

Investigating the Determinants of Perceived Procedural Fairness in Performance Evaluation

Mahfud Sholihin*
Richard Pike**

Abstract

Previous management accounting and control system studies have examined the impact of perceived procedural fairness on managers' attitudes and behaviour. However, relatively little research has been conducted on the factors which affect perceived procedural fairness; and their results are inconclusive. The objective of this paper is to investigate the main determinants of perceived procedural fairness.

Using a sample of managers from three major organisations with headquarters in Europe, this study finds that perceived procedural fairness is affected by goal-related variables in the form of participation in setting performance targets, the goal-attainment-reward link, and the specificity of goals to be achieved by managers; but is not affected by whether the performance measures used to evaluate performance are primarily financial or nonfinancial.

Keywords

**Goal-Attainment-Reward Link
Goal Specificity
Performance Measurement and Evaluation
Procedural Fairness
Target-Setting Participation**

Introduction

The performance measurement, evaluation, and reward system (PMERS) is an important component of Management Control Systems (MCS). The importance of fairness in the design of PMERS has been recognised in the normative literature on MCS. Anthony and Govindarajan (1998, p. 556) argue that top management should be aware that “objectives, goals and standards are likely to provide strong incentives only if managers perceive them as *fair*” (emphasis added). Similarly, Kaplan and Atkinson (1998, p. 682) highlight the importance of fairness in PMERS as follows:

“There are important behavioural considerations that the performance measurement system must reflect. First and above all, the individual must believe that the system is *fair* ... Absent this belief, the motivational potential of incentive compensation will be lost.” (emphasis added).

Previous empirical studies in management accounting and control systems (e.g. Lindquist, 1995; Libby, 1999; Libby, 2001; Wentzel, 2002; Lau and Tan, 2006; Sholihin and Pike, 2009) find that fairness is negatively associated with dysfunctional attitudes and behaviour, such as job-related tension and budgetary slack, and enhances functional behaviour, such as trust and organisational commitment, and positively associated with outcomes such as task satisfaction, job satisfaction and performance.

Considering the importance of perceived fairness in the design of PMERS, it is important to identify and understand the main factors affecting such perceptions. However, the literature reveals that prior studies (e.g. Hopwood, 1972; Otley, 1978; Lau and Sholihin, 2005; Lau and Moser, 2008; Hartmann, Naranjo-Gil, and Perego, 2009) have yielded inconclusive, even contradictory, evidence on the particular PMERS elements affecting the perception of fairness.

Hopwood (1972) examined whether supervisory evaluative style (how superiors evaluate the performance of subordinates) affects the subordinates' attitudes, including

* Gadjah Mada University, Indonesia

**Bradford University, UK

subordinates' perception of fairness of performance evaluation processes. In doing so, he constructed three categories of performance evaluation style: Budget Constrained (BC) style (budgetary information is used in a rigid manner), Profit Conscious (PC) style (budgetary information is used in a more flexible manner, and Non-accounting (NA) style (budgetary information is seen as being of secondary importance). His results indicated that BC style is perceived as less fair than the other styles. Otley (1978) replicated Hopwood's (1972) study and found, contrary to Hopwood's study, that supervisory evaluative style is not significantly associated with perception of fairness of performance evaluation processes.

Lau and Moser (2008) examined the effect of nonfinancial performance measures on subordinates' perception of procedural fairness, arguing that their use may lead to higher perceptions of fairness in performance evaluation processes (procedural fairness). They also argue that nonfinancial measures are more consistent with the procedural fairness rules/criteria proposed by Leventhal (1980). Their findings show a positive association between nonfinancial measure usage and procedural fairness.

Lau and Sholihin (2005) contended and found that both nonfinancial and financial measures are positively associated with procedural fairness, although the effect of financial measures on fairness was higher compared to that of nonfinancial measures. This is in contrast with Hopwood's (1972) finding that the effect of Non-Accounting style on fairness is significantly higher than that of the Budget-Constrained style.

A more recent study by Hartman et al. (2009) argues that the use of subjective performance measures is positively associated with procedural fairness. However, their findings do not support this argument. Indeed, procedural fairness is associated with the use of objective performance measures.

Hartmann and Slapnicar (2009) argue that procedural fairness is not affected by performance measures or metrics used to evaluate subordinates' performance but is affected by *the degree of formality* in the use of the performance evaluation system. Their empirical findings, however, show no

significant association between formality and procedural fairness.

The foregoing summary of relevant prior studies present a confusing, even contradictory, picture of the antecedents of procedural fairness in PMERS. Given the importance of this variable, as identified earlier by Anthony and Govindarajan (1998) and Kaplan and Atkinson (1998), the desire to clarify and better understand the determinants of perceived procedural fairness provides strong motivation for this study. In this paper, we investigate the determinants, or *antecedents*, of procedural fairness perception in performance measurement, evaluation and reward systems.

