rose, 1977; Prendergast & Topel, 1993). The positive association between compression of ratings and subjectivity may be due to supervisors' preference for equitable outcomes when rating performance, meaning that supervisors tend to prefer to rate individuals towards uniformity (Prendergast & Topel, 1993). Therefore, if a supervisor practices ratings compression, subordinates who exert different levels of effort during the evaluation period will be assessed at a similar level. Consequently, subordinates may feel that their level of effort was worthless, and disagreements may arise between subordinates and the supervisor. Eventually, this perceived difference between a subordinate's effort and his or her performance evaluation will lead to conflict generated by increased disagreement between subordinate and supervisor (Wall & Nolan, 1986). Supervisor-subordinate conflict refers to the amount of friction in the relationship between the parties (Jehn, 1995).

Although most subordinates may have similar performance evaluations due to compression, the argument regarding conflicts arising due to disagreements about the gap between a subordinate's effort and his or her performance evaluation remains valid. Ittner et al. (2003) argue that perceived favouritism related to subjectivity in performance evaluation can undermine supervisor-

subordinate relations. Ultimately, the difference between a subordinate's effort and his or her performance evaluation may lead to conflict due to increased disagreement between subordinate and supervisor (Wall & Nolan, 1986).

The third and last consequence of subjectivity in performance evaluation that leads to conflict is disagreement between the supervisor and subordinate over how performance is evaluated. The supervisor and subordinate may disagree about an identical stimulus, such as the subordinate's effort (Cosier & Rose, 1977). A subordinate might receive a performance rating that is quite different from what he or she was expecting (Baker, Gibbons, & Murphy, 1994). Subordinates may feel uneasy because they perceive that the performance evaluation based on supervisor discretion overemphasizes recent performance to the detriment of prior performance, or vice versa. Disagreement about how performance is evaluated can generate friction between the supervisor and subordinate because the notion of what constitutes good performance during the evaluation period can differ among individuals (Van Rinsum & Verbeeten, 2012).

The hypotheses proposed in this study focus on the associations of subjectivity in performance evaluation. Based on this model, it is suggested that subjectivity in performance evaluation has a positive association with subordinate performance, psychological empowerment, and supervisor-subordinate conflict. Based on the arguments presented above, the following hypotheses are proposed:

- **H2** – Subjectivity in performance evaluation is positively associated with supervisor-subordinate conflict.
- **H3** – Subjectivity in performance evaluation is positively associated with psychological empowerment.
- **H4** – Subjectivity in performance evaluation is positively associated with subordinate performance.

### **3. Research method**

The research method adopted in this study was a mail survey. Surveys are commonly employed to test theory in management accounting research, and this method is very effective for empirically studying the characteristics and interrelations among a diverse set of variables (Van der Stede, Young, & Chen, 2006).

#### *3.1 Sample selection and data collection*

Middle managers were selected as the sample for this study because they are subject to all of the elements investigated in this study as subordinates to top management. The only restriction on sample selection was to exclude top management. It was necessary to exclude top managers from the sample selection because they are not directly subordinate to someone else and are thus not a valid sample for capturing supervisor-subordinate conflict. The selection of the service industry was based only on the potential impact of different industry subsamples on data analysis. Although

the decision to restrict the survey to the service industry might limit the generalization of the results, it reduces the chance of confounding variables. To build the list of participants, the following criteria were applied: exclude managers from organizations with less than 100 employees, exclude organizations whose business description does not include the term 'service', and exclude top management. The rationale for selecting a sample of 1,000 participants was to ensure a sample sufficient for statistical analysis (Hair, Black, & Babin, 2010; Van der Stede et al., 2006). A postcard reminder was mailed two weeks after the survey package was mailed, and follow-up calls were made.

In total, 103 completed questionnaires were received, but because one response was missing an entire section of data, the total useable sample was 102 completed questionnaires. A review of missing data revealed that data were missing completely at random (MCAR), and expectation-maximization was used as an imputation method to address missing observations. Non-response bias analysis was performed on the first and last 30 responses, and no response bias was found. Accounting for return-to-sender letters (173) and recipients who were unknown or had departed from the organization (129), the adjusted response rate was 14.61%. Recently conducted mail surveys yielded similar response rates, including a 14.5% response rate for Moores and Yuen (2001), 20% for Baines and Langfield-Smith (2003), and 14.9% for Auzair and Langfield-Smith (2005). Recent studies indicate that the main reasons for low response rates include a lack of time to complete surveys, the receipt of too many surveys, and/or a company policy of not responding to surveys (Baines & Langfield-Smith, 2003; Chenhall, 2005; Hall, 2008). Follow-up phone calls elicited similar results from non-respondents.

The survey collected demographic information regarding the respondents and organizations. The largest concentrations of organizations are in the professional, scientific and technical services group (29%) and the financial and insurance services group (26%). Other concentrated groups include accommodation and food services (8%) and electricity, gas, water and waste services (7%). Certain respondents selected manufacturing (8%) or construction (8%), but the sample selection was restricted to the service industry, so these respondents were likely referring to manufacturing and construction services. As anecdotal evidence, during the follow-up process, the researcher contacted one participant at an architectural firm, and the participant described himself as being in the construction industry. Regarding the time at their jobs, on average, respondents were in their current positions for seven years and at their organizations for 11 years. This suggests that the sample comprises managers with considerable experience. These values are similar to those of contemporary research, such as Hall (2008), who found an average of five years in the current position and 11 years at the organization, and Spreitzer (1995), who found an average of three years in the current position and 13 years at the organization.

