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Fairness in performance evaluation and its behavioural consequences

Mahfud Sholihin and Richard Pike*

Abstract — A recent paper in *Accounting and Business Research* by Lau et al. (2008) offers systematic evidence to explain whether managers' perceptions on fairness of performance evaluation procedures affect attitudes such as job satisfaction; and if it does, the different behavioural processes involved. Our paper re-examines Lau et al.'s model and hypotheses to assess the external validity of their findings, based on a very different sample of managers. Drawing on recent organisational justice literature, it further develops the model and examines the potential interaction effects of fairness of performance evaluation procedures and other variables on job satisfaction. Finally, it extends the outcome variable to include manager performance. Using survey responses from 165 managers, supported by 24 interviews, drawn from three major organisations in the manufacturing and financial services sectors, we find that Lau et al.'s results on the indirect effects of fairness of performance evaluation procedures on job satisfaction are generalisable to other organisational settings and managerial levels. However, using their model we do not find support for the outcome-based effects through distributive fairness. Developing a revised model we observe that the effects of distributive fairness on job satisfaction are indirect via organisational commitment. When the model is further developed to incorporate performance as the outcome variable, we observe similar findings.

Keywords: commitment; fairness; performance; satisfaction; trust

1. Introduction

The role of fairness in the workplace and its impact on organisational effectiveness forms an important element of what has been termed 'organisational justice research' (Greenberg, 1990). Much of the literature on organisational justice focuses on the antecedents and consequences of two types of subjective perceptions: (1) distributive justice, which considers the fairness of outcome distributions; and (2) procedural justice, which considers the fairness of the procedures used to determine outcome distributions.¹ This literature suggests that enhanced fairness perceptions can improve organisational outcomes (Colquitt et al., 2001).

Management accounting controls, including performance evaluation procedures, should be designed to engender positive attitudes and behaviour (Merchant and Van der Stede, 2003), and the perceived fairness of such procedures is expected to generate important behavioural consequences. This paper explores the behavioural consequences of perceptions of fairness in performance evaluation.

Early systematic studies on procedural fairness in

the management accounting and control field were undertaken by Hopwood (1972) and Otley (1978). Hopwood (1972) found that performance evaluation procedures are associated with perceived fairness. Subsequent studies of procedural fairness in the management accounting literature tend to focus on budgeting contexts, examples being seen in Magner and Welker (1994), Magner et al. (1995), Lindquist (1995), Libby (1999, 2001), Lau and Lim (2002), Wentzel (2002), Staley and Magner (2006), and Lau and Tan (2006). Broadly speaking, the budgeting literature finds 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 outcomes, such as task satisfaction, job satisfaction and performance. In other management accounting contexts, Lau and Sholihin (2005) found procedural fairness to be an important variable mediating the relationship between performance evaluation style and job satisfaction; while Giraud et al. (2008) found fairness to be an important factor in implementing the controllability principle in the design of management control systems.

Lau et al. (2008) argue that fairness of procedures for performance evaluation affects job satisfaction through two distinct processes: 'The first process is outcome-based through fairness of outcomes (dis-

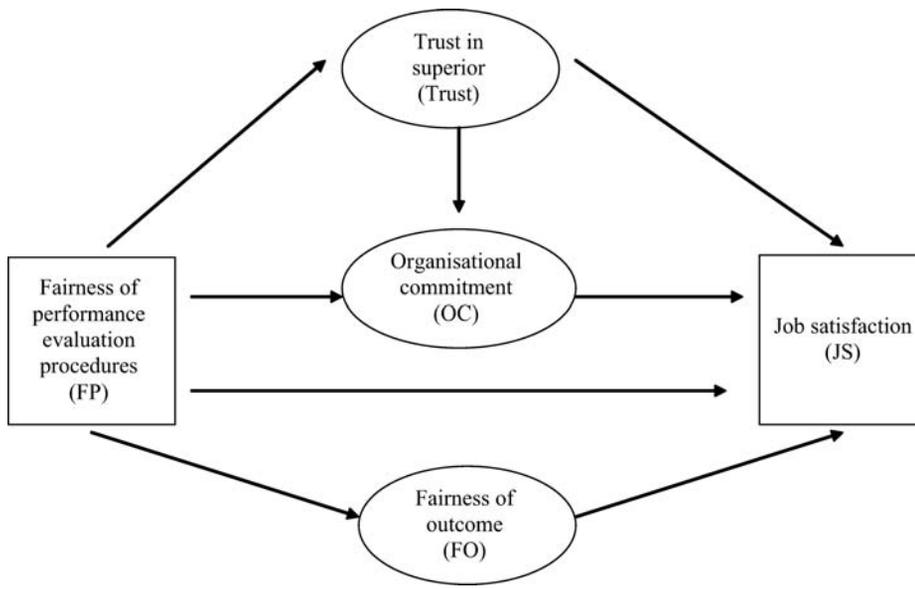
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¹ These two forms of justice are developed from the earlier works of Adams (1965), Deutsch (1975), Thibaut and Walker (1975), and Leventhal (1980).

Figure 1
The effect of fairness of performance evaluation procedures on job satisfaction



tributive fairness)... The second process is non-outcome-based through trust in superior and organisational commitment' (ibid: 121). Their results support the proposed model (see Figure 1) that the effects of procedural fairness (fairness of performance evaluation procedures) on job satisfaction are *indirect* via distributive fairness (outcome-based); and via trust and organisational commitment (non-outcome-based). Controlling for these variables, the *direct* effect of fairness of performance evaluation procedures on job satisfaction was not significant.

Lau et al. (2008) offer an important step towards developing a unified theory on procedural fairness effects. The current paper takes a further step in this regard in terms of the research sample, design and model development. Lau et al. (2008) drew their sample from a population of highly qualified and experienced managers from the health service sector in an Australian state. The generalisability of their findings to other contexts and cultures, such as different industry sectors, managerial levels, and countries, has yet to be demonstrated. They acknowledge this limitation:

'As our sample was drawn from managerial level employees from the health service sector, the extent to which the nature of this sample may have influenced the results is unclear. Hence, generalising the results to other levels of employees and to other sectors should be undertaken with caution' (ibid: 132).

Leung (2005) calls for researchers to examine procedural justice development cross-culturally and

notes that 'a universal concern of justice ... does not mean that all justice effects are necessarily generalisable ...' (ibid: 557). The first aim of our present study is therefore to examine the external validity of Lau et al.'s (2008) findings by retesting the hypotheses using their proposed model on a very different sample. Whilst their study employs a sample of 110 highly qualified and experienced managers from the health service sector in an Australian state, our study uses a sample of 165 managers, mostly at middle and lower managerial levels and across various functions, from large private sector organisations in the manufacturing and financial services sectors with head offices based in Europe and Africa. These findings are supported by the findings from 24 interviews with a sample of responding managers.