This study is different from previous studies, particularly Sholihin and Pike (2009), in the following ways. First, whilst Sholihin and Pike (2009) investigates the *consequences* of procedural fairness, this study investigates the *determinants* of procedural fairness. Second, the variables examined by Sholihin and Pike (2009) are procedural fairness, distributive fairness, trust, organisational commitment, job satisfaction, and managerial performance. The variables examined in this study are procedural fairness, participation in target setting, transparency of the goal-attainment-reward link, goal specificity, financial measures, and nonfinancial measures. Third, whilst Sholihin and Pike (2009) employs organisational justice theory, in this study we use organisational justice and goal-setting theories.

Drawing on organisational justice literature (e.g. Lind and Tyler, 1988; Leventhal, 1980) and goal-setting theory (Locke and Latham, 1990), this study argues that a manager's perception of procedural fairness is influenced by goal-related variables in the form of participation in setting performance targets, the goal-attainment-reward link, and the specificity of goals to be achieved by managers; but is not affected by the form of performance measures used to evaluate performance, whether financial (objective) or nonfinancial (subjective) measures, as argued by Lau and Sholihin (2005), Lau and Moser (2008), and Hartmann et al., (2009).

The proposition that procedural fairness is determined by the degree of participation in target setting draws on the literature on

procedural justice, which has consistently found that disputants perceive the procedure as fair if they have process control (i.e. sufficient opportunity to present their case), often referred to as ‘voice’ (Thibaut and Walker, 1975; Folger, 1977; Lind and Tyler, 1988). In addition, participation is consistent with Leventhal’s (1980) procedural fairness rules. The goal-attainment-reward link is proposed as an antecedent of procedural fairness because clarity and transparency are outlined by Leventhal (1980) as important components of procedural fairness rules. In relation to goal specificity, Lau and Sholihin (2005) argue that the adoption of specific performance measures, are more likely to give rise to specific goals and targets for employees to pursue, than where there are no specific performance measures for performance evaluation. The existence of specific goals and targets, in turn, is likely to affect employee behaviour because the specificity of goals enhances the direction and clarity of tasks to be performed and the roles of the subordinates. The rest of the paper is organised as follows. Section two will discuss literature review and hypotheses development. Section three, describes the research method employed in this study. Section four will present findings and discussions. This paper will be closed by conclusions, limitation and suggestion for future research in section five.

Literature Review and Hypotheses Development

Participation and Procedural Fairness

In this study, participation is conceptualised as participation in setting performance goals or targets, which include financial and nonfinancial targets. This is a departure from most previous accounting studies which conceptualise participation more narrowly as budgetary participation.

Procedural fairness can be conceptualised as the judgments on the fairness of social norms which deal with how decisions are made and how individuals are treated by authorities and other parties (Lind and Tyler, 1988). However, since this study specifically deals with the performance measurement, evaluation and reward system, Folger and Konovsky’s (1989) definition of procedural fairness is adopted, namely, the perceived fairness of the means

and procedures used to determine the amount of reward or compensation employees receive, i.e. the fairness of all aspects of the organisation’s procedures that are used by the superior to evaluate a subordinate’s performance, to communicate performance feedback and to determine the subordinate’s rewards such as promotion and pay increases. Leventhal (1980) contended that the perception of procedural fairness will be affected by six rules: consistency, bias suppression, accuracy, correctability, representativeness, and ethicality of the procedures. The consistency rule states that to be fair a procedure must be applied consistently across persons and across time.

This implies that all parties have the same rights under the procedures and are treated similarly, and that the procedure is enacted the same way each time it is used. The bias-suppression rule stipulates that procedures are fair if the decision maker does not have a vested interest in any specific decision, and if the decision maker is not influenced by prior beliefs. The accuracy rule states that to be fair procedures should be based on as much good-quality information and informed opinion as possible, while the correctability rule states that opportunities must exist to modify and reverse decisions made. The representativeness rule stipulates that “all phases of the allocative process must reflect the basic concerns, values, and outlooks of important subgroups in the population of individuals affected by the allocative process” (Leventhal, 1980, pp.44-45). This rule is closely related to power sharing and participatory decision making. Finally, the ethicality rule states that to be fair, procedures must be compatible with fundamental moral and ethical values.

Most of the above requirements for procedural fairness can be promoted through participation in target setting. For example, participation is consistent with the characteristics of representativeness, correctability, accuracy, bias-suppression and ethicality in that it permits subordinates to reflect their concerns and values, gives opportunity to modify decisions, can be used as a way of sharing information, provides opportunity for subordinate managers to correct any inappropriate prior beliefs held by their superiors, and is consistent with the moral value that individuals should have the

opportunity to engage in setting goals. It is therefore reasonable to propose that participation is positively associated with procedural fairness. Additionally, Lind and Tyler (1988, p. 236) argue that “the opportunity to exercise voice (participation) constitutes a visible marker of group membership ... mute procedures are seen as ... unjust because they appear to deny full membership rights to those denied voice” (parentheses added) and “...one of the most potent determinants of the procedural fairness of a social decision-making procedure is the extent to which those affected by the decision are allowed to participate in the decision-making process through the exercise of process control or voice” (p. 176). Similarly, Early and Kanfer (1985) argue that since participation gives opportunity for input, it provides the individual with perceived mastery or control over a situation; thus participation may enhance perceived fairness.