### *3.2 Variable measurement*

The level of analysis of this study is the individual because the primary focus of the study is on individual performance evaluation, meaning that subordinates are expected to be directly affected

by performance evaluation. Consequently, all variables are measured at the level of the individual. The variables used in the proposed model are *supervisor-driven subjective performance evaluation*, *rule-driven subjective performance evaluation*, psychological empowerment, supervisor-subordinate conflict, and subordinate performance. The measures of subjectivity were developed for this study based on contemporary research on the topic. The measures were established through deduction, with an understanding of the phenomenon and a review of the literature to develop a theoretical definition of the concepts under examination (Hinkin, 1995). The items explored characteristics drawn from an extended review of the literature on subjectivity in performance evaluation, including Govindarajan and Gupta (1985), Prendergast and Topel (1993), Bommer, Johnson, Rich, Podsakoff, and Mackenzie (1995), and Gibbs et al. (2004). *Supervisor-driven subjective performance evaluation* comprised four items using a 7-point Likert scale, and *rule-driven subjective performance evaluation* comprised three items using a 7-point Likert scale. It is worth noting that total scale information is a function of the number of items in a scale, and scale lengths could affect responses. Providing a measure with few items is an effective means of minimizing response biases; however, scales with few items may lack content and construct validity and internal consistency. Hinkin (1995) notes that adequate internal consistency reliabilities can be obtained with as few as three items.

A draft version of the survey package was mailed to three professional practitioners and ten researchers for constructive feedback. The objective of this procedure was to ask other practitioners and researchers to read and complete the questionnaire and to provide comments regarding its accuracy and precision. Suggestions were elicited to improve survey wording, question order, visual design, and navigation. Based on the suggestions, several slight changes were made to the survey package. It is important to note that participants in the survey were instructed to answer the questionnaires based on the level of subjectivity they experienced when evaluated by their supervisors. Because the researcher did not have direct access to the organizations to learn about their performance evaluation processes, these items depended entirely on the perceptions of the respondents. It was not possible to cross-reference human resources or supervisors and subordinates regarding the level of subjectivity within the performance evaluation process.

One concern raised in the academic literature regarding participant self-rating in surveys is that participants might not be the best source of information for measuring variables (Van der Stede et al., 2006). However, Churchill, Ford, Hartley, and Walker (1985) argue that self-rating is a reliable source of information because it is highly correlated with superiors' ratings. This argument suggests that a participant's self-rating of performance should be similar to his or her supervisor's rating of his or her performance and, thus, is an accurate source of information. Researchers including Hall (2008) and Parker and Kyj (2006) have argued that self-reported performance measures are valid and tend to display less bias than supervisors' ratings. Harman's single-factor test was conducted to examine common method variance. The results do not indicate a single-

factor structure that accounts for much of the variance, suggesting that common method bias is not a concern.

Except for *supervisor-driven subjective performance evaluation* and *rule-driven subjective performance evaluation*, the variables adopted in the survey were measured through well-established measures used in previous research. All survey items are listed in the Appendix, and the final loadings for all items are presented in Table 1 with the PLS measurement model.

### **3.2.1 Supervisor-driven subjective performance evaluation**

The objective of the supervisor discretion items is to detect the use of discretion in performance evaluation to capture the supervisor's idiosyncrasies. The aim of the questionnaire is to reveal to what extent the respondent agrees or disagrees with various statements. The items developed are as follows:

- *Amount of discretion* (SPEV01): My supervisor has plenty of discretion in conducting my performance evaluation.<sup>1</sup>
- *Supervisor uniqueness* (SPEV02): My performance evaluation could change considerably if I were evaluated by another supervisor.
- *Supervisor's previous experience* (SPEV03): My supervisor's experience with previous performance evaluations influences how s/he evaluates my current performance.
- *Supervisor's personal expectations* (SPEV04): My supervisor conducts my performance evaluation according to what s/he personally expects from me.

The item “My supervisor has plenty of discretion in conducting my performance evaluation” (SPEV01) captures the amount of discretion in the performance evaluation. This item reflects the definition developed by Govindarajan and Gupta (1985), who posit that subjectivity refers to the degree of a supervisor's discretion in performance evaluation. The item “My performance evaluation could change considerably if I were evaluated by another supervisor” (SPEV02) indicates the extent to which performance evaluation is influenced by a specific supervisor, because several researchers argue that supervisor bias may substantially influence performance evaluation (Heneman, 1986; Prendergast & Topel, 1993).

Baker (1990) maintains that discretion allows the supervisor to use knowledge about what actually occurred to separate individual effort from the effects of unforeseen events. This is the objective of the item “My supervisor's experience with previous performance evaluations influences how s/he evaluates my current performance” (SPEV03), which seeks to capture the extent to which the supervisor uses his or her knowledge to influence the subordinate's performance evaluation. The item “My supervisor conducts my performance evaluation according to what s/he personally

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<sup>1</sup> It could be argued that the amount of discretion perceived by the subordinate relates to the control system design, not to idiosyncratic use of an individual manager. However, as evidence from the factor analysis and model fit, this item relates to the concept of *supervisor-driven subjectivity in performance evaluation*.

expects from me” (SPEV04) reveals the degree to which a supervisor’s personal expectations influence the evaluation. The influence of the supervisor’s expectations on the subordinate’s performance evaluation shows that there is bias in the evaluation, because subjective ratings may depend largely on personal judgement (Bommer et al., 1995; Simons, 1995).

### **3.2.2 Rule-driven subjective performance evaluation**

The objective of these items is to detect the level of subjectivity in performance evaluation rules. The aim of the questionnaire is to reveal to what extent the respondent agrees or disagrees with various statements. The items developed are:

- *Performance expectations* (SPEV05): My performance is evaluated based on what I have done and also on what I should have done.
- *Set performance rules* (SPEV06): The rules concerning my performance evaluation are clearly set in advance.
- *Unexpected occurrences* (SPEV07): My performance evaluation excludes unexpected occurrences that are beyond my control but influence my current performance.