A second limitation of the study by Lau et al. (2008) is that while it explores the indirect relationship of *procedural* fairness on job satisfaction, it fails to consider the indirect effects of *distributive* fairness. Recent literature on organisational justice (e.g. Colquitt et al., 2001) suggests that organisational commitment is affected by both. We argue that the effect of distributive fairness on job satisfaction is primarily *indirect* via organisational commitment, and should be considered in the model. The second objective therefore is to develop the model to examine both the direct and indirect effects of distributive fairness on job satisfaction.

Another important issue concerns the possible interaction effects between procedural fairness and other variables, such as trust and organisational

commitment, on job satisfaction. For example, while Lau et al. (2008) found that procedural fairness in performance evaluation is positively associated with job satisfaction, it is not clear what happens in cases where trust in superior is high but procedural fairness is low. The third objective of this paper therefore examines whether the negative effect on job satisfaction of low levels of fairness in evaluation procedures can be compensated by higher levels of trust and organisational commitment

Finally, Lau et al. did not consider employee performance in their study, but recognise it is an important dependent variable in studying procedural fairness effects and suggest that future research could 'investigate the processes by which procedural fairness affects employee performance' (Lau et al., 2008: 133). This view is supported by, for example, Lind and Tyler (1988) and Wentzel (2002). In a review of the fairness literature, Colquitt et al. (2001) identify the lack of studies on the effect of procedural fairness on performance compared with other outcomes, and that it is '... the most unclear of all relationships in the organisational justice literature' (ibid: 430). Given this observation, and recognising that the manner by which procedural fairness affects performance is a critical issue in the design of management accounting and control systems, we incorporate performance in the model and argue that the perceived fairness in performance evaluation affects manager performance, although the effects may well be indirect. Hence our fourth objective is to ascertain whether procedural fairness affects performance and, if so, whether it affects performance in the same manner as job satisfaction.

The findings of this paper offer a number of significant insights. First, the study offers broad support for Lau et al.'s (2008) findings on the *indirect* effects of fairness of performance evaluation procedures on job satisfaction. Given the very different samples for the two studies, these findings appear to be generalisable to other contexts. Second, this study argues that Lau et al.'s (2008) model is incomplete and requires further refinement to incorporate the significant indirect effects of distributive fairness. Third, the study finds that for managers with low levels of perception of procedural fairness in their performance evaluation processes, job satisfaction can be increased when trust and organisational commitment are high. Fourth, it offers empirical support for the survey findings through follow-up interviews. Finally, it provides empirical evidence on the process of how fairness of performance evaluation affects managerial per-

formance, an unresolved issue in justice theory (Colquitt et al., 2001; Lind and Tyler, 1988).

The rest of the paper is organised as follows. The next section will discuss the literature review and hypotheses development. This will be followed by a presentation of the research method, research findings, conclusions, limitations, and suggestions for future research.

2. Literature review and hypotheses

2.1. Procedural fairness (justice)²

The term 'procedural justice' was first used by Thibaut et al. (1974) and Thibaut and Walker (1975) to refer to the social psychological consequences of procedural variation, with particular emphasis on procedural effects on fairness judgments. Thibaut and Walker (1975) addressed different concerns with respect to procedure and dispute resolutions. Their study focused on process control and outcome as the key variables affecting procedural justice. They found that: (1) perceptions of procedural justice result in increased satisfaction; (2) procedural justice is the most important determinant of procedural preferences; and (3) high process control procedures lead to high procedural justice judgments.

Based on these findings, Thibaut and Walker (1978) developed a theory advocating that for disputes involving strong conflicting interests, procedures which are in accordance with societal definitions of fairness, rather than objective criteria of fairness, should be used. This theory is important because it acknowledges that there are different fairness criteria, and that different procedures are needed to settle different types of disputes. Lind and Tyler (1988: 36) noted that 'the theory is a prescriptive theory of procedural justice and concerns most with achieving an integration of social psychology knowledge that could guide decisions about when various procedures might have the best overall result for conflict resolution.'

The theory of procedural justice developed by Thibaut and Walker (1978) is based mainly on research findings in a legal setting and deals primarily with the effects of process control in dispute resolution. Consequently, it embraces a relatively restricted view of fairness. Leventhal (1980) and Leventhal et al. (1980) argue that procedural justice is an important determinant of perceived fairness not only in legal contexts, but also in the context of almost any allocation decision. These studies stimulated the extension of procedural justice research from legal settings to organ-

² We use the terms fairness and justice interchangeably.

isational settings. Subsequent research in organisational settings found that procedural justice judgments played a major role in affecting organisational behaviour (Lind and Tyler, 1988; Colquitt et al., 2001; Blader and Tyler, 2005). This can be explained using the self-interest model and group value model (Lind and Tyler, 1988; Blader and Tyler, 2005). The self-interest model argues that people prefer fair procedures because they are motivated to maximise their personal outcomes, whilst the group value model assumes that people value their group membership not simply for economic reasons, but also for social and psychological reasons. Whilst these two models provide different arguments for why individuals prefer fair procedures, they both propose that enhanced fairness perceptions can improve organisational outcomes, such as organisational commitment, job satisfaction, and performance. However a meta-analytic review by Colquitt et al. (2001) suggests that such relationships are complex.

2.2. Fairness of performance evaluation procedures, job satisfaction, and performance

Based on the work of Lind and Tyler (1988) and earlier accounting studies which linked performance evaluation procedures with fairness perception (e.g. Hopwood, 1972; Otley, 1978) and job satisfaction (Brownell, 1982; Harrison, 1992), Lau et al. (2008) proposed that fairness of performance evaluation procedures affects job satisfaction, but the effect may well be indirect via: (1) fairness of outcomes (distributive fairness); and (2) trust in superior and organisational commitment.

Prior empirical studies, in various contexts, have found that procedural fairness affects performance (Lind and Tyler, 1988). Within an accounting context, Libby (1999, 2001), Wentzel (2002) and Little et al. (2002) found that procedural fairness influenced performance. Expectancy theory suggests that when subordinates perceive that the procedures used to evaluate their performance are fair, they are motivated to perform better (Vroom, 1964; Porter and Lawler, 1968). Thus, with fair performance evaluation procedures, subordinates will be motivated to perform better and this is likely to be reflected in their performance. Conversely, when subordinates perceive that the performance evaluation procedures are unfair, they will not be motivated to perform because good performance may not be recognised. A recent empirical study by Kominis and Emmanuel (2007) supports this argument. Using a sample of middle managers in a large UK-based financial institution they found that motivation is affected by the transparency of

the performance-rewards link via the value of extrinsic rewards. In addition, they found that the transparency of the performance-rewards link is affected by the accuracy of measures. As transparency and accuracy are important components of procedural fairness (Leventhal, 1980), it can be concluded that fairness is an important determinant of performance motivation. However, Lind and Tyler (1988) argue that 'the relationship between work performance and attitudinal variable is far from straight forward ... and it is probably unreasonable to expect any attitudinal variable, including judgment of procedural fairness, to have simple effects on performance' (ibid: 188). We therefore propose that fairness of performance evaluation procedures affects performance, but its effects on performance are relatively complex and indirect, as will be discussed later.