In a budgeting context, Wentzel (2002) studied 88 cost centre managers of a downsized hospital in the US and found that budget participation is positively associated with procedural fairness. Similar results were found by Lau and Tan (2006) among managers of manufacturing companies in Singapore. This study therefore argues that a positive association holds between participation in setting targets and procedural fairness.

Ha1: Participation in target setting is positively associated with procedural fairness.

Goal-Attainment-Reward Link and Procedural Fairness

The management control systems literature suggests that the performance evaluation and reward system is an important component of the management control system designed to motivate organisational members to perform better and in accordance with the organisation’s objectives (Otley, 1999; Merchant and Van der Stede, 2003). According to Emmanuel et al. (1990) and Merchant and Van der Stede (2003), one of the principal means of motivating subordinates towards effective performance is to link organisational rewards to the level of performance achieved. This implies that the link between the achievement of goals or performance targets set and rewards should be transparent. A recent empirical study by

Kominis and Emmanuel (2007), using a sample of middle managers in a large UK-based financial institution, found that the effect of transparency in the performance-reward link on motivation is indirect via the value of extrinsic rewards. In other words, Kominis and Emmanuel’s (2007) study suggests that the effect of transparency of the performance-reward link on motivation may be mediated by other variables, and in their study this was the value of extrinsic rewards.

Drawing on Emmanuel et al.’s (1990) and Merchant and Van der Stede’s (2003) contentions and extending Kominis and Emmanuel’s (2007) findings, this study argues that the transparency of the goal-attainment-reward link is likely to enhance motivation via perceived procedural fairness. This is because a transparent rewards system should be consistent, unbiased, and accurate, all of which are characteristics of procedural fairness (Leventhal, 1980). Therefore, this study hypothesises that transparency of the goal-attainment-reward link will be positively associated with procedural fairness.

Ha2: Transparency of the goal-attainment-reward link will be positively associated with procedural fairness.

Goal Specificity and Procedural Fairness

Goal specificity refers to “the extent to which the goals are clearly defined by a supervisor” (Fang et al., 2005). In the context of performance measurement, evaluation and reward systems the goals can be financial or nonfinancial. Organisations which develop and adopt specific performance *measures*, whether financial or nonfinancial, for performance evaluation are more likely to develop specific *goals and targets* for employees to pursue, than are organisations which have no specific performance measures for performance evaluation. Further, the existence of pre-specified goals is likely to provide clearer understanding (goal clarity) for organisational members and indicate how they will be evaluated. In addition, goal specificity and clarity informs employees of their responsibilities and performance targets. In other words, the existence of specific goals will guide employees in deciding where they should direct their attention and effort.

In relation to procedural justice, the existence of goal specificity/clarity is in line with the consistency and bias-suppression rules, as a specific goal is likely to facilitate the application of procedures consistently across time and persons and be less biased and less subjective. In addition, the existence of specific goals indicates that there is a standard to follow which provides opportunity for managers to challenge/rebut evaluation. An empirical study by Greenberg (1986) with samples of middle managers in the US found that the ability to rebut/challenge evaluation and consistent application of standards are important determinants of perceived procedural fairness. Hence this study hypothesises that goal specificity is positively associated with procedural fairness.

Ha3: Goal specificity is positively associated with procedural fairness.

Research Method

Data and Sample

Data used in this study were gathered by means of questionnaire survey in three major organisations, followed by interviews with selected respondents. The organisations were approached to participate in the study because they were leading companies in their sector that had been operating PMERS for some time with varying degrees of satisfaction.

CO1 is part of a highly centralised global organisation operating in a specialist, research-driven sector whose headquarter is in Switzerland. Much of its recent performance growth is through reducing complexity, using fewer suppliers and closing smaller plants. CO2 and CO3 are financial services organisations, providing specialist mortgage and savings products through a large number of branches. Their corporate offices are both in the UK.

For the purpose of filling in the questionnaire, purposive sampling was employed. The principle in this type of sampling is to get all possible cases that fit particular criteria (Neuman, 2003). The criteria to be included as the samples are: 1) managers have been working for the organisations for more than one year; 2) they have been evaluated by their superiors; and 3) they have received the

performance evaluation feedback. These criteria are to ensure that the samples are valid. The survey was administered as follows. Working closely with managers from the three organisations, a preliminary notification was circulated encouraging managers to participate in the survey. After obtaining senior management permission to conduct the independent research study the survey instrument was distributed to potential respondents, together with assurance of confidentiality. Reminders were sent one, three and seven weeks after the original mailing. The survey package and reminder letters were sent via e-mail. Respondents could return the completed questionnaires electronically by e-mail or send a hard copy version by post.

The distribution of the survey instruments is as follows: 102 to CO1, 99 to the CO2, and 95 to CO3. Of 296 questionnaires distributed, 174 were returned (55 from CO1, 52 from CO2, and 67 from CO3) yielding a total response rate of 59 per cent. Careful examination revealed that 9 responses (1 from CO1, 2 from CO2, and 6 from CO3) were not usable, yielding a total of 165 usable responses (56%).

Respondents were invited to take part in follow-up interviews or group discussions. These interviews sought to better understand the results of the quantitative results and gain insight into the context in which the PMERS operated.