The use of subjectivity allows the supervisor to evaluate the subordinate’s performance based not only on what the subordinate has done but also on what the supervisor believes the subordinate should have done (Baker, 1990). Hence, the item “My performance is evaluated based on what I have done and also on what I should have done” (SPEV05) captures the influence of the supervisor’s expectations on performance evaluation. As Bol et al. (2015) argue, discretion allows supervisors to signal expectations or intentions to subordinates. Furthermore, subjectivity can be influenced by the supervisor’s knowledge of other information unrelated to the subordinate’s performance.

Discretion means that the rules of performance evaluation are unspecified *ex ante* and are unverifiable *ex post* (Bol & Smith, 2011; Gibbs et al., 2004). Because performance evaluation is the outcome of the supervisor’s discretion, there is no general formula or database to precisely track how or why past performance evaluations were conducted as they were or how good the ratings will be on the next evaluation. Based on these arguments, the item “The rules concerning my performance evaluation are clearly set in advance” (SPEV06) was included in the questionnaire to capture how much specified *ex ante* and verifiable *ex post* information the subordinate can access regarding his/her performance evaluation.

It has been suggested that subjectivity can account for the environmental unpredictability of performance and that the use of discretion may modify the effects of uncontrollable factors (Merchant, Chow, & Wu, 1995). Hence, supervisor discretion can be used as a resource to neutralize the effects of negative externalities. The item “My performance evaluation excludes unexpected occurrences that are beyond my control but influence my current performance” (SPEV07) captures the degree of subjectivity in performance evaluation by assessing whether this

process excludes unexpected occurrences that are beyond the control of the subordinate but could influence her/his performance.

### **3.2.3 Psychological empowerment**

The psychological empowerment scale was obtained from Spreitzer (1995), who uses twelve items to capture the four dimensions of empowerment: meaning, competence, self-determination, and impact. These items are widely used in contemporary research, and acceptable reliability has been consistently reported (e.g., Hall, 2008; Hall & Smith, 2009).

### **3.2.4 Supervisor-subordinate conflict**

Supervisor-subordinate conflict was measured using an adaptation of the scale developed by Xin and Pelled (2003), which drew on Jehn (1995). This measure comprises seven items regarding conflict. Note that Jehn (1995) explored interaction among peers and Xin and Pelled (2003) explored supervisors' interaction with subordinates, whereas this research explores subordinates' interaction with supervisors. Therefore, the items were slightly modified to reflect the difference in perspective. For example, whereas Xin and Pelled (2003) presented questions as "between you and the subordinate", this survey presented questions as "between me and my supervisor".

### **3.2.5 Subordinate performance**

To measure subordinate performance, the eight items developed by Mahoney, Jerdee, and Carroll (1965) to assess managerial performance were adopted, as well as one additional item related to overall performance, as per Hall (2008). The heading over these items in the questionnaire asked the participant to rate his/her own performance compared to the average manager in his/her organization.

## **4. Results and discussion**

### **4.1 Examining subjectivity**

Confirmatory factor analysis is used to assess the distinctiveness of *supervisor-driven subjective performance evaluation* with items SPEV01, SPEV02, SPEV03, and SPEV04 and *rule-driven subjective performance evaluation* with items SPEV05, SPEV06, and SPEV07. Hinkin (1995) recommends the use of confirmatory factor analysis for scale development because it allows more precision in evaluating the measurement model.

Based on the preliminary findings, the loadings for some items are lower than the suggested threshold of 0.50 (Hair et al., 2010), and grouping the items within two variables does not provide a good model fit ( $\chi^2 = 42.29, p = 0.0001$ ). Analysing the loading of the items and modification indices, a model splitting *supervisor-driven subjective performance evaluation* between dimensions SDSPE1 (items SPEV01 and SPEV04) and SDSPE2 (items SPEV02 and SPEV03) and maintaining *rule-driven subjective performance evaluation* as RDSPE (items SPEV05, SPEV06, and SPEV07) has a good model fit ( $\chi^2 = 13.16, p = 0.2829$ ). This means that the concept of *supervisor-driven subjective performance evaluation* is represented by two dimensions. SDSPE1 captures the amount of discretion and personal expectations a supervisor exerts when

conducting a performance evaluation (i.e., SPVE01 and SPEV04). SDSPE2 captures the difference it would make being evaluated by another supervisor and the influence of a supervisor's experience with previous performance evaluation on the current performance evaluation (i.e., SPEV02 and SPEV03).

In the model, SPEV07 has a coefficient that is not different from zero, and when removing this item, the final model maintains its goodness of fit ( $\chi^2 = 9.08$ ,  $p = 0.1691$ ; RMSEA = 0.072; and CFI = 0.954). Item SPECV07 asks about adjustments for uncontrollable factors, which could occur independently of subjectivity in performance evaluation (e.g., flexible budgeting or benchmarking). Due to the risk of low validity, SPEV07 was removed from the measure. As this was a novel measure, it was subject to the risks of some items being poorly worded, inappropriate, or simply out of context (Hulland, 1999). The cross-loading table with confirmatory factor analysis for all items and using variables SDSPE1, SDSPE2, and RDSPE is shown in Table 1, and the reliability scores and correlation among all variables are shown in Table 2.

#### 4.2 Partial Least Squares analysis

Due to this study's small sample size, PLS was adopted for the analysis, and a resampling procedure was adopted to estimate significance levels (Smith & Langfield-Smith, 2004). This analysis used 1,000 samples for bootstrapping. PLS analysis examines the hypothesized relation among the variables within the structural model, but answering the research question requires an examination of the association among the model variables. For this study, the statistical significance of associations was analysed using SmartPLS 2.0 (M3) Beta® (Ringle, Wende, & Will, 2005). PLS includes the measurement model and the structural model (Hulland, 1999). Regarding the choice between reflective or formative indicators, the reflective indicators were chosen to set the weights, due to the nature of the chosen variables for this research (Lee, Petter, Fayard, & Robinson, 2011). Furthermore, most variables reported in the management accounting survey-based literature are based on reflective models (Bisbe, Batista-Foguet, & Chenhall, 2007). The statistical analyses were conducted using SmartPLS 2.0 (M3) Beta® to examine individual item loadings, composite reliability, and discriminant validity.