2.3. Intervening effect of fairness of outcomes on the relationship between fairness of performance evaluation procedure and job satisfaction.

Based on the instrumental model, e.g. the control model (Thibaut and Walker, 1975) and self-interest model (Lind and Tyler, 1988), and previous studies in management accounting (e.g. Lindquist, 1995), Lau et al. (2008) proposed that fairness of performance evaluation procedure is associated with fairness of outcomes which eventually will lead to higher job satisfaction. Their hypotheses, which we will re-examine, are:

- H1a** Fairness of performance evaluation procedures is positively related to fairness of outcomes (distributive fairness) (path FP-FO).
- H1b** Fairness of outcomes is positively related to job satisfaction (path FO-JS).
- H1c** Fairness of performance evaluation procedures has an indirect effect on job satisfaction via fairness of outcomes (path FP-FO-JS).

2.4. Intervening effects of trust on the relationship between fairness of performance evaluation procedure and job satisfaction.

Based on the group value model, Lau et al. argue that 'fairness of procedures may therefore enhance job satisfaction, not merely because it leads to fairer outcomes but because it may engender positive outcomes associated with group membership, including trust in superior and organisational commitment' (Lau et al., 2008: 125).

From an empirical perspective, the proposition that trust mediates the relationship between fairness of performance evaluation procedures on job satis-

faction is based, first, on previous findings in management accounting (Magner and Welker, 1994; Magner et al., 1995; Staley and Magner, 2006) which suggest that fairness of performance evaluation procedures is likely to affect trust, and, second, on findings in organisational studies (e.g. Driscoll, 1978) and in management accounting (e.g. Lau and Sholihin, 2005), which suggest that trust is associated with job satisfaction.

Magner and Welker (1994) investigated the effects of procedural justice in a budgetary resource allocation context, examining the effect of procedural justice on managers' attitudes towards their organisation (organisational commitment) and organisational authorities (trust in superiors). Employing structural equation analysis, they found that procedural justice in budgetary resource allocation was positively associated with organisational commitment and trust in superiors. Magner et al. (1995) found that subordinates' trust in superiors and organisational commitment are higher when they are allowed to participate in setting budgets. In that participation is a mechanism for improving procedural fairness, their findings support the argument that procedural fairness is an important determinant of trust and organisational commitment. Staley and Magner (2006) develop and test a model based on social exchange theory on whether procedural and interactional budgetary fairness reduce managers' propensity to create budgetary slack by way of enhancing managers' trust in their immediate supervisor. Using a questionnaire survey with a large sample of US Federal government managers and applying structural equation analysis they found that procedural fairness positively affects trust in superiors. Similarly, Lau and Tan (2006) found that procedural fairness is positively associated with trust.

Driscoll (1978), in a survey of college faculty members, found that trust is positively associated with satisfaction. Similar findings are found in a management accounting context by Lau and Sholihin (2005).

Following Lau et al. (2008), we hypothesise:

- H2a** Fairness of performance evaluation procedures is positively related to subordinates' trust in their superiors (path FP–Trust).
- H2b** Trust in superiors is positively related to job satisfaction (path Trust–JS).
- H2c** Fairness of performance evaluation procedures has an indirect effect on job satisfaction via trust in superiors (path FP–Trust–JS).

2.5. Intervening effects of organisational commitment on the relationship between fairness of performance evaluation procedure and job satisfaction.

With regard to the intervening effects of organisational commitment on the relationship between fairness of performance evaluation procedures and job satisfaction, Lau et al.'s (2008) hypotheses are based on the findings of previous management accounting studies (e.g. Magner and Welker, 1994; Magner et al., 1995) and organisational studies (Folger and Konovsky, 1989; McFarlin and Sweeney, 1992), which suggest that fairness of evaluation procedures is likely to be associated with organisational commitment, and that committed employees are likely to experience higher job satisfaction (Bateman and Strasser, 1984; Mathieu and Zajac, 1990; Vandenberg and Lance, 1992).

Folger and Konovsky (1989) investigated whether procedural justice affects trust and organisational commitment. Using a sample of employees in a privately owned manufacturing company in the US, they found that procedural justice is positively and significantly associated with trust and organisational commitment. Another study conducted by McFarlin and Sweeney (1992) supports Folger and Konovsky's (1989) findings. Using data gathered from a questionnaire survey of employees in a US bank, McFarlin and Sweeney (1992) found that procedural justice is positively associated with organisational commitment. A longitudinal study (Bateman and Strasser, 1984) of nursing department employees found that organisational commitment is positively correlated with job satisfaction, and that organisational commitment is an antecedent of job satisfaction rather than an outcome. A meta analysis by Mathieu and Zajac (1990) found that organisational commitment is positively correlated with job satisfaction and the strength of the relationship is unequivocal. Indeed, the correlation between organisational commitment and job satisfaction is found to be the strongest and most consistent compared to other correlates (job involvement, stress, occupational/professional commitment, and motivation). Vandenberg and Lance (1992) examine the causal relationship between job satisfaction and organisational commitment. Using structural equation models in a longitudinal research design with a sample of management information systems professionals, their results supported the commitment-causes-satisfaction model.

Based on the above literature we hypothesise:

- H3a** Fairness of performance evaluation procedures is positively related to organisational commitment (path FP–OC).
- H3b** Organisational commitment is positively related to job satisfaction (path OC–JS).
- H3c** Fairness of performance evaluation procedures has an indirect effect on job satisfaction via organisational commitment (path FP–OC–JS).

2.6. Trust and organisational commitment

Drawing on the work of Ketchand and Strawser (2001), Lau et al. argue that trust in supervisors may be associated with organisational commitment because subordinates will tend to perceive their organisation through the supervisors' actions:

'Consequently if the subordinates harbour positive (or negative) feelings toward their superiors, who are, after all, acting on behalf of the organisation, they (the subordinates) are also likely to harbour similar feelings toward their organisation. This suggests that a high level of trust in the superiors is likely to be translated into a favourable attitude towards the organisation. This may lead to the subordinates bonding with the organisation, and hence, high organisational commitment' (Lau et al., 2008: 126).

Lau et al.'s (2008) argument is in line with that of Zand (1997) who suggests that trust between individuals will greatly increase their joint problem solving effectiveness. This, in turn, will increase their commitment to each other, and satisfaction with their work and their relationships.

This gives rise to the hypothesis:

- H4** Trust in superiors is positively related to organisational commitment (path Trust–OC).

2.7. Distributive fairness and performance

Equity theory suggests that fairness of outcomes (distributive fairness) affects performance (Colquitt et al., 2001). Leventhal (1976) noted that equitable rewards may foster higher productivity. He argues that equitable allocation is instrumental to increasing performance in that poor performers are likely to change their performance in order to obtain higher reward. For good performers, equitable allocation will motivate them to work harder to improve their performance to get even higher rewards. We therefore introduce two new hypotheses:

- H5a** Fairness of outcomes is positively associated with performance (path FO–Performance).