Variables and Their Measurement

The dependent variable in this study is perceived procedural fairness and the independent variables are participation in target setting, the transparency of the goal-attainment-reward link, and goal specificity. In addition to these variables, the study included the type of performance measures in the model as the controlling variable. To increase the validity of the measures and to be more comparable with previous studies, all measures were taken from previous literature.¹

¹ All of the instruments were pilot-tested prior to the distribution to the respondents, on executive MBA students of an UK university.

Procedural Fairness

This variable is measured using a four-item instrument developed by McFarlin and Sweeney (1992). In management accounting studies it has been used by, for example, Lau and Sholihin (2005) and Lau and Tan (2006). Respondents were requested to rate the fairness of the procedures used to evaluate their performance, to communicate performance feedback, and to determine their pay increases and promotion, ranging from 1 (very unfair) to 7 (very fair).

Participation in Target Setting

To measure this variable, respondents were asked to indicate their level of agreement using a 7-point Likert-type scale, ranging from strongly disagree to strongly agree, on a single item of “my superior allows me to participate in setting my performance goals/targets”. This measure is adapted from the goal-setting questionnaire developed by Locke and Latham (1984).

Goal-Attainment-Reward Link

To measure this variable, respondents were asked to indicate their level of agreement using a 7-point Likert-type scale, ranging from strongly disagree to strongly agree, on a single item of “my rewards are tied to the achievement of the performance goals”. This instrument is adapted from Kominis and Emmanuel (2007).

Goal Specificity

To measure goal specificity, three items were taken from Fang et al. (2005): (1) my superior specifically explained what my performance goals are; (2) I have very specific performance goals in my job; and (3) I understand the exact level of my assigned performance goals. Respondents were requested to indicate their level of agreement to the above items, using a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Performance Measure

The performance measure is employed as the controlling variable. To measure this variable, respondents were requested to indicate how much importance they thought their supervisors attach to certain performance

measures when evaluating their performance, using a seven-point Likert scale, anchored 1 (no importance) and 7 (always important) with 0 if not applicable.² The performance categories used are based on those of Ittner et al. (2003), which they consider to be important drivers of long-term organisational success. The categories are: relations with customers, relations with employees, operational performance, product and service quality, alliances with other organisations, relations with suppliers, environmental performance, product and service innovations, community performance, and financial performance.

Findings and Discussions

As mentioned in the previous section, a total of 296 questionnaires were distributed to three different organisations and 174 were returned. Of these responses, 9 were unusable due to a substantive part of the questionnaire being incomplete, resulting in the 165 final responses used in this study. The demographic information of the respondents, presented in table 1, consists of the average number of employees that respondents directly managed, their length of service (tenure) in the organisation, tenure in their current position, and the length of time they have been supervised by their current supervisor.

The table indicates that respondents from CO1 rated all demographic variables more highly than the other two organisations, with CO2 having far lower ratings for length of service and supervision under current supervisor. However, of particular importance to this study is that all respondents had experienced the performance review process on at least one occasion.

To examine whether response bias exists, non-response bias test was performed. We split responses into “early” and “late” responses. Following Hall (2008), “Early” is defined as the first 20 percent of responses and “late” is defined as the last 20 percent of responses. The responses from those two groups were compared by running t-tests. Table 2 presents the results of non-response bias tests for each variable. The results indicate that the majority of the scores of the variables do not differ between the early and late responses.

² In the analysis, following Ittner et al. (2003), 0 was converted into 1.

However, there are some differences, particularly for CO2. For example, early respondents indicated that they are evaluated more through nonfinancial measures, and perceived that the goal-attainment-reward link is more transparent and the reward distribution is fairer. It is difficult to offer a good reason

for the particular differences but it is sensible to interpret results of these variables with caution. However, the table shows there is no significant difference for the dependent variable studied, i.e. procedural fairness, in any organisation.

Table 1: Demographic Information of the Respondents Means (with Range Shown in Brackets)

	CO1	CO2	CO3
Employees reporting to respondent	8 (1-60)	7 (1-60)	5 (1-21)
Tenure in organisation ³	16.5 (1-36)	5.6 (1-19)	15.4 (2-37)
Tenure in current position	7.8 (1-36)	2.7 (1-8)	5.2 (1-25)
Supervision under current superior	3.7 (1-18)	2.6 (1-8)	2.5 (1-6)

Table 2: Results of Non-Response Bias Tests

Variable	CO1		CO2		CO3	
	Mean difference	p- value	Mean difference	p- value	Mean difference	p- value
Nonfinancial measures	0.574	0.361	0.827	0.004	0.094	0.784
Financial measures	0.200	0.869	1.015	0.156	0.628	0.443
Participation	0.500	0.459	0.492	0.161	0.263	0.562
Goal-attainment-reward link	-0.100	0.906	1.121	0.002	0.462	0.317
Goal specificity	-0.367	0.597	0.005	0.986	0.336	0.297
Procedural fairness	0.525	0.355	0.466	0.211	0.444	0.340