*Supervisor-driven subjective performance* evaluation is represented by SDSPE1 and SDSPE2, and *rule-driven subjective performance evaluation* is represented by RDSPE, as shown in Table 1 and Table 2. The factor loadings from the final PLS measurement model are presented in Table 1, and the values shown in bold represent the higher loadings. Except for psychological empowerment and subordinate performance, there is no evidence of high cross-loadings among variables. Table 1 also shows the *t*-statistics obtained from bootstrapping for the outer loadings for the reflective indicators. As shown in Table 2, psychological empowerment and subordinate performance have high reliability scores, and the square roots of the variables' average variance extracted (AVE) are greater than the correlations.

**Table 1 – Factor loadings from the final PLS measurement model with *t*-statistics**

Item	SDSPE2	RDSPE	SDSPE1	Psychological Empowerment	Subordinate Performance	Supervisor-Subordinate Conflict	<i>t</i> -statistics for factor loading
SPEV01	<b>0.907</b>	0.141	0.110	0.174	-0.008	0.117	3.437
SPEV04	<b>0.657</b>	0.254	0.116	0.053	0.002	0.115	2.535
SPEV05	0.337	<b>0.689</b>	-0.042	0.265	0.191	-0.075	5.081
SPEV06	0.121	<b>0.939</b>	-0.293	0.314	0.275	-0.465	20.485
SPEV02	0.125	-0.311	<b>0.811</b>	-0.146	-0.032	0.263	3.648
SPEV03	0.111	-0.133	<b>0.888</b>	0.080	0.229	0.230	4.388
PEMP01	0.091	0.330	-0.059	<b>0.745</b>	0.418	-0.293	12.476
PEMP02	0.163	0.226	0.037	<b>0.809</b>	0.417	-0.192	12.876
PEMP03	0.057	0.282	-0.105	<b>0.774</b>	0.383	-0.358	14.858
PEMP04	0.122	0.196	0.123	<b>0.741</b>	0.487	-0.297	8.257
PEMP05	0.069	0.267	0.066	<b>0.661</b>	0.558	-0.202	6.958
PEMP07	0.068	0.324	-0.076	<b>0.765</b>	0.409	-0.386	15.020
PEMP08	0.161	0.238	0.095	<b>0.766</b>	0.313	-0.297	10.506
PEMP09	0.121	0.190	0.017	<b>0.738</b>	0.309	-0.307	10.960
PEMP10	0.139	0.264	-0.084	<b>0.768</b>	0.371	-0.167	12.380
PEMP11	0.175	0.202	-0.043	<b>0.746</b>	0.372	-0.238	9.698
PEMP12	0.173	0.277	-0.112	<b>0.713</b>	0.489	-0.194	9.391
MPER01	0.054	0.243	0.090	0.491	<b>0.757</b>	-0.074	7.222
MPER02	0.038	0.203	0.154	0.338	<b>0.663</b>	-0.059	6.832
MPER03	0.004	0.209	0.124	0.432	<b>0.735</b>	-0.057	7.490
MPER04	-0.196	0.194	0.011	0.321	<b>0.771</b>	-0.018	7.632
MPER05	0.020	0.134	0.201	0.421	<b>0.629</b>	-0.116	5.537
MPER06	0.056	0.221	-0.024	0.395	<b>0.604</b>	-0.105	4.057
MPER09	0.005	0.252	0.084	0.403	<b>0.853</b>	-0.154	12.427
SSCO01	0.147	-0.365	0.234	-0.237	-0.065	<b>0.900</b>	34.307
SSCO02	0.164	-0.404	0.272	-0.283	-0.021	<b>0.929</b>	56.148
SSCO03	0.132	-0.331	0.162	-0.365	-0.244	<b>0.808</b>	15.390
SSCO04	0.072	-0.423	0.307	-0.374	-0.161	<b>0.891</b>	37.803
SSCO05	0.069	-0.341	0.293	-0.411	-0.106	<b>0.886</b>	29.613
SSCO06	0.126	-0.326	0.264	-0.345	-0.090	<b>0.937</b>	57.693
SSCO07	0.190	-0.271	0.255	-0.242	-0.050	<b>0.929</b>	40.901

Values shown in **bold** are the higher loadings.

In the initial AVE analysis, subordinate performance and psychological empowerment had AVE values slightly lower than 0.50. If items with low factor loadings (namely, MPER07, MPER08, and PEMP06) are deleted from the variables, the AVE values will improve. The AVE statistics

are presented in Table 2. The performance scale introduced by Mahoney et al. (1965) has been used extensively by researchers; see, for example, Parker and Kyj (2006) and Hall (2008). Based on feedback from the survey pre-test, participants were given the option to mark ‘not applicable’ for each item under the subordinate performance question. This option was added because middle managers do not necessarily have all of the responsibilities listed; thus, respondents could select the ‘not applicable’ option. The negotiating (MPER07) and representing (MPER08) activities represented one-half of the ‘not applicable’ responses under the subordinate performance question. For the PLS analysis, ‘not applicable’ responses were overridden by numerical values obtained through the estimation-maximization (EM) method for missing values. Hall (2008) had similar issues with these two items in his performance variable and omitted both due to low loadings. Hence, omitting these two items from the subordinate performance scale is consistent with prior management accounting research. Therefore, due to low loading and convergent validity items for subordinate performance (MPER07 and MPER08) and psychological empowerment (PEMP06), these items were removed from the measurement model.