If H1a (Fairness of performance evaluation procedures is positively related to fairness of outcomes) and H5a are both supported, we expect that the effect of procedural fairness on performance is *indirect* through fairness of outcomes.

- H5b** Fairness of performance evaluation procedures has an indirect effect on performance through fairness of outcomes (path FP–FO–Performance).

2.8. Trust and performance

Zand (1997) defines trusting behaviour as a willingness to increase vulnerability to another person whose behaviour cannot be controlled, in situations in which a potential benefit is much less than a potential loss if the other person abuses the vulnerability. Further, he suggests that people who trust each other will greatly increase their problem-solving effectiveness and work together more constructively. Trusting behaviour can improve decision quality and its implementation. Higher decision quality should give rise to higher performance. Lippit (1982) argues that the trust between organisation members increases the capacity for problem-solving and improves performance. Similarly, Reina and Reina (1999: 8) note that 'directly or indirectly trust is related to individual, group, and organisational performance'. This gives rise to the further hypotheses:

- H6a** Trust is positively associated with performance (path Trust–Performance)

If H2a (Fairness of performance evaluation procedures is positively related to subordinates' trust in superiors) and H6a are both supported, we expect that the effect of procedural fairness on performance is indirect through trust in superiors.

- H6b** Fairness of performance evaluation procedures has an indirect effect on performance through trust in superiors (path FP–Trust–Performance).

2.9. Organisational commitment and performance

Two important characteristics of organisational commitment are a strong belief in and acceptance of organisational goals and values, and a willingness to exert considerable effort on behalf of the organisation (Porter et al., 1974; Angle and Perry, 1981). With such characteristics, it is likely that organisational commitment will lead to higher performance. Empirical studies in the accounting literature (e.g. Nouri and Parker, 1998; Chong and Eggleton, 2007) found that organisational commitment is associated with performance. This study

therefore hypothesises that organisational commitment affects performance.

H7a Organisational commitment is positively associated with performance (OC–Performance).

If H3a (Fairness of performance evaluation procedures is positively related to organisational commitment) and H7a are both supported, we expect that the effect of procedural fairness on performance is indirect through organisational commitment.

H7b Fairness of performance evaluation procedures has an indirect effect on performance through organisational commitment (path FP–OC–Performance).

3. Method

3.1. Survey administration

The Lau et al. study used 110 experienced managers in the health services sector of an Australian state as their sample. Our sample differs in two main respects: first, it focuses on all managers with certain criteria participating in the organisation's performance evaluation system and, second, it focuses on three major private sector organisations in two different sectors. This sample will enable us to assess the extent to which Lau et al.'s (2008) findings can be generalised to wider settings. The three organisations operate in the manufacturing and financial services sectors, with head offices in Europe and Africa.

After obtaining senior management permission to conduct the independent research study, 296 questionnaires were sent to the selected sample together with a covering letter explaining the purpose of the study and assuring data confidentiality. The distribution of the survey instruments is as follows: 102 to a UK-based organisation in the financial services sector, 99 to a global manufacturing company with a Swiss parent company, and 95 to a major African-based financial services sector organisation. For each organisation, the sample was spread over all the managerial levels and functions involved in the performance evaluation process.³ Survey instruments were sent to the respondents using the internal organisation's mailing system. However, the responses were sent directly to the researchers.⁴ From 296 questionnaires distributed, 174 were returned (55 from the UK-based financial

service sector, 52 from the manufacturing organisation, and 67 from the African-based financial service sector) yielding a total response rate of 59 per cent. Careful examination of responses revealed that 9 responses were not usable, yielding a total of 165 usable responses (56%).

Demographic analysis of respondents reveals that the average number of employees respondents directly manage is 7 (range 1 to 60), they have been working in their organisation on average for 12.5 years, and been supervised by their current superior for 2.9 years. The management functions represented are spread broadly equally between sales and marketing, operations, accounting and finance, and other. Most respondents are at middle and lower management levels.

In addition to the survey, our study undertook interviews with 24 managers involved in the survey who were willing to engage in follow-up discussion. This provided opportunity to assess the reliability of survey responses and to explore in greater depth the importance and impact of the variables under consideration.

3.2. Instruments

The survey instruments used in this study, drawn from the established literature, are similar to those of Lau et al. (2008) with the exception of job satisfaction and performance. Fairness of performance evaluation procedures is measured using an instrument developed by McFarlin and Sweeney (1992), fairness of outcomes is measured using a questionnaire developed by Price and Mueller (1981), trust in the superior is measured using an instrument devised by Read (1962), and organisational commitment is captured using the instrument developed by Porter et al. (1974). For job satisfaction, whilst Lau et al. (2008) used a 20-item short version of the Minnesota Satisfaction Questionnaire developed by Weiss et al. (1967), we used that devised by Rusbult and Farrel (1983). To test the validity and reliability of the instruments we performed factor analysis and Cronbach alpha tests. The performance variable was measured using a single item of performance adopted from Mahoney et al. (1963, 1965) by asking respondents to rate their performance using a seven-point Likert-type scale, anchored 1 (very low) and 7 (very high), on the question: How would you rate your overall performance? This single item is also used by, for example, Brownell (1982), Brownell and Hirst

³ The following sample selection criteria were employed: (1) respondents have managerial responsibility; (2) were evaluated in the last performance evaluation process; and (3) have received performance feedback.

⁴ However, since we rely on the contacting managers to distribute the questionnaire, the results should be interpreted cautiously.

Table 1
Comparison of the Cronbach alpha between
Lau et al.'s study and this study

<i>Variable</i>	<i>Lau et al.</i>	<i>This study</i>
Fairness of performance evaluation procedures	0.78	0.85
Fairness of outcomes	0.95	0.96
Trust in superior	0.83	0.89
Organisational commitment	0.89	0.90
Job satisfaction	N/A	0.91

(1986), Dunk (1989), Brownell and Dunk (1991), Otley and Pollanen (2000), Chong and Chong (2002), and Chong and Eggleton (2007).

Confirmatory factor analysis revealed that all items loaded above the 0.5 benchmark on their respective constructs with Eigen values greater than 1. The results support the construct validity of the instruments used in this study. The internal consistency of the items is ascertained using Cronbach alpha tests. Table 1 provides alpha comparison between Lau et al.'s (2008) and our study and shows that in all cases the alphas are higher for the present study.

4. Analysis, results and discussion

Prior to the main analysis we performed various preliminary analyses. First, a correlation analysis of the respondents' demographic variables with the dependent variables studied was performed to test for potential spurious effects. No significant associations were observed.

Second, to see whether there are any differences among sub-samples we performed ANOVA tests for the three companies participating in the survey. While minor differences are observed for some variables, post hoc analysis using the Bonferroni test reveals no significant difference for trust. In addition, there is no significant difference for organisational commitment between the two financial institutions. We therefore categorised the sample into the two industry groups and conducted t-tests. This revealed that the financial sector consistently achieved higher mean scores for variables. Therefore, in running partial least squares (PLS) we added a dummy variable to control the effect of industry.