Table 3: Descriptive Statistics of Variables Studied

Organisation/Variable	Minimum	Maximum	Mean	Standard Deviation
CO1				
Nonfinancial measures	1.78	7.00	4.01	1.33
Financial measures	1.00	7.00	4.88	2.30
Participation in target setting	1.00	7.00	4.60	1.64
Transparency of goal-attainment-reward link	1.00	7.00	3.82	1.75
Goal specificity	1.33	7.00	4.51	1.57
Procedural fairness	1.75	6.00	3.89	1.23
CO2				
Nonfinancial measures	1.67	6.56	3.83	1.03
Financial measures	1.00	7.00	4.74	1.99
Participation in target setting	3.00	7.00	5.43	1.09
Transparency of goal-attainment-reward link	3.00	7.00	5.87	0.93
Goal specificity	2.00	7.00	5.51	1.01
Procedural fairness	3.00	6.50	5.16	0.96
CO3				

³ Tenure (both in the organisation and job) and the period with their current superior are given in years.

Nonfinancial measures	1.00	7.00	4.95	1.90
Financial measures	1.00	7.00	4.97	1.47
Participation in target setting	1.00	7.00	5.02	1.31
Transparency of goal-attainment-reward link	1.00	7.00	4.95	1.90
Goal specificity	3.33	7.00	5.57	0.83
Procedural fairness	1.75	6.25	4.52	1.07

The descriptive statistics of variables studied are presented in table 3. This indicates that for the performance measures variable, the highest scores both for nonfinancial and financial measures are found in CO3 (for nonfinancial measures mean=4.95; SD=1.90 and for financial measures mean=4.97; SD=1.47). The results suggest that in this organisation respondents perceived that their superiors rely on both financial and nonfinancial measures.

The lowest score for nonfinancial measures and financial measures are found in the CO2 (for nonfinancial measures mean=3.83, SD=1.03 and for financial measures mean=4.74, SD=1.99). For the dependent variable, i.e. procedural fairness, the lowest score is found in CO1 (mean= 3.89; SD= 1.23) and the highest score is found in the CO2.

Interviews with selected respondents from CO1 established that they viewed the procedure as somewhat unfair because the performance evaluation system was vague, inadequate and offering little reward for employees attaining performance measures. In addition there was little opportunity for promotion, low or nonexistent pay rises, and little incentive through financial or nonfinancial rewards. This is also evidenced by the lower scores for the transparency of the goal-attainment-reward link. The following comments gathered from CO1 managers reinforce this:

“... Yearly appraisal is merely formality” (marketing managers).

“Performance evaluation is inadequate and vague...at present the appraisal system is informal and not enforced...innovation and creativity are not being rewarded and encouraged...no rewards for meeting performance target ...nothing happen whether they (targets) are achieved or not” (R & D manager).

“I’m asked to give more effort than others who appear to get more reward financially and credit for what they do... (but I’m) not being given the credit for (my) achievement” (production manager).

The highest score of procedural fairness is found in CO2. The following quote gained from the group discussion reinforced the survey findings:

“I thought the process was fair though I am not happy with my pay rise but expect that this has been affected by the credit crunch which has impacted on everyone’s pay and bonus”.

To test the hypotheses, data were analysed using both multiple regression and PLS.⁴ Prior to the main analysis, ANOVA tests between groups were performed to see whether there are any differences among sub-samples. It was found that variability of variance between the groups (i.e. organisations) for procedural fairness, participation, transparency of goal-attainment-reward link, and goal specificity is significant (see table 4). Therefore in running regression we controlled the organisation effect.

In addition to the ANOVA test, the inherent assumptions relating to the adequacy of regression models - normality, homoscedasticity, multicollinearity and linearity - were tested. Normality refers to the shape of data distribution for a metric variable and its correspondence to the normal distribution. Hair et al. (1998) argue that this assumption is the most fundamental assumption in regression analysis. To assess the normality, Cohen and Cohen (1983) recommend an examination of residual scatter

⁴ The regression was executed using an OLS approach with SPSS software and then verified using PLS with PLS Graph 3 software.

plots of the dependent and independent variables. The results of the test indicate that the normal probability plots of the residuals of the regression models used in this study are scattered along a relatively straight line. This means that the residuals are normally distributed and thus, the normality assumption is met.

With homoscedasticity, it is assumed that dependent variables exhibit constant variance across the range of independent variables (Hair et al., 1998). This assumption can be tested by plotting the residuals against the predicted values (Cohen and Cohen, 1983; Hair et al., 1998). The homoscedasticity assumption is not violated when the plots of the residuals against the corresponding fitted (predicted) values for the models show that all plots are scattered randomly between approximately equal horizontal bands with no discernible patterns or systematic variations. The results indicate that the homoscedasticity assumption is not violated.

Another assumption tested is multicollinearity. Multicollinearity occurs when the correlations among variables are so high that certain statistical analysis cannot be performed. Multicollinearity signifies that at least two separate variables are measuring the same thing. Some indications of multicollinearity are: the correlation between independent variables being greater than 0.85 (Kline, 1998); the tolerance levels for the variables and any value being very small, less than 0.1; and the value of variance inflation factors (VIF) being greater than 10 (Kline, 1998; Pallant, 2005). The regression model shows that the tolerance levels for the variables are all above 0.1, and that the value of variance inflation factors (VIF) is less than 10. Hence, there is no multicollinearity problem. In addition, none of the correlations between independent variables is greater than 0.85.