The descriptive statistics, the reliability and average variance extracted statistics, and the correlations from the PLS model are presented in Table 2. Cronbach’s alpha is a reliability coefficient widely used, but, as Hair et al. (2010) argue, this reliability coefficient has a positive relation to the number of items in the scale. This benefits variables with a large number of items compared to those with fewer items, and there are examples of variables where the small number of items contribute to low Cronbach’s alphas (e.g., Chapman & Kihn, 2009). As the variables related to subjectivity in performance evaluation in this study have two items each, their Cronbach’s alphas were expected to be affected. Thus, the measure proposed by Werts, Linn, and Jöreskog (1974) was favoured, as this measure is usually adopted in PLS analysis and uses the actual loadings from the measurement model (Chin, 1998; Fornell & Larcker, 1981). Furthermore, under PLS, there is no assumption that items contribute equally to the measurement of latent variables (Chin, 1998).

**Table 2 – Descriptive statistics, reliability and average variance extracted (AVE) statistics, and correlations from the PLS model**

Variable	AVE	Composite Reliability	Cronbach’s Alpha	Correlation					
				SDSPE2	Psychological Empowerment	RDSPE	SDSPE1	Subordinate Performance	Supervisor-Subordinate Conflict
SDSPE2	0.627	0.766	0.436	<b>0.792</b>					
Psychological Empowerment	0.561	0.933	0.921	0.160	<b>0.749</b>				
RDSPE	0.678	0.804	0.569	0.222	0.347	<b>0.823</b>			
SDSPE1	0.723	0.839	0.621	0.137	-0.023	-0.247	<b>0.850</b>		
Subordinate Performance	0.519	0.882	0.843	-0.005	0.554	0.289	0.134	<b>0.721</b>	
Supervisor-Subordinate Conflict	0.807	0.967	0.960	0.142	-0.358	-0.396	0.287	-0.115	<b>0.898</b>

Correlations greater than |0.20| are significant at  $p < 0.05$ , and those greater than |0.26| are significant at  $p < 0.01$ , two-tailed.

As shown in the correlation matrix with AVE statistics in Table 2, the square roots of the variables' AVE are greater than the correlations for each variable. Hair et al. (2010) suggest a minimum AVE of 0.50, which means more than half of the variance in the observed variable is explained by the latent construct.

#### 4.3 Test of hypotheses

The structural model comprises 6 variables and 9 direct paths. Of the 9 direct paths estimated in the structural model, 5 are statistically significant. The path coefficient estimates and their significance levels are shown in Table 3. The dependent variables for any given path are shown at the top of the table, and the independent variables for any given path are shown on the left side of the table.

**Table 3 – PLS structural model path coefficients,  $t$ -statistics, and  $R^2$**

Variables	Path to		
	Supervisor-Subordinate Conflict	Psychological Empowerment	Subordinate Performance
SDSPE2	0.210** ( $t = 2.383$ )	0.077 ( $t = 0.455$ )	-0.122 ( $t = 0.868$ )
RDSPE	-0.403*** ( $t = 4.589$ )	0.343*** ( $t = 3.514$ )	0.376*** ( $t = 3.954$ )
SDSPE1	0.158* ( $t = 1.895$ )	0.052 ( $t = 0.353$ )	0.244 ( $t = 1.525$ )
$R^2$	0.235	0.130	0.142

\*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$  (two-tailed)

H1 predicts that *supervisor-driven subjective performance evaluation* is associated with *rule-driven subjective performance evaluation*. With correlations shown in Table 2, RDSPE has a positive correlation of 0.222 ( $p < 0.05$ ) with SDSPE2 and a negative correlation of -0.247 ( $p < 0.05$ ) with SDSPE1. Therefore, H1 is supported, as the two variables representing *supervisor-driven subjective performance evaluation* are correlated with *rule-driven subjective performance evaluation*. However, it is worth noting that whereas one variable from *supervisor-driven subjectivity in performance evaluation* is positively correlated to *rule-driven subjective performance evaluation*, the second variable is negatively correlated.

H2 predicts that subjective performance evaluation is positively associated with supervisor-subordinate conflict. The two variables representing the concept of *supervisor-driven subjectivity in performance evaluation* are positively associated with supervisor-subordinate conflict: SDSPE1 ( $\beta = 0.158$ ,  $t = 1.895$ ,  $p = 0.058$ ) and SDSPE2 ( $\beta = 0.210$ ,  $t = 2.383$ ,  $p = 0.017$ ). However, the variable representing *rule-driven subjectivity in performance evaluation* is negatively associated with supervisor-subordinate conflict: RDSPE ( $\beta = -0.403$ ,  $t = 4.589$ ,  $p = 0.000$ ). This finding suggests that supervisor-subordinate conflict is positively associated only with *supervisor-driven subjectivity in performance evaluation*. Therefore, H2 is partially supported. The positive association is probably due to subordinate's perception that the supervisor is responsible for some sort of inequity in his or her evaluation (Prendergast & Topel, 1993; Wall & Nolan, 1986).

H3 predicts that subjective performance evaluation is positively associated with psychological empowerment. The partial least squares analysis shows that *rule-driven subjective performance evaluation* has a positive association with psychological empowerment ( $\beta = 0.343$ ,  $t = 3.514$ ,  $p = 0.000$ ), whereas none of the two variables representing *supervisor-driven subjective performance evaluation* have an association with empowerment. Hence, H3 is partially supported. This finding suggests that subordinates feel that their empowerment is not associated with any specific supervisor but supports the argument that rule-driven subjectivity in the organization's management control systems may improve psychological empowerment (Baiman & Rajan, 1995; Simons, 1995).