Table 2 provides the zero order correlations among variables examined in this study. Overall, the correlation results are consistent with Lau et al.'s (2008) findings, but are stronger in all except one association. We too find a strong positive correl-

ation between the fairness of performance evaluation procedures and job satisfaction ($p < 0.01$), and therefore must explore the nature of this effect in greater depth. As expected, we find a significant positive correlation between: (1) fairness of procedures and fairness of outcomes (H1a, $p < 0.01$); (2) fairness of outcomes and job satisfaction (H1b, $p < 0.01$); (3) fairness of procedures and trust in superior (H2a, $p < 0.01$); (4) trust in superior and job satisfaction (H2b, $p < 0.01$); (5) fairness of procedures and organisational commitment (H3a, $p < 0.01$); (6) organisational commitment and job satisfaction (H3b, $p < 0.01$); and (7) trust in superior and organisational commitment (H4, $p < 0.01$). These results are consistent with that of Lau et al. (2008) and provide initial support for hypotheses H1a, H1b, H2a, H2b, H3a, H3b, and H4. In addition, the results provide initial support for the indirect effects of fairness of performance evaluation procedures on job satisfaction through fairness of outcomes (hypothesis H1c), trust in superior (hypothesis H2c), and organisational commitment (hypothesis H3c).

Unlike job satisfaction, the results show no significant *direct* relationship between managerial performance and fairness of procedures, fairness of outcomes, and trust. On the other hand, our results show a significant positive correlation between organisational commitment and performance ($r = 0.256$; $p < 0.05$).

Table 2 also reveals, for both our study and Lau et al.'s (2008), a significant positive correlation between fairness of outcomes and organisational commitment ($p < 0.01$). This may suggest that the effects of distributive fairness on job satisfaction are indirect via organisational commitment. We will return to this issue later.

To test the proposed structural model, PLS Graph Version 03.00 was employed.⁵ We chose a PLS approach because it is deemed more appropriate for the number of cases used. The PLS technique consists of both a measurement and structural model. The measurement model specifies the relationship between the manifest items (indicators) and latent variables (construct) they represent. In other words, the measurement model assesses the reliability and validity of measures (indicators) relating to specific constructs. The structural model identifies the relationships among constructs. Hence, PLS is able to assess the validity of constructs within the total model

⁵ Lau et al. used AMOS. This approach, however, is more appropriate when the number of cases is above 200 (Bacon, 1997).

Table 2
The zero order correlation among variables

<i>Relations</i>	<i>Lau et al.</i>	<i>This study</i>
Fairness of procedures–Fairness of outcomes	0.418***	0.716***
Fairness of procedures–Trust	0.259***	0.441***
Fairness of procedures–Organisational commitment	0.407***	0.485***
Fairness of procedures–Job satisfaction	0.377***	0.482***
Fairness of outcomes–Trust	0.107	0.391***
Fairness of outcomes–Organisational commitment	0.257***	0.525***
Fairness of outcomes–Job satisfaction	0.313***	0.512***
Trust–Organisational commitment	0.236**	0.425***
Trust–Job satisfaction	0.533***	0.434***
Organisational commitment–Job satisfaction	0.543**	0.795***
Fairness of procedures–Performance	N/A	–0.003
Fairness of outcomes–Performance	N/A	–0.028
Trust–Performance	N/A	0.033
Organisational commitment–Performance	N/A	0.256**

*** $p < 0.01$ (two-tailed)

** $p < 0.05$ (two-tailed)

(Chenhall, 2005). Whilst the measurement and structural models can be evaluated together, they should be interpreted separately (Hulland, 1999). Following Hartmann (2005), in this paper PLS is used to estimate the structural model as this assessment of measurement has been widely validated by previous studies (e.g. Lau et al., 2008) and has been assessed separately in this paper (see Section 3.2). More importantly, as argued by Barclay et al. (1995: 287), this approach ‘guarantees that the measurement and meaning of constructs is constant across the analysis’ (cited from Hartmann, 2005: 254).

The objective of the structural model using a PLS approach is to maximise the variance explained by variables in the model using R-Square as the goodness-of-fit measure (Chin and Newsted, 1999). The parameter estimation procedure associated with covariance-based structural equation modeling is not appropriate (Chin and Newsted, 1999; Hulland, 1999). Rather, a bootstrapping resampling procedure is used to estimate t-statistics for the PLS structural path coefficient. Following standard practice in accounting studies which use PLS (e.g. Chenhall, 2005; Cheng et al., 2007) this study uses a large bootstrap sample of 500. This figure is chosen so that the data approximates normal distribution and leads to better estimates of test statistics as PLS does not require normal distribution (Chin, 1998; Gefen et al., 2000).

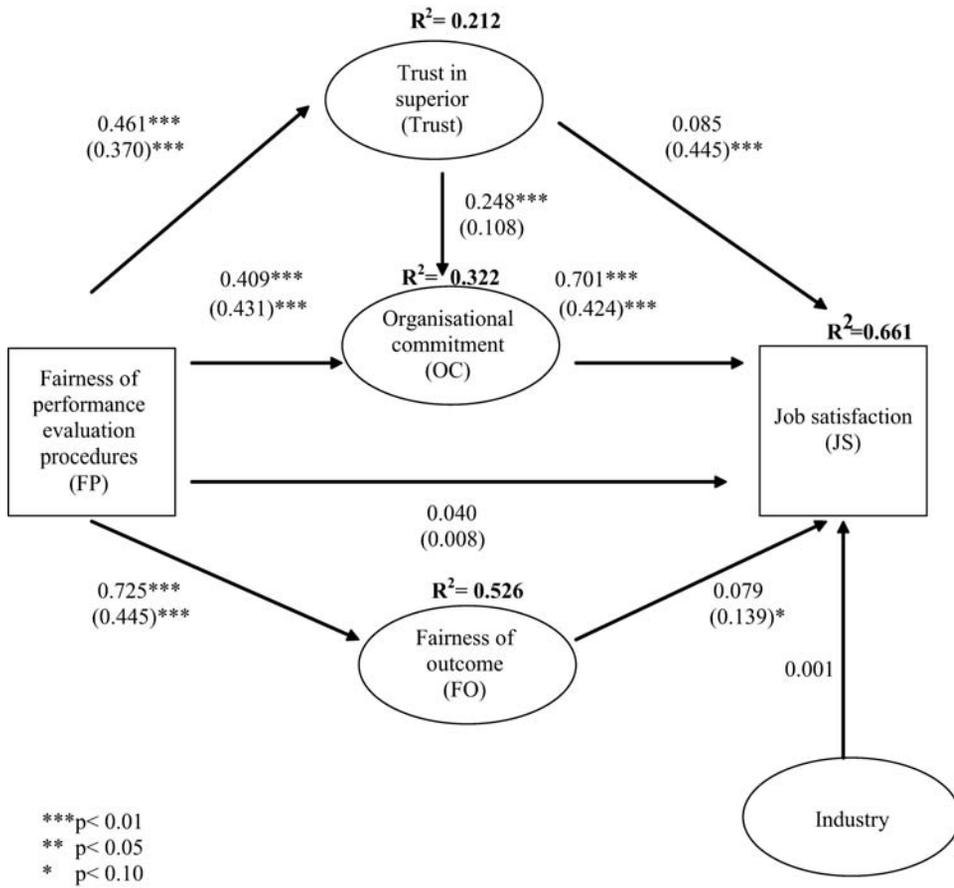
Since our first objective is to examine the external validity of Lau et al.’s (2008) study, we ran PLS