Linearity refers to the extent to which any changes in dependent variables are associated with the changes in the independent variables. Following Cohen and Cohen (1983), scatter plots of residuals were examined. The result indicates that the appropriateness of the linear models is not violated.

Table 5 presents the results of bivariate correlation analysis and table 6 presents the results of regression analysis. Table 5 shows

that participation, reward link, and goal specificity are positively associated with procedural fairness. On the other hand, neither financial nor nonfinancial measures are associated with procedural fairness. Hence, the results provide initial support for the hypotheses that procedural fairness is affected by participation, reward link, and goal specificity, but do not provide initial support for the hypotheses that procedural fairness is affected by the type of performance measure used to evaluate the respondents' performance. In addition, the table also indicates that all goal-related attributes (goal setting participation, goal-attainment-reward link, and goal specificity) are correlated significantly with each other. The table also reveals that financial performance measures are perceived to be more specific compared to that of nonfinancial measures.

Table 6 presents the results of regression analysis with procedural fairness as the dependent variable and goal-related attributes (goal-setting participation, goal-attainment-reward link, and goal specificity) as the independent variables, controlling for performance measures (financial and nonfinancial) and the company. The table indicates that participation, reward link and goal specificity significantly affect procedural fairness, although the effect of goal specificity is marginally significant ($p < 0.10$). On the other hand, neither performance measure (financial or nonfinancial) affects procedural fairness. Hence, hypothesis Ha1 (participation in target setting is positively associated with procedural fairness), hypothesis Ha2 (transparency of the goal-attainment-reward link will be positively associated with procedural fairness), and hypothesis Ha3 (goal specificity is positively associated with procedural fairness) are supported.

The model is then tested using a PLS regression approach. The results of PLS are presented in table 7. The results of the PLS approach are broadly consistent with the results of the OLS approach. Procedural fairness is significantly affected by participation in target setting, goal-attainment-reward link, and goal specificity. On the other hand, procedural fairness is not affected by the type of performance measure (either financial or nonfinancial measures) used to evaluate performance.

Table 4: The Results of ANOVA Tests

Variable	F	Sig
Procedural fairness	17.580	0.000
Participation	4.448	0.013
Transparency	29.802	0.000
Goal specificity	14.042	0.000
Financial measures	0.152	0.859
Nonfinancial measures	0.579	0.449

Table 5: The Results Of Correlation Analysis

	PF	Part	Link	GS	FM	NM
Procedural Fairness (PF)	1	0.447**	0.570**	0.467**	0.059	0.005
Participation (Part)		1	0.433**	0.484**	0.070	0.148
Reward link (Link)			1	0.515**	0.225**	0.128
Goal specificity (GS)				1	0.191*	0.083
Financial measures (FM)					1	0.223*
Nonfinancial measures (NM)						1

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 6: The Results Of Regression Analysis Using OLS Approach.

Variables	Coefficient	Coefficient value	p-value
Constant	b_0	1.759	.001
Participation	b_1	.199	.036
Transparency link	b_2	.415	.000
Goal specificity	b_3	.169	.097
Financial measures	b_4	-.064	.444
Nonfinancial measures	b_5	-.077	.349
Company	b_6	.015	.862
$Adjusted R^2 = 36.8\%$			
$F = 10.993; p = 0.000$			

Table 7: The Results of Regression Using PLS Approach (T-Statistics in Brackets)

Variable	Path to
	Procedural fairness
Participation in target setting	0.191 (2.218)*
Goal-attainment-reward link	0.374 (4.771)**
Goal specificity	0.175 (2.077)*
Financial measures	-0.071 (1.214)
Nonfinancial measures	0.112 (0.821)
Company	0.026 (0.314)
R^2	41.4%

** Significant at the 0.01 level (2-tailed).
* Significant at the 0.05 level (2-tailed).

Overall, the results of statistical analysis support the arguments that procedural fairness is affected by participation in target setting, transparency of the goal-attainment-reward link, and goal specificity. As argued earlier, these three variables are consistent with the justice rules proposed by Leventhal (1980) as contended in this study. However, the results do not support the argument that the use of financial and nonfinancial measures is associated with procedural fairness (c.f. Lau and Sholihin, 2005; Lau and Moser, 2008).

The interview results support the above findings. For example, a production manager from CO1 emphasised the importance of goal specificity as follows:

“... well defined targets help me to get organised which improves my performance...if targets are not well defined (I am) not able to achieve them”.

Another manager, a marketing manager, from the same company said:

“...(specific goals) allow me (to be) more focused on achieving targets, (to make) more focused effort”.

The above two managers argued that specific goals/targets are important because they help them to achieve better performance. Hence, it is likely that goal specificity is positively associated with procedural fairness because it is instrumental in achieving better performance (c.f. Locke and Latham, 1990; 2002). To some extent, it supports the instrumental approach to procedural fairness, i.e. an individual prefers fair procedures because it will give them better outcomes (Lind and Tyler, 1998). A similar reason is raised by a marketing manager from CO2:

“Specific goals are important to me because specific goals motivate me to higher performance and provide me with required focus”.