H4 predicts that subjective performance evaluation is positively associated with subordinate performance. The analysis shows that *rule-driven subjective performance evaluation* has a positive association with subordinate performance ( $\beta = 0.376$ ,  $t = 3.954$ ,  $p = 0.000$ ), whereas neither of the two variables representing *supervisor-driven subjective performance evaluation* has an association with subordinate performance. This means that H4 is partially supported.

## 5. Conclusion

This study uses a survey to measure different concepts of subjectivity. The study investigates whether subjectivity can be distinguished according to supervisor discretion and specific features of the organization's management control systems and whether these different concepts are associated among themselves and with psychological empowerment, supervisor-subordinate conflict, and subordinate performance. The findings suggest that subjectivity in performance evaluation may not be represented as a single concept. Different features of the organization's management control systems could represent subjective performance evaluation rules (i.e., *rule-driven subjective performance evaluation*), and different supervisor behaviours could represent discretion in performance evaluation (i.e., *supervisor-driven subjective performance evaluation*).

The results show that *supervisor-driven subjective performance evaluation* and *rule-driven subjective performance evaluation* are correlated. Furthermore, *supervisor-driven subjectivity in performance evaluation* has a positive association with supervisor-subordinate conflict and no association with psychological empowerment and subordinate performance, whereas *rule-driven subjective performance evaluation* has a negative association with supervisor-subordinate conflict and positive association with psychological empowerment and subordinate performance. From the subordinate perspective, there is evidence that one of the concepts of subjectivity in performance evaluation relates to idiosyncrasies of a specific supervisor, which can be associated with conflict between the supervisor and subordinate and the subordinate's lower levels of empowerment and performance. The findings of this study suggest that subjectivity in performance evaluation that is perceived as supervisor driven leads to conflict among the supervisor and subordinate, whereas

subjective performance evaluation rules may lead to increased levels of psychological empowerment and subordinate performance.

These findings provide important implications for both the accounting literature and research on subjectivity in performance evaluation. First, the standard definition of subjectivity in performance evaluation conflates supervisor discretion and subjective performance evaluation rules. Some studies rely on supervisor discretion (e.g., Bol & Smith, 2011), whereas others rely on performance evaluation (e.g., Van Rinsum & Verbeeten, 2012). As the analysis shows, subjectivity may be represented as different concepts, such as *rule-driven subjective performance evaluation* and *supervisor-driven subjective performance evaluation*. The two concepts exhibit distinct associations with the other variables in the model; hence, researchers should exercise caution when generalizing findings related to subjectivity.

Second, the findings are meaningful for organizations because they show how the use of subjectivity is relevant to the design of performance evaluation systems. In particular, allowing subjectivity in performance evaluation may be associated with subordinate performance, psychological empowerment and supervisor-subordinate conflict. Therefore, top management must consider the trade-off between performance and conflict when implementing a performance evaluation policy. This finding addresses Otley's (2003) concern that top management does not generally seem to predict the likely implications of the implementation of performance evaluation policies. As a practical implication, top managers who shun conflict should avoid excessive subjectivity in subordinates' performance evaluation. In contrast, top managers who are willing to risk increased supervisor-subordinate conflict to improve subordinates' performance should allow more subjectivity in the performance evaluation of subordinates.

This study shares the limitations common to all survey studies, including common method bias, participants' self-rating, the halo effect, and response rates. Hartman's single-factor test was conducted to examine common method variance, and the results do not indicate a single-factor structure that accounts for a majority of the variance, which suggests that common method bias is not a concern. In this study, subordinate performance was measured using a multidimensional scale, making subordinates' self-ratings less susceptible to a halo effect. Another limitation is that the adopted model may have omitted certain variables relevant to the analysis. For instance, Bonner and Sprinkle (2002) suggest that performance is associated with effort and with moderating effects from personal, task, environmental, and incentive scheme variables. For the sake of model parsimony, not all possible variables could be considered in the analysis. As a final limitation, since participants for this survey were re-drawn from a sample of companies, the total sample may not be statistically independent, which may bias the estimates.

The original scale for measuring subjectivity in performance evaluation has a total of seven items, four for *supervisor-driven subjectivity in performance evaluation* (two dimensions with two items each) and three for *rule-driven subjectivity in performance evaluation* (one dimension with two

items and the third item deleted due to low loading). As the dimensions have two items each, the Cronbach alphas are lower than the composite reliability scores. Perhaps future research examining scales for subjectivity in performance evaluation should work on incrementing the amount of items on each dimension to improve reliability (Hinkin, 1995).

The findings and limitations of this study provide avenues for further research. Because mail surveys have certain limitations, such as those listed above, the first suggestion is to approach similar hypotheses and variables using a case study as the research method. A case study would complement the findings of this study. For instance, it is known that tension between subordinates and supervisors can build over time; a case study would allow the researcher to capture the development of this tension and its interplay with other elements of the management control system. Longitudinal data would be helpful for conducting a more definitive test of the hypotheses. Moreover, a researcher could collect much more information regarding the organization and its members through a case study compared to a mail survey.

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## Appendix – Survey items

### Subordinate performance

- **Planning:** determining goals, policies, and courses of action such as work scheduling, budgeting, and programming (MPER01)
- **Investigating:** collecting and preparing of information usually in the form of records, reports, and accounts (measuring output, record keeping, and job analysis) (MPER02)
- **Coordinating:** exchanging information with people in the organisation other than my subordinates in order to relate and adjust procedures, policies and programs (MPER03)
- **Evaluating:** assessment and appraisal of proposals or of reported/observed performance (e.g., employee appraisals, judging financial performance and product inspection) (MPER04)
- **Supervising:** directing, leading, and developing your subordinates (MPER05)
- **Staffing:** maintaining the work force of your responsibility area (e.g., selecting and promoting your subordinates) (MPER06)
- **Negotiating:** purchasing, selling, or contracting for products or services (e.g., contracting suppliers, collective bargaining) (MPER07)
- **Representing:** advancing the general interests of my organisation through speeches, consultations, or contacts with individuals or groups outside the organisation (MPER08)
- Your overall performance (MPER09)