using the same model as in their paper.⁶ Figure 2 presents our results together with that of Lau et al. (in brackets). Notwithstanding the strong zero-order correlation coefficient observed in Table 2, we find in the structural model that the direct effect of fairness of performance evaluation procedures on job satisfaction (path FP–JS) is not significant. This is consistent with Lau et al.’s (2008) findings. However, while they found the path from trust to job satisfaction and the path from fairness of outcomes to job satisfaction to be significant, we find these paths are not significant. Moreover, whilst they did not find a significant path from trust to organisational commitment, we find that it is significant. Our results show that organisational commitment is the salient mediating (intervening) variable. It mediates the relationship between fairness of performance evaluation procedures and job satisfaction as well as the relationship between trust and job satisfaction.

Having compared our study with that of Lau et al. (2008), we conclude that while both the outcome-based and non-outcome-based effects of procedural fairness are applicable to their sample, in our sample only the non-outcome-based effects are able to explain how fairness of performance evaluation procedures affects job satisfaction. The main path is that fairness of procedures directly affects organisational commitment and this then affects job satisfaction (Path FP–OC–JS); a secondary path is

⁶ In our paper, based on the results of preliminary analysis, we add the industry sector to the model.

Figure 2
The results of structural model with job satisfaction as the outcome variable based on the model of Lau et al. (2008) (comparative results from Lau et al. shown in brackets)



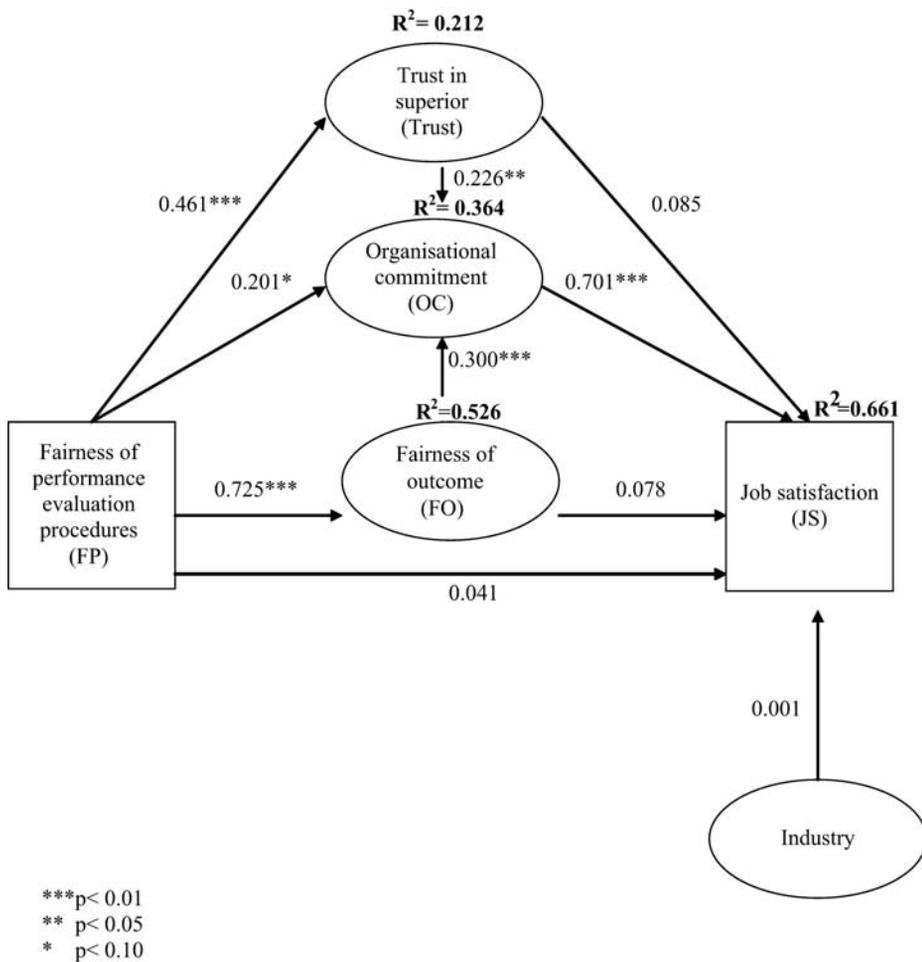
that fairness of procedures affects job satisfaction via trust, where trust affects organisational commitment, which in turn affects job satisfaction (Path FP–Trust–OC–JS). Both studies, however, agree that the effects of fairness of performance evaluation on job satisfaction are indirect.

Based on these results, hypotheses H1a, H2a, H3a, H3b, and H4 are supported. However, H1b and H2b are not supported. With regard to the indirect effects of fairness of procedures on job satisfaction, hypothesis H3c (Fairness of performance evaluation procedures has an indirect effect on job satisfaction through organisational commitment) is supported. However, Figure 2 shows that H1c (Fairness of performance evaluation procedures has an indirect effect on job satisfaction via fairness of outcomes) and H2c (Fairness of performance evaluation procedures has an indirect effect on job satisfaction via trust in superior) cannot be supported. We find that industry does not significantly affect job satisfaction.

As discussed above, while Lau et al. (2008) find a weak path from distributive fairness to job satisfaction in their structural model ($r=0.139$; $p<0.10$), we were unable to detect a significant path. It is however surprising that Lau et al. (2008) did not propose an *indirect* relationship with job satisfaction for distributive fairness through organisational commitment, given the significant zero-order correlation.⁷ As the more recent empirical literature in organisational justice (e.g. McFarlin and Sweeney, 1992; Greenberg, 1994; Lowe and Vodanovich, 1995; Colquitt et al., 2001) finds that organisational commitment is also affected by distributive fairness, and organisational commitment affects job satisfaction, as discussed in Section 2.4, we argue that distributive fairness indirectly affects job satisfaction via organisational commitment. We therefore refine the model of Lau et al. (2008) by examining the indirect effect of distributive fairness via

⁷ This may be because they wished to distinguish between outcome-based and non-outcome-based effects.

Figure 3
The results of structural model with job satisfaction as the outcome variable (our model)



organisational commitment as depicted in Figure 3. The results show that distributive fairness has a highly significant indirect effect on job satisfaction via organisational commitment. Using our new model, the composition of direct and indirect effects are presented in Table 3, Panel A which are calculated based on the path coefficients in Figure 3. These show that the effect of fairness of procedures on job satisfaction is primarily indirect (0.367) rather than direct (0.041).