With regard to participation, the above marketing manager offers reasons why it is important:

“Participation allows me to give input and ...I feel involved in business and ...I can express my opinions and I can influence outcomes”.

Likewise, the production managers argued:

“Participation gives me a better understanding of how to achieve targets and understand why I have to do it ... it improves my motivation ...”.

However, a health and safety manager said that participation was “...just for personal satisfaction”. Presumably, part of the satisfaction is an assurance that the evaluation procedures are conducted in a fair manner.

The above quotes suggest various reasons why managers value participation. This is consistent with previous studies in organisational justice on the positive effects of participative decision making on procedural fairness (see Greenberg and Folger 1983; Bies and Shapiro 1988; Magner et al. 1992). Ehlen and Welker (1996) identified why participation affects the perception of fairness. They are: (1) participation serves to enhance a perception of the sincerity of the position taken by a decision maker; (2) participation may generate a perception of enhanced decision quality; (3) participation sends a message to participants about how they are perceived by others; and (4) people desire control over decision outcomes which affect them, and participation is seen as a way to achieve this control.

Conclusion, Limitations and Suggestion for Future Research

The objective of this study is to investigate the antecedents of procedural fairness in the context of PMERS. This study is important as previous studies of fairness within PMERS context produce inconclusive findings on factors affecting fairness perception. Drawing on organisational justice literature and goal theory the study argues that perceived procedural fairness is affected by goal-related variables, i.e. participation in setting performance targets, the goal-attainment-reward link, and the specificity of goals to be achieved by managers. Using a questionnaire survey with samples derived from three profit-oriented organisations, one manufacturing company and two financial services organisations, this study finds that perceived procedural fairness is affected by participation in setting performance targets, the goal-attainment-reward link, and the specificity of

goals to be achieved by managers. Additionally, the study finds that the type of performance measures (whether financial or nonfinancial) used to evaluate managers is not associated with perceived procedural fairness. It would seem that much of the prior accounting literature has overemphasised the importance that performance measure types may have on procedural fairness, whether budget constrained, profit conscious or non-accounting, to the neglect of more critical variables.

This study contributes to the literature of procedural fairness in the context of PMERS by providing empirical evidence on factors which influenced perceived procedural fairness. Looking at the practical implications of the study, the results suggest that superiors should focus on goal-related variables, i.e. participation in setting performance targets, the goal-attainment-reward link, and the specificity of goals to be achieved by subordinates in designing PMERS rather than on the types of performance measures.

The study, however, should be interpreted cautiously for the following reasons. The first one is the inherent limitations associated with survey method. Future study should examine the issue using other approaches, such as experimental design. Secondly, this study draws on managers from just three organisations. Future study could examine the model using samples derived from more organisations. Thirdly, some variables were measured using a single item. However, to compensate this we have conducted interviews. Future study could use the better measure to study the same topic.. Notwithstanding these limitations, we believe that this study provides clarity on factors affecting perceived procedural fairness.

References

- Anthony, R. and Govindarajan, V. (1998), *Management Control Systems*, Irwin, Chicago.
- Bies, R. J. and Shapiro, D. L. (1998), "Voice and justification: Their influence on procedural fairness judgments", *Academy of Management Journal*, September, 3: pp. 676-685.
- Cohen, J. and Cohen, P. (1983), *Applied Multiple Regression: Correlation Analysis for the Behavioral Sciences*, L. Erlbaum Associates, New Jersey, USA.
- Earley, P. C. and Kanfer, R. (1985), "The influence of component participation and role models on goal acceptance, goal satisfaction, and performance", *Organizational Behavior and Human Decision Processes*, 36 (3): pp. 378-390.
- Ehlen, C. R. and Welker, R. B. (1996), "Procedural fairness in the peer and quality review programs", *Auditing: A Journal of Practice & Theory*, 15 (1): pp. 38-52.
- Emmanuel, C. R., Otley, D. T., Merchant, K. A. (1990), *Accounting for Management Control*, Chapman and Hall, London, UK.
- Fang, E., Evans, K. R., Zou, S. (2005), "The moderating effect of goal-setting characteristics on the sales control systems-job performance relationship", *Journal of Business Research*, 58 (9): pp. 1214-1222.
- Folger, R. (1977), "Distributive and procedural justice: combined impact of "voice" and improvement on experienced inequity", *Journal of Personality and Social Psychology*, 35 (2): pp. 108 - 119.
- Folger, R. and Konovsky, M. A. (1989), "Effects of procedural and distributive justice on reactions to pay raise decisions", *Academy of Management Journal*, 32 (1): pp. 115-130.
- Greenberg, J. (1986), "Determinants of perceived fairness of performance evaluations", *Journal of Applied Psychology*, 71 (2): pp. 340-342.
- Greenberg, J. and Folger, R. (1983), "Procedural justice, participation and the fair process effect in groups and organizations", In: PAULUS, P. (Ed.) *Basic Group Process*, Springer-Verlag, New York, USA.
- Hair, J. R., Anderson, R. L., Tatham, R. E.W.C. B. (1998), *Multivariate Data Analysis: With Readings*, Pearson, New Jersey, USA.
- 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): pp. 141-163.