### Supervisor-driven subjective performance evaluation

- My supervisor has plenty of discretion in conducting my performance evaluation (SPEV01)
- My performance evaluation could change considerably if I were evaluated by another supervisor (SPEV02)
- My supervisor's experience with previous performance evaluations influences how s/he evaluates my current performance (SPEV03)
- My supervisor conducts my performance evaluation according to what s/he personally expects from me (SPEV04)

### Rule-driven subjective performance evaluation

- My performance is evaluated based on what I have done and also on what I should have done (SPEV05)
- The rules concerning my performance evaluation are clearly set in advance (SPEV06)
- My performance evaluation excludes unexpected occurrences that are beyond my control but influence my current performance (SPEV07)

### Psychological empowerment

- The work I do is very important to me (PEMP01)
- My job activities are personally meaningful to me (PEMP02)
- The work I do is meaningful to me (PEMP03)
- I am confident about my ability to do my job (PEMP04)
- I am self-assured about my capabilities to perform my work activities (PEMP05)
- I have mastered the skills necessary for my job (PEMP06)
- I have significant autonomy in determining how I do my job (PEMP07)
- I can decide on my own how to go about doing my work (PEMP08)
- I have considerable opportunity for independence and freedom in how I do my job (PEMP09)
- My impact on what happens in my business unit is large (PEMP10)
- I have a great deal of control over what happens in my business unit (PEMP11)
- I have significant influence over what happens in my business unit (PEMP12)

### Supervisor-subordinate conflict

- Personality conflicts are evident between me and my supervisor (SSCO01)
- There is emotional conflict between me and my supervisor (SSCO02)

- My supervisor often disagrees with me regarding the way my work is done (SSCO03)
- There are conflicts between me and my supervisor about ideas related to my work (SSCO04)
- There is conflict between me and my supervisor regarding work and/or projects (SSCO05)
- There is friction between me and my supervisor (SSCO06)
- There is tension between me and my supervisor (SSCO07)

## References

- Auzair, S. M., Langfield-Smith, K. (2005). The effect of service process type, business strategy and life cycle stage on bureaucratic MCS in service organizations. *Management Accounting Research*, 16(4), 399-421.
- Baiman, S., Rajan, M. V. (1995). The Informational Advantages of Discretionary Bonus Schemes. *The Accounting Review*, 70(4), 557-579.
- Baines, A., Langfield-Smith, K. (2003). Antecedents to management accounting change: a structural equation approach. *Accounting, Organizations and Society*, 28(7-8), 675-698.
- Baker, G. (1990). Pay-For-Performance for Middle Managers: Causes and Consequences. *Journal of Applied Corporate Finance*, 3(3), 50-61.
- Baker, G., Gibbons, R., Murphy, K. J. (1994). Subjective Performance Measures in Optimal Incentive Contracts. *The Quarterly Journal of Economics*, 109(4), 1125-1156.
- Bellavance, F., Landry, S., Schiehl, E. (2013). Procedural justice in managerial performance evaluation: Effects of subjectivity, relationship quality, and voice opportunity. *The British Accounting Review*, 45(3), 149-166.
- Bisbe, J., Batista-Foguet, J.-M., Chenhall, R. (2007). Defining management accounting constructs: A methodological note on the risks of conceptual misspecification. *Accounting, Organizations and Society*, 32(7-8), 789-820.
- Bol, J. C. (2008). Subjectivity in compensation contracting. *Journal of Accounting Literature*, 27, 1-32.
- Bol, J. C. (2011). The Determinants and Performance Effects of Managers' Performance Evaluation Biases. *The Accounting Review*, 86(5), 1549-1575.
- Bol, J. C., Hecht, G., Smith, S. D. (2015). Managers' discretionary adjustments: The influence of uncontrollable events and compensation interdependence. *Contemporary Accounting Research*, 32(1), 139-159.
- Bol, J. C., Smith, S. D. (2011). Spillover Effects in Subjective Performance Evaluation: Bias and the Asymmetric Influence of Controllability. *The Accounting Review*, 86(4), 1213-1230.
- Bommer, W. H., Johnson, J. L., Rich, G. A., Podsakoff, P. M., Mackenzie, S. B. (1995). On the Interchangeability of Objective and Subjective Measures of Employee Performance - a Metaanalysis. *Personnel Psychology*, 48(3), 587-605.
- Bonner, S. E., Sprinkle, G. B. (2002). The effects of monetary incentives on effort and task performance: theories, evidence, and a framework for research. *Accounting, Organizations and Society*, 27(4-5), 303-345.
- Chapman, C. S., Kihn, L.-A. (2009). Information system integration, enabling control and performance. *Accounting, Organizations and Society*, 34(2), 151-169.
- Chenhall, R. H. (2005). Integrative strategic performance measurement systems, strategic alignment of manufacturing, learning and strategic outcomes: an exploratory study. *Accounting, Organizations and Society*, 30(5), 395-422.
- Chin, W. W. (1998). The Partial Least Squares Approach to Structural Equation Modeling. In G. A. Marcoulides (Ed.), *Modern methods for business research* (pp. 295-336). New Jersey: Lawrence Erlbaum.
- Churchill, G. A., Jr., Ford, N. M., Hartley, S. W., Walker, O. C., Jr. (1985). The Determinants of Salesperson Performance: A Meta-Analysis. *Journal of Marketing Research*, 22(2), 103-118.