To examine whether trust and organisational commitment mitigate the negative effects on job satisfaction of low procedural fairness, we categorised these variables into high and low groups. As expected, in the high procedural fairness group, job satisfaction is significantly higher when either trust or organisational commitment is high. However, the same positive effect on job satisfaction occurs when procedural fairness is low but trust or organisational commitment is high. These findings suggest that

while a high-high combination is the most desired combination, job satisfaction can be increased even when the performance evaluation is perceived as unfair if there is a strong subordinate-superior trust relationship.

Our final objective is to ascertain whether procedural fairness affects performance and whether it does so in the same manner as for job satisfaction. We therefore re-ran PLS, replacing job satisfaction with performance as the outcome variable. The results, presented in Figure 4, show that the way fairness of performance evaluation procedures affects performance is quite similar to that for job satisfaction. First, there is no significant direct effect of fairness of performance evaluation procedures on performance (path FP-Performance). Second, although there is a significant path of 0.725 (p < 0.01) from fairness of performance evaluation procedures to fairness of outcomes (path FP-FO), there is no significant path from fairness of

Table 3
Direct and indirect effects
Panel A: Job satisfaction model

<i>Independent variables</i>	<i>Dependent variable</i>	<i>Direct effects</i>	<i>Indirect effects</i>
Trust	Job satisfaction (JS)	0.085	0.158 ¹
Fairness of outcomes (FO)		0.078	0.210 ²
Organisational commitment (OC)		0.701	–
Fairness of procedures (FP)		0.041	0.367 ³

$$^1 \text{ Path (Trust-OC-JS)} = 0.226 \times 0.701 = 0.158$$

$$^2 \text{ Path (FO-OC-JS)} = 0.300 \times 0.701 = 0.210$$

$$^3 \text{ Path (FP-OC-JS)} = 0.201 \times 0.701 = 0.141$$

$$\text{Path (FP-Trust-OC-JS)} = 0.461 \times 0.226 \times 0.701 = 0.073$$

$$\text{Path (FP-FO-OC-JS)} = 0.725 \times 0.300 \times 0.701 = \underline{0.153}$$

$$0.367$$

Panel B: Performance model

<i>Independent variables</i>	<i>Dependent variable</i>	<i>Direct effects</i>	<i>Indirect effects</i>
Trust	Performance	-0.015	0.077 ⁴
Fairness of outcomes (FO)		-0.221	0.102 ⁵
Organisational commitment (OC)		0.338	
Fairness of procedures (FP)		-0.067	0.178 ⁶

$$^4 \text{ Path (Trust-OC-Performance)} = 0.228 \times 0.338 = 0.077$$

$$^5 \text{ Path (FO-OC-Performance)} = 0.301 \times 0.338 = 0.102$$

$$^6 \text{ Path (FP-OC-Performance)} = 0.200 \times 0.338 = 0.068$$

$$\text{Path (FP-Trust-OC-Performance)} = 0.461 \times 0.228 \times 0.338 = 0.036$$

$$\text{Path (FP-FO-OC-Performance)} = 0.725 \times 0.301 \times 0.338 = \underline{0.074}$$

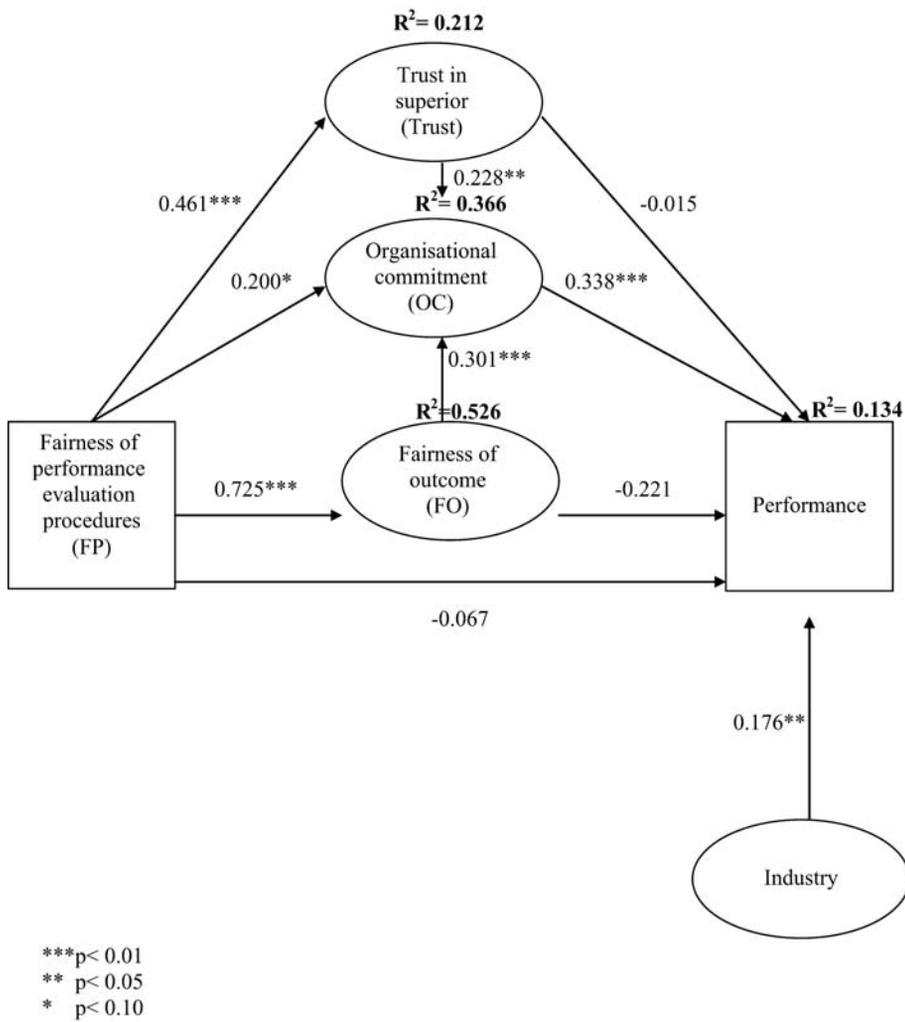
$$0.178$$

outcomes to performance (path FO–Performance). Consequently, hypothesis H5b, which states fairness of performance evaluation procedures has an indirect effect on performance through fairness of outcomes (path FP–FO–Performance), cannot be supported. Third, while the path from fairness of performance evaluation procedures to trust (path FP–Trust) is significant ($p < 0.01$), the path from trust to performance (path Trust–Performance) is not significant. Hence, hypothesis H6b, which states fairness of performance evaluation procedures has an indirect effect on performance through trust in superiors (FP–Trust–Performance), cannot be supported. Fourth, as in the job satisfaction model, the path from fairness of performance evaluation procedures to organisational commitment (path FP–OC) is significant ($p < 0.10$) and that from organisational commitment to performance (path OC–Performance) is highly significant ($p < 0.01$). Therefore, hypothesis H7b, which states fairness of performance evaluation procedures has an indirect effect on performance through organisational commitment, is supported. Fifth, the path from trust to organisational commitment is significant

($p < 0.05$). This suggests that the indirect effects of fairness of procedures on performance can also come through trust in superior (FP–Trust–OC–Performance). Sixth, the path from fairness of outcomes to organisational commitment is significant ($p < 0.01$), indicating that fairness of outcomes affects performance indirectly via organisational commitment. With regard to the industry variable, we find that industry significantly affects performance ($p < 0.05$). Overall, based on the PLS results of the performance model the study supports hypotheses H7a and H7b but does not support Hypotheses H5a, H5b, H6a, and H6b. The direct and indirect effects of fairness of performance evaluation procedures on performance are presented in Table 3, Panel B which are calculated based on the path coefficients in Figure 4.