Hartmann, F. And Slapnicar, S. (2009), "How formal performance evaluation affects trust between superior and subordinate managers", *Accounting, Organizations and Society*, 34 (6-7): pp. 722-737.

Hartmann, F., Naranjo-Gil, D., and Perego, P. (2009), "The effects of leadership styles and use of performance measures on managerial work-related attitudes", *European Accounting Review*, 19 (2): pp. 275-310.

Hopwood, A. G. (1972), "An empirical study of role of accounting data in performance evaluation", *Journal of Accounting Research*, Supplement (10): pp. 156-182.

Ittner, C. D., Larcker, D. F., Randall, T. (2003), "Performance implications of strategic performance measurement in financial services firms", *Accounting, Organizations and Society*, 28 (7-8): pp. 715-741.

Kaplan, R. S. and Atkinson, A. A. (1998), *Advanced Management Accounting*, Prentice Hall, New York, USA.

Kline, R. (1998), *Principles and Practice of Structural Equation Modelling*, The Guilford Press, New York.

Kominis, G. and Emmanuel, C. R. (2007), "The expectancy-valence theory revisited: Developing an extended model of managerial motivation", *Management Accounting Research*, 18 (1): pp. 49-75.

Lau, C. M. and Moser, A. (2008), "Behavioural effects of nonfinancial performance measures: The role of procedural fairness", *Behavioral Research in Accounting*, 20 (2): pp. 55 - 71.

Lau, C. M. and Sholihin, M. (2005), "Financial and nonfinancial performance measures: How do they affect job satisfaction?", *The British Accounting Review*, 37 (4): pp. 389-413.

Lau, C. M. and Tan, S. L. C. (2006), "The effects of procedural fairness and interpersonal trust on job tension in budgeting", *Management Accounting Research*, 17 (2): pp. 171-186.

Leventhal, G. S. (1980), "What should be done with equity theory? New approaches to the study of fairness in social relationships", In: Gergen, K., et al. (Eds.) *Social Exchange: Advances in Theory and Research*, Plenum Press, New York.

Libby, T. (1999), "The influence of voice and explanation on performance in a participative budgeting setting", *Accounting, Organizations and Society*, 24 (2): pp. 125-137.

Libby, T. (2001), "Referent cognitions and budgetary fairness: A research note", *Journal of Management Accounting Research*, 13 (1): pp. 91-105.

Lindquist, T. M. (1995), "Fairness as antecedent to participative budgeting: Examining the effects of distributive justice, procedural justice and referent cognitions on satisfaction and performance", *Journal of Management Accounting Research*, 7 (1): pp. 122-147.

Lind, E. A. and Tyler, T. R. (1988), *The Social Psychology of Procedural Justice*, Plenum Press, New York, USA.

Locke, E. A. and Latham, G. P. (1984), *Goal Setting: A Motivational Techniques that Works*, Prentice-Hall, New Jersey, USA.

Locke, E. A. and Latham, G. P. (1990), *A Theory of Goal Setting and Task Performance*, Prentice-Hall, New Jersey, USA.

Locke, E. A. and Latham, G. P. (2002), "Building a practically useful theory of goal setting and task motivation: A 35-year odyssey", *American Psychologist*, 57 (9): pp. 705-717.

Magner, N. R., Welker, R. B., Johnson, G. G. (1992), "Testing a model of voice, control, procedural justice, and organizational commitment with latent variable structural equation analysis", *The International Journal of Conflict Management*, 3 (3): pp. 223-236.

McFarlin, D. B. and Sweeney, P. D. (1992), "Distributive and procedural justice as predictors of satisfaction with personal and organizational outcomes", *Academy of Management Journal*, 35 (3): pp. 626-637.

Merchant, K. A. and Van Der Stede, W. A. (2003), *Management Control Systems: Performance Measurement, Evaluation and Incentives*, Pearson Education, Essex, UK.

Neuman, W. L. (2003), *Social Research Methods: Qualitative and Quantitative Approaches*, Allyn and Bacon, Boston, USA.

Otley, D. T. (1978), "Budget use and managerial performance", *Journal of Accounting Research*, 16 (1): pp. 122-149.

Otley, D. (1999), "Performance management: a framework for management control systems research", *Management Accounting Research*, 10 (4): pp. 363-382.

Pallant, J. (2005), *SPSS Survival Manual*, Open University Press, Beckshire, UK.
Sholihin, M and Pike, R. (2009), "Fairness in performance evaluation and its behavioural consequences", *Accounting and Business Research*, 39 (4): pp. 397-413.

Thibaut, J. and Walker, J. (1975), *Procedural Justice: A Psychological Analysis*, John Wiley, New York, USA.

Wentzel, K. (2002), "The influence of fairness perceptions and goal commitment on managers' performance in a budget setting", *Behavioral Research in Accounting*, 14 (1): pp. 247-271.