- Cosier, R. A., Rose, G. L. (1977). Cognitive conflict and goal conflict effects on task performance. *Organizational Behavior and Human Performance*, 19(2), 378-391.
- Fornell, C., Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39-50.
- Gibbs, M., Merchant, K. A., Van der Stede, W. A., Vargus, M. E. (2004). Determinants and Effects of Subjectivity in Incentives. *The Accounting Review*, 79(2), 409-436.
- Govindarajan, V., Gupta, A. K. (1985). Linking Control-Systems to Business Unit Strategy - Impact on Performance. *Accounting Organizations and Society*, 10(1), 51-66.
- Grabner, I. (2014). Incentive system design in creativity-dependent firms. *The Accounting Review*, 89(5), 1729-1750.
- Hair, J. F., Black, W. C., Babin, B. J. (2010). *Multivariate data analysis: a global perspective*. New Jersey: Pearson Education.
- Hall, M. (2008). The effect of comprehensive performance measurement systems on role clarity, psychological empowerment and managerial performance. *Accounting, Organizations and Society*, 33(2-3), 141-163.
- Hall, M., Smith, D. A. (2009). Mentoring and turnover intentions in public accounting firms: A research note. *Accounting, Organizations and Society*, 34(6-7), 695-704.
- Heneman, R. (1986). The Relationship Between Supervisory Ratings and Results-Oriented Measures of Performance: A Meta-Analysis. *Personnel Psychology*, 39(4), 811-826.
- Hinkin, T. R. (1995). A review of scale development practices in the study of organizations. *Journal of management*, 21(5), 967-988.
- Höppe, F., Moers, F. (2011). The Choice of Different Types of Subjectivity in CEO Annual Bonus Contracts. *The Accounting Review*, 86(6), 2023-2046.
- Hulland, J. (1999). Use of partial least squares (PLS) in strategic management research: A review of four recent. *Strategic Management Journal*, 20(2), 195-204.
- Ittner, C. D., Larcker, D. F., Meyer, M. W. (2003). Subjectivity and the weighting of performance measures: Evidence from a balanced scorecard. *The Accounting Review*, 78(3), 725-758.
- Jehn, K. A. (1995). A Multimethod Examination of the Benefits and Detriments of Intragroup Conflict. *Administrative Science Quarterly*, 40(2), 256-282.
- Keeley, M. (1977). Subjective Performance Evaluation and Person-Role Conflict under Conditions of Uncertainty. *Academy of Management Journal*, 20(2), 301-314.
- Lee, L., Petter, S., Fayard, D., Robinson, S. (2011). On the use of partial least squares path modeling in accounting research. *International Journal of Accounting Information Systems*, 12(4), 305-328.
- Mahoney, T. A., Jerdee, T. H., Carroll, S. J. (1965). The Job(s) of Management. *Industrial Relations*, 4(2), 97-110.
- Merchant, K. A., Chow, C. W., Wu, A. (1995). Measurement, Evaluation and Reward of Profit Center Managers - a Cross-Cultural Field-Study. *Accounting, Organizations and Society*, 20(7-8), 619-638.
- Moers, F. (2005). Discretion and bias in performance evaluation: the impact of diversity and subjectivity. *Accounting, Organizations and Society*, 30(1), 67-80.
- Moores, K., Yuen, S. (2001). Management accounting systems and organizational configuration: a life-cycle perspective. *Accounting, Organizations and Society*, 26(4-5), 351-389.
- Otley, D. T. (2003). Management control and performance management: whence and whither? *The British Accounting Review*, 35(4), 309-326.

- Parker, R. J., Kyj, L. (2006). Vertical information sharing in the budgeting process. *Accounting, Organizations and Society*, 31(1), 27-45.
- Podsakoff, P. M., Todor, W. D., Grover, R. A., Huber, V. L. (1984). Situational moderators of leader reward and punishment behaviors: Fact or fiction? *Organizational Behavior and Human Performance*, 34(1), 21-63.
- Prendergast, C., Topel, R. (1993). Discretion and Bias in Performance Evaluation. *European Economic Review*, 37(2-3), 355-365.
- Ringle, C. M., Wende, S., Will, S. (2005). Smart PLS 2.0 (M3) Beta, available on the internet at [www.smartpls.de](http://www.smartpls.de).
- Simons, R. (1995). *Levers of control: how managers use innovative control systems to drive strategic renewal*. Boston, MA: Harvard Business School Press.
- Smith, D., Langfield-Smith, K. (2004). Structural equation modeling in management accounting research: critical analysis and opportunities. *Journal of Accounting Literature*, 23, 49-86.
- Spreitzer, G. M. (1995). Psychological Empowerment in the Workplace - Dimensions, Measurement, and Validation. *Academy of Management Journal*, 38(5), 1442-1465.
- Thomas, K. W., Velthouse, B. A. (1990). Cognitive Elements of Empowerment: An "Interpretive" Model of Intrinsic Task Motivation. *Academy of Management Review*, 15(4), 666-681.
- Van der Stede, W., Young, M., Chen, C. (2006). Doing management accounting survey research. *Handbook of Management Accounting Research*, Volume 1, 445-478.
- Van Rinsum, M., Verbeeten, F. H. M. (2012). The impact of subjectivity in performance evaluation practices on public sector managers' motivation. *Accounting and Business Research*, 42(4), 377-396.
- Voußem, L., Kramer, S., Schäffer, U. (2016). Fairness perceptions of annual bonus payments: The effects of subjective performance measures and the achievement of bonus targets. *Management Accounting Research*, 30, 32-46.
- Wall, V., Nolan, L. (1986). Perceptions of inequity, satisfaction, and conflict in task-oriented groups. *Human Relations*, 39(11), 1033-1051.
- Werts, C. E., Linn, R. L., Jöreskog, K. G. (1974). Intraclass Reliability Estimates: Testing Structural Assumptions. *Educational and Psychological Measurement*, 34(1), 25-33.
- Xin, K. R., Pelled, L. H. (2003). Supervisor-subordinate conflict and perceptions of leadership behavior: a field study. *The Leadership Quarterly*, 14(1), 25-40.