As the organisational behaviour literature suggests that job satisfaction is associated with performance (Petty et al., 1984; Judge et al., 2001), we examined whether the former is a potential mediating variable for the latter. The results, however, show that job satisfaction is not significantly associated with performance.

Figure 4
The results of structural model with managerial performance as the outcome variable



Finally, we examine whether the results of the PLS analysis using aggregated data hold at the individual company level. Table 4 shows that, consistent with the results based on aggregated data, fairness of procedures is positively and significantly associated with fairness of outcomes and trust in the job satisfaction model. Similarly, fairness of procedures is significantly associated with organisational commitment, except for the UK-based financial service company. As in the aggregated data, we do not find direct significant association ($p < 0.05$) between fairness of procedures and job satisfaction. Moreover, organisational commitment is positively and significantly associated with job satisfaction, as in the aggregated data. We therefore conclude that the model's findings at the company level are broadly consistent with those at the aggregate level.

5. Conclusions, limitations, and suggestions for future research

This paper has explored the behavioural consequences of perceptions of fairness in performance evaluation by re-examining and extending Lau et al.'s (2008) study on the effects of fairness of performance evaluation procedures on job satisfaction. Using a very different sample covering 165 managers in three major organisations based in Europe and Africa, this study concludes that Lau et al.'s (2008) findings on the indirect effects of fairness of performance evaluation on job satisfaction are generalisable to managers in our organisations. In other words, both studies find that the association between fairness of performance evaluation procedures and job satisfaction is fully mediated by distributive fairness, trust and organisational commitment. However, whilst Lau et al.'s

Table 4
Job satisfaction model for the aggregate and individual companies

<i>Path from</i>	<i>To</i>	<i>Aggregate</i>	<i>UK- owned financial services company</i>	<i>Swiss-owned manufacturing company</i>	<i>African-owned financial services company</i>
Fairness of procedures	Fairness of outcomes	0.725***	0.673***	0.604***	0.714***
	Trust	0.461***	0.474***	0.489***	0.407***
	Organisational commitment	0.201*	-0.021	0.368***	0.253*
Fairness of outcome	Job satisfaction	0.041	0.027	-0.123	0.251*
	Organisational commitment	0.300***	0.391***	0.289*	0.038
Trust	Job satisfaction	0.078	0.222*	0.059	-0.104
	Organisational commitment	0.226**	0.557***	0.139	0.088
Organisational commitment	Job satisfaction	0.085	0.085	0.167	-0.062
	Job satisfaction	0.701***	0.633***	0.696***	0.761***

***p < 0.01
** p < 0.05
* p < 0.10

(2008) findings provide support for both outcome-based and non-outcome-based effects, our results, using their model, are only able to support the non-outcome-based effects with organisational commitment as the salient mediating variable.

We further develop the model, drawing on the more recent literature on organisational justice, to include the indirect effects of fairness of outcomes via organisational commitment. This considerably alters the results, revealing significant indirect effects for distributive fairness. In other words, based on Lau et al.'s (2008) model we find support for non-outcome-based effects but not for the outcome-based effects. However, using our model which incorporates the indirect effect of fairness of outcomes via organisational commitment, we find support for the outcome-based effects. We also observe that even where procedural fairness within performance evaluation procedures are low, the outcome can be improved by developing stronger levels of trust between subordinate and superior. Replacing job satisfaction with manager performance, the revised model suggests that the manner in which fairness of performance evaluation procedures affects performance is similar to that of job satisfaction.

Interviews were conducted with 24 managers to explore in greater depth the research aims and to gauge the reliability of survey responses. The

interview findings broadly support the survey results. Procedural fairness is an important determinant of job satisfaction, typified by the response of one manager:

'... for me job satisfaction is mainly based on the level of reward I get and fair treatment.'

Procedural fairness is also an important determinant of organisational commitment. This is illustrated by comments of two managers:

'If I am treated fairly ... and rewarded then I will be committed to the organisation.'

'My commitment to this organisation has certainly improved as things have changed for the better over 12 months through better communication via newsletter, the intranet, and ExCo roadshows ... I can see the organisation is attempting to get the employees involved in the business.'

The latter comment points to improving transparency through communication and involvement (participation) with superiors, both of which are important components of fairness.

An example of the importance of trust and its impact in building organisational commitment is evidenced by the following response:

'I and my supervisor have mutual understanding

and trust each other ... he is very trustworthy and open ... this (situation) reduces tension and increases my commitment.'

A study such as this will have certain limitations. For example, the survey method employed is based on respondent perceptions which may give rise to bias due to the lack of objective measures. While the research design sought to mitigate this potential bias by: (1) including interviews with respondents where survey responses were further discussed; and (2) drawing the sample from a limited number of organisations, thereby permitting greater control of the survey process and understanding of the organisational contexts, the possibility of some respondent bias remains. Future study could usefully explore the same issue using more objective measures, particularly to measure manager performance, or manipulate variables using experimental designs. An attribution theory approach could be employed. This theory argues that individuals tend to attribute their 'success' to internal factors, such as skill and ability, and their 'failure' to external factors, such as task difficulty and other environmental and situational factors (Weiner, 1985, 1986). This theory has been used recently by Nouri and Kyj (2008) to frame other management accounting issues.

Finally, this paper has examined the 'reactive dimension' of fairness (Greenberg, 1987; Colquitt et al., 2001). Future research could also investigate the 'proactive' dimension of procedural fairness by investigating important antecedents of fairness of performance evaluation procedure judgments. Two such variables for consideration are goal setting participation and goal clarity. The proposition that goal setting participation is an antecedent of fairness of performance evaluation 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). Goal clarity or specificity draws on the well-established literature on goal theory. Locke and Latham (1990; 2002) observe that specific, challenging goals consistently led to higher performance than 'do your best' goals. Goal clarity is also consistent with procedural justice rules outlined by Leventhal (1980) and Leventhal et al. (1980). Hence, future studies could examine whether participation and clarity in performance goal setting are important determinants of procedural fairness for performance evaluation systems.